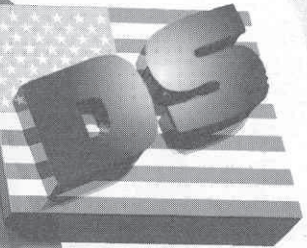


DUAL SPORT INSTRUCTION MANUAL

Associated Electrics, Inc., 3585 Cadillac Ave., Costa Mesa, CA 92626

RC10



DUAL SPORT



DO NOT DISCARD THIS MANUAL!

Use with current catalog for future,
hassle-free re-ordering of parts

Covers kits #8080, 8081, 8085, 8089.
Manual dated about 1996.

MOLDED COMPOSITE SHOCK TOWER

**STEALTH TRANSMISSION
WITH ATC SLIPPER**

**ADJUSTABLE REAR
ANTI-ROLL BAR**

RC10^{DS}

DUAL SPORT

**ADJUSTABLE FRONT
ANTI-ROLL BAR**

**MOLDED SUPER-STIFFER COMPOSITE
SUSPENSION ARM, FRONT AND REAR**

ADJUSTABLE REAR TOE IN

BLACK ANODIZED ALUMINUM TUB CHASSIS

SCALE BBS STYLE, CHROMED FRONT AND REAR WHEELS

**PROLINE M2 COMPOUND SCALE RACING
TIRES WITH FOAM INSERTS**

**ADJUSTABLE
SERVO SAVER
BELLCRANK STEERING**

**LOW KICK-UP ANGLE FOR
SUPERIOR STEERING RESPONSE**

HIGH IMPACT FRONT BUMPER

ADJUSTABLE HEIGHT BODY MOUNTS

22 TEAM ASSOCIATED



CONCERNING YOUR NEW RC10DS

We congratulate you on purchasing the RC10DS Dual Sport kit. It's a unique and fun vehicle that is based on the most durable and proven car on the market, the original RC10. It does not matter if you have the complete kit or one of the conversion kits (that converts your RC10 or RC10T to the DS), you will find the RC10DS to be a fun, easy-to-drive and competitive car. The feature that makes our car different from our competitor's is the dual sport aspect. This means we are offering two different styles of bodies, for German DTM touring, or IMSA Trans Am racing.

The kits come with our race proven Stealth transmission, Associated's improved shocks, special ProLine semi-pneumatic rubber on road tires with new scale chrome wheels (with BBS style hub caps), and our special dual sport suspension parts.

Our two bushing kit sport versions include a mechanical speed control, stock motor, bronze bushings, and one of two body styles.

The racing version has ball bearings, hard anodized Teflon sealed shocks, and universal dogbone rear axles, but does not include a body, motor or speed control.

In addition to the above, the RC10DS features: new front and rear suspension arms, front and rear anti-roll bars, front and rear shock struts, new body mounts, new chassis nose plate, and aluminum tub chassis.

Many racers have older RC10's or RC10T's that are used less often because they have switched to our RC10B2 or RC10T2. Some may also just be looking for something different to run. The RC10DS conversion kit allows you to convert to on road racing by using your existing off road RC10 or RC10T chassis, your Stealth tranny (or even your original RC10 tranny) and a few other parts from your old car. (You cannot convert from an RC10B2 or RC10T2.)

All of this combines to make one of the most versatile and enjoyable cars we have ever produced. When you are finished you will find what 12 years of Associated off road history has done for your hobby enjoyment.

PLEASE READ THIS BEFORE YOU BEGIN

Our instruction manuals have been considered some of the best in the industry by both hobbyists and R/C magazine reviewers. Many of our customers will feel they can build their kit from the photos alone. This is not true. In addition to the detail in the photos you will find important assembly information. While you have one of our top quality kits the only way to have an assembled car of top quality is to follow **the instructions as well as the photos.**

Step 1 OPEN EACH PARTS BAG WHEN THE INSTRUCTIONS INDICATE, NOT BEFORE. This is to prevent parts from one bag getting mixed up with parts from another bag and helps

make the assembly easier. Check the parts bags against the parts list elsewhere in your kit. Many of your parts bags are numbered or named to help you match it to the appropriate section on the parts list or in the manual steps. Any bags inside a labeled or numbered bag will share the same parts bag name or number as the one it came out of.

Step 2 CHECK EACH BAG FOR SUPPLEMENTARY SHEETS. Because Associated is always working on new ideas for designs or materials to improve our products, we will occasionally make updates or changes to our kits. These changes usually don't appear in the manual because they were not available when the manual was printed. **1)** Inspect each bag upon opening it for the first time. Look for any sheets that indicate changes made to the kit. **2)** When you find one, locate the section of the manual and parts list where this change applies. Use the supplement or update sheet to mark any changes to a parts bag inventory list and then **3)** secure the supplementary sheet to the appropriate step in the manual. This will guarantee that you have the information concerning the change when you begin this step and will save time so that you are not looking for the wrong part in the parts bag.

Step 3 KEEP YOUR PARTS SEPARATE. While building your car it will be necessary to have more than one parts bag open at a time. In order to prevent confusion we recommend using large paper plates (especially picnic plates with partitions) to keep the parts from each bag spread out so that you can find them easily. Mark each plate with bag numbers before you place the parts in them. When you have used all the parts from a bag you can then relabel the plate so that it can be used for another bag.

Step 4 ADDITIONAL ITEMS NEEDED TO OPERATE YOUR CAR:

- ☐ 2 Channel R/C surface frequency radio system. (Bushing kits require two servos but ball bearing kits require only one servo)
- ☐ Battery pack (6 cell)
- ☐ Battery charger (we recommend the use of a peak detection charger)

THE FOLLOWING ADDITIONAL ITEMS ARE NEEDED IF YOU HAVE A BALL BEARING TEAM KIT:

- ☐ Electronic Speed Control (also known as an ESC)
- ☐ R/C electric motor
- ☐ Pinion Gear (48 pitch); size to be determined by type and wind of motor you will be using.

Step 5 TOOLS. This kit contains the shock/turnbuckle wrench and the four Allen wrenches you will need to assemble your car. You will need to supply the following tools and adhesives:

- ☐ Phillips screwdriver, #2 tip (#SP-76)
- ☐ 1/8" straight blade screwdriver, for bushing kits only
- ☐ Needlenose pliers
- ☐ Hobby knife, such as an X-acto® knife with a #11 pointed blade.
- ☐ Soldering iron (40 to 50 watts), and a small amount of rosin (**not acid**) core 60/40 solder. We have found from experience

that a pencil type soldering iron works better than the more common soldering guns. While the guns generate a lot of heat, they have a hard time keeping the heat at the tip.

❑ Super glue (cyanoacrylic glue) with safety gloves and goggles

Your kit can be assembled easier and faster with the following Associated tools or their equivalents:

❑ Allen drivers (straight Allen wrenches with hex shaped aluminum handles), such as the following by Associated:

#6957 .050"

#6958 1/16"

#6959 5/64"

#6960 3/32"

#6961 2.5mm

❑ 3/16" nut driver will make installing the S.S. ball ends and small pattern 4-40 nuts easier (#SP-86).

❑ 1/4" nut driver will speed up installing the 1/4" locknuts and front wheel nuts (#SP-85).

❑ 11/32" nut driver will speed up installing the 8-32 rear axle nuts (#SP-82).

❑ Precision steel rule (optional), Vernier or dial calipers (with decimal or metric measure).

WARNING!! Do not use a power screw driver to install screws into plastic, nylon or composite parts. The rotation speed is too fast, causing the screws to heat up when being installed into these materials and they can strip out or break.

Final Notes: (1) Experienced builders or racers: **please build the car according to the instructions first!!** The DS is a remarkably fast car right out of the box. There is a good reason for everything on the car. Build it according to the instructions first. Then you will have a solid performance base to use as a comparison for when you do make changes; then you can check where you are gaining or losing performance. (2) At the beginning of each step you will find a box (❑). When you have finished that step put a check mark in the box. When you stop for any reason during assembly it will be easier to find where you need to continue from.

(3) Occasionally an actual size drawing will accompany the photo to help you identify certain parts. You can place the part on top of the drawing to be sure you have picked up the right one. Also you will most likely end up with some extra parts and fasteners, so do not worry. **WARNING! Only the drawings at the bottom of the photos are to true scale. None of the photos are actual size. Even though you may see dimensions marked in the photos, the photos are still not to scale or actual size.**

(4) The following types of special instructions, in *oblique*, will be used throughout the manual:

● **Racer's Tip:** This is a trick used by some of the Team Drivers to improve their car's handling, performance and maintenance.

● **Note:** Alternate ways to assemble the kit, including tips for smoothing out difficult assemblies.

● **WARNING!** This alerts you to be careful in order to prevent damaging the parts, and warns against using wrong parts or doing an incorrect assembly that could damage or reduce the parts' performance.

SAVE THIS MANUAL! This is more than an instruction manual. It is also a handy supplement to the Associated RC10DS

parts catalog. You can use the manual photos to help you identify part numbers and part names when ordering parts. *In addition, the manual can be used during a technical assistance call to the factory if you are having assembly problems or have any questions. Contact Customer Service at 714-850-9342.* Please remember, it's not a race to see how fast you can put this car together; rather, it's how well you put this car together that will determine how well you race. **DON'T RUSH. TAKE YOUR TIME.**

Now clear off your workbench, line up some paper plates, grab a drink and sandwich, and let's begin!

FRONT END ASSEMBLY

❑ **Fig. 1** Before we start to assemble the front end, remove the #8416 shock/turnbuckle wrench and the #6950 tool bag (which contains the four Allen wrenches) from the kit master bag. Set them aside for now; we will be using these as we go through the assembly.

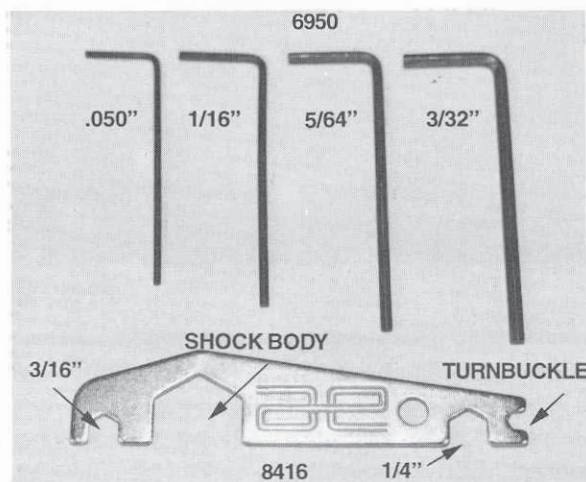


Fig. 1

❑ **Fig. 2** Now let's start by opening bag #8-1 and #8-14. 1) From bag #8-1 remove the #6210 30° caster front carrier blocks. Both the right and left carrier blocks are connected as shown in fig. 2. 2) Use your X-acto® knife to separate the blocks and carefully trim off all the runner material and between the two steering block mounts. **WARNING! Any flashing material remaining between the two kingpin mounting points can cause the steering to bind.**

3) Now you will need to remove two #6273 long S.S. ball ends, two #7260 4-40 small thin plain nuts, and the #6272 foam strip from bag #8-14.

4) Lay out your carrier blocks as shown in the middle part of fig. 2. If you have trouble seeing the difference, there is a "L" and an "R" scribed into the long side of each carrier block.

5) Thread the #6273 long ball end into each carrier block from the outside, as it shows in the photo. There is a 3/16" wrench area on the #8416 shock turnbuckle wrench which you can use to install all of the ball ends or the 4-40 small thin plain nuts.

Note: You can also use your needlenose pliers, but if you want to speed up the assembly we suggest that you use a 3/16" nut driver (Associated #SP-86) or socket. If you use a socket use a screwdriver style handle, not a ratchet handle. 6) After you have

installed the #6273 long ball end thread on the #7260 4-40 nuts and tighten.

7) Fourteen small donut shapes are cut into the #6272 foam strip. We call these ball end dust covers. Remove two of the covers and push the center hole over the ball portion of the #6273 ball end. These help keep the dirt out of the ball end cups, reducing the wear that normally occurs when dirt gets inside.

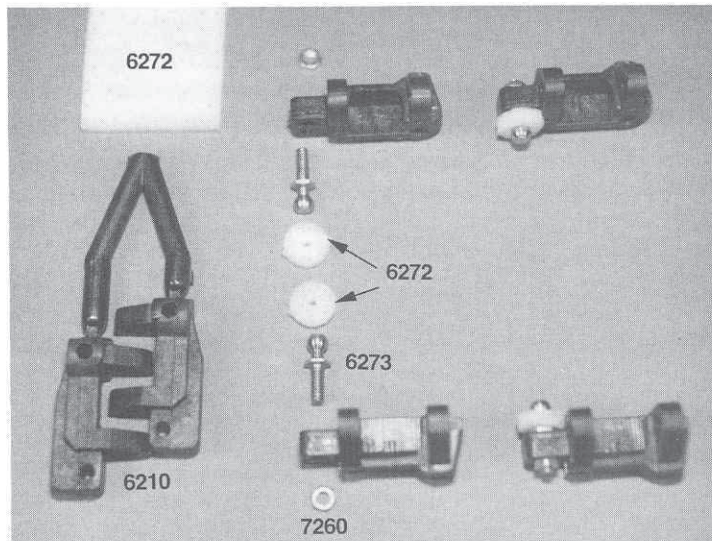
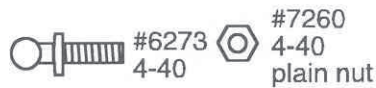


Fig. 2

□ **Fig. 3** 1) Going back to bag #8-1 we will now remove the two #6221 nylon steering blocks. 2) From bag #8-14 we will need to remove two #6270 short S.S. ball ends, two #7260 4-40 small thin pattern plain nuts, and two #6272 foam ball end dust covers. The #6221 steering blocks will be the same until we install the ball ends, then there will be a right and left side. 3) Thread one #6270 ball end into each steering block, but on opposite sides. 4) Now thread on the two 4-40 nuts and tighten them down. 5) Now install two of the foam ball end dust covers over the balls the same as we did in fig. 2. When you are done, your steering blocks will look like fig. 3 and you will now have a left and right steering block. 6) Place the rest of the dust covers aside, for the moment, with bag #8-14; we will use them later in other parts of the manual.

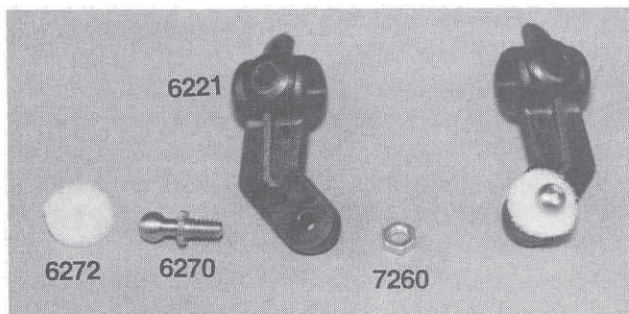


Fig. 3

□ **Fig. 4** 1) In bag #8-1 you will find two #6220 aluminum inline front axles. The hole drilled in the axle is for the steel kingpin which you will install in a couple of steps. 2) In order to install the kingpin easily, use your X-acto® knife to deburr and bevel the outer edge of both sides of the hole.

3) Now we want to take one axle and fit it into one of the steering blocks. Do one axle, then the other. Make sure the hole in the axle lines up with the hole in the steering block. The parts should push together with your fingers with firm pressure; if they do not, then you may fit a 3/16" nut driver over the threaded end of the axle and use the driver to push it all the way in. **WARNING!! The threads on the end of the axle are aluminum and can be easily damaged by the nut driver.** The axle will be fairly tight in the steering block so try hard to align the two holes as you are assembling the parts. **WARNING!! Do not use pliers on the bearing surface of the axle, for this can damage the axle surface so that the bearings will no longer fit.** A small part of the large diameter of the axle will be exposed outside the steering block. This is okay; just make sure the holes line up.

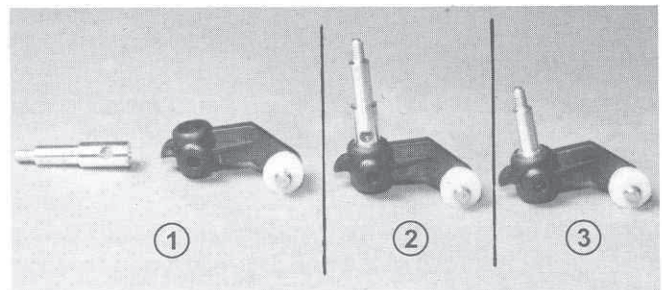


Fig. 4

□ **Fig. 5** 1) Remove two of the #6223 steel pins from bag #8-1. You will find two different lengths of steel pins in this bag. 2) Match the proper pins against the actual size drawing below. Because the #6223 pins are heat treated they will be darker in color than the other pins in the bag. These two pins will become our kingpins. 3) Now check to make sure that both kingpins will go through the steering blocks and axles. If you do not do this now, it will be almost impossible to get the kingpin to go through the #6210 front carrier block and the steering block/axle assembly in the next step. 4) Once you have checked the alignment and fit, remove the kingpins so we are ready for the next step.

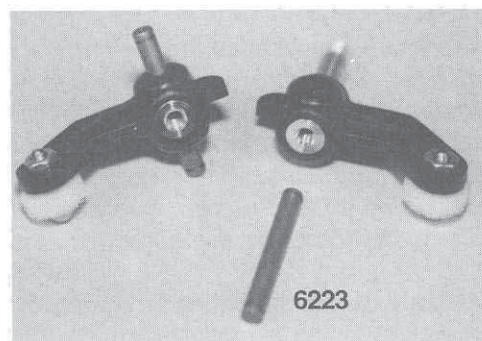
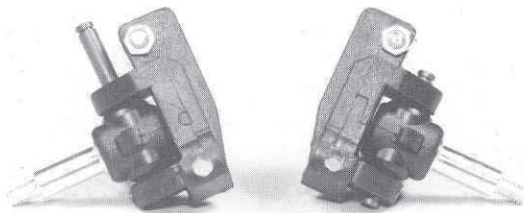


Fig. 5

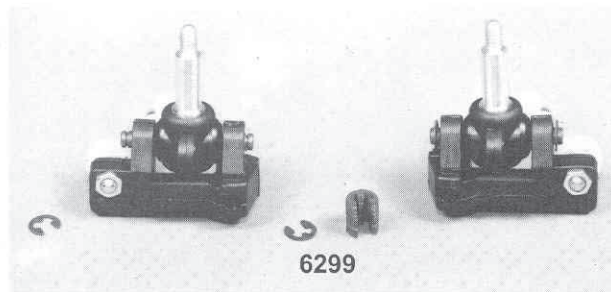
□ **Figs. 6, 7 & 8** Now we are going to install the steering block/axle assemblies into the carrier blocks. 1) If you look closely at the front of the carrier blocks you will see the "R" and "L" that are scribed into them. 2) Look back at fig. 3 and install the left steering block into the left carrier block, then do the same for the right side blocks. Make sure that the ball ends on the assembly will be on the same side (in this case both facing up). 3) Now reinstall the two kingpins into each assembly as shown in fig. 6.

4) In fig. 7 we are going to install the #6299 E-clips. In this photo you will see the roll of E-clips along with two individual clips to give you a size comparison. As you can see, the clips are not much bigger than the steel pins they fit onto. In fig. 8 you will see an enlarged view of the roll of E-clips and a single E-clip. The roll is held together with white tape that goes most of the way around the E-clips. **The roll is so small and so easy to miss that you should look for the white tape instead of the actual E-clips.** Take out four E-clips. 5) Install one onto each end of both kingpins. Try to center the kingpins, for this will make the installation of the E-clips easier. We will use the remaining E-clips in the following steps. **Note: If you lose to many during assembly of this section you will find more in the shock seal bag (inside the shock master bag) and the rear end bag #8-8.** 6) Place the rest of the E-clips back in the bag we will use them in a few minutes.

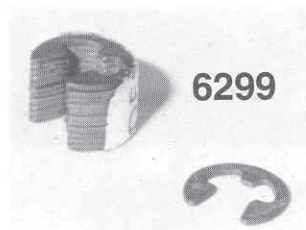
#6299
e-clip
1/8 shaft



9000
Fig. 6



9000
Fig. 7



7011
Fig. 8

□ **Fig. 9** 1) Look into bag #8-1 again and take out the two #6951 4-40 x 1/8" socket set screws. 2) Now we need to open up the #6950 tool bag we took out in fig. 1. Inside you will find four different size "L" shaped Allen wrenches. The smallest one will be the .050" Allen wrench which we need for this step. **Note: An Associated #6957 .050" Allen driver or similar driver would make this assembly easier and quicker.** 3) If you rotate the steering block in the carrier block so that the two ball end are as far apart as possible, then it will expose the back side of the axle which has a small threaded hole in it. Use your .050" Allen wrench to install a set screw into each axle, then 4) tighten the set screw against the kingpin. 5) Make sure the steering block pivots smoothly inside each of the carrier blocks.

#6951
set screw

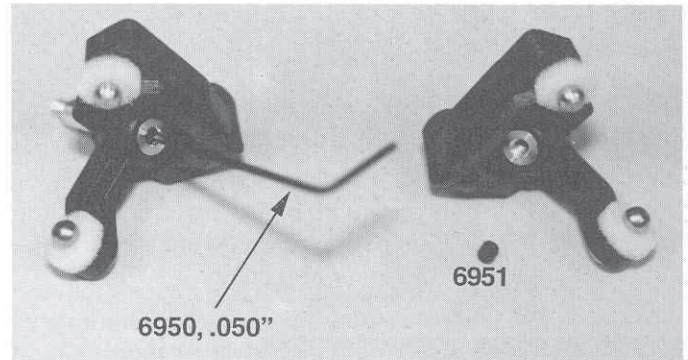


Fig. 9

□ **Figs. 10 & 11** 1) Remove the two #8810 molded front suspension a-arms, two #8834 front arm shock mounts and two #6918 4-40 x 1/2" button head socket screws from bag #8-1. (One arm and shock mount will be attached to the same runner, so there will be two sets because the arms and mounts are interchangeable--left or right side--until we fasten the shock mounts in place.) 2) Trim the arms and mounts from the runners in the locations shown. 3) Place the shock mount on top of the left arm into the recess in the arm, making sure the angled side of the mount is on the inside of the arm. 4) Now turn the arm upside down and thread in the 4-40 button head screw with the 1/16" Allen wrench (second smallest) from your #6950 tool bag. **Note: An Associated #6958 1/16" Allen driver or similar driver would make this assembly easier and quicker.** 5) Assemble the right arm the same way. The arms will be mirror images of each other.

#6918
4-40 x 1/2

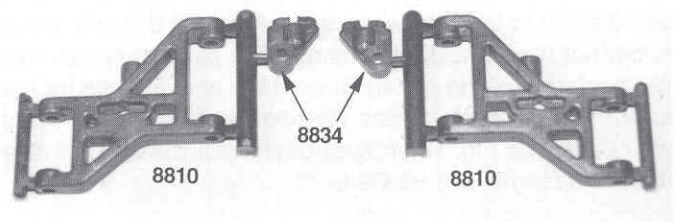


Fig. 10

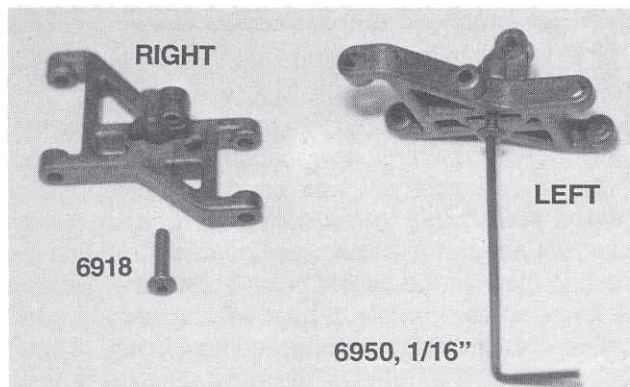


Fig. 11

□ **Fig. 12** 1) Now we need the two remaining #6223 steel pins (heat treated) and the two #8825 steel pins. We will be using these pins as our front outer and inner hinge pins. 2) Before we can install them we want to check the pin fit in the suspension arm holes. The #6223 pins will be the outer hinge pins, so check their fit in the outer holes of the suspension arms. Slide the pin through the arm holes. 3) Now hold the pin on the ends and lift the other end of the suspension arm until it is level, as shown in fig. 12. When you let go of the arm it should drop and swing freely on the hinge pin. 4) Now use the #8825 hinge pins and check their fit on the inner arm holes.

□ #6223 □ #8825

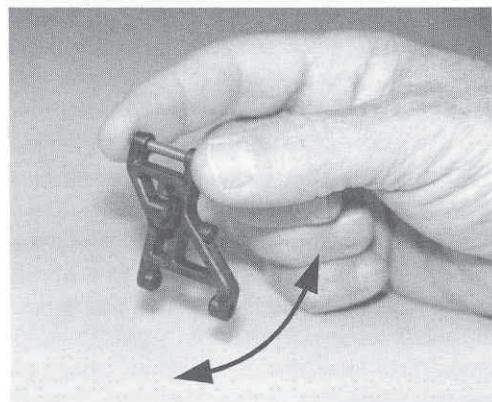


Fig. 12

□ **Fig. 13** 1) Now we need to remove four of the #6299 E-clips we put back in bag #8-1. We are now going to attach the front axle assembly to the front suspension arm. The shock mount will be on the front side of the arm and we will want the front of the axle assembly on the same side. 2) We will start with the left side. Use the block carrier with the "L" scribed into the front. Take one of the #6223 hardened steel pins and slide it through the rear hole of the suspension arm, then the axle block carrier, and finally through the front hole of the suspension arm. We want the pin to be tight when going through the axle block carrier, but not the arm. 3) Now center the pin and install a E-clip onto each end of the pin. 4) Repeat the above steps for the right arm and axle block carrier. Remember to keep the "R" to the front of the arm. Fig. 19 shows both front arms with the axle block carrier assemblies installed.

□ #6223 □ #6299 e-clip 1/8 shaft

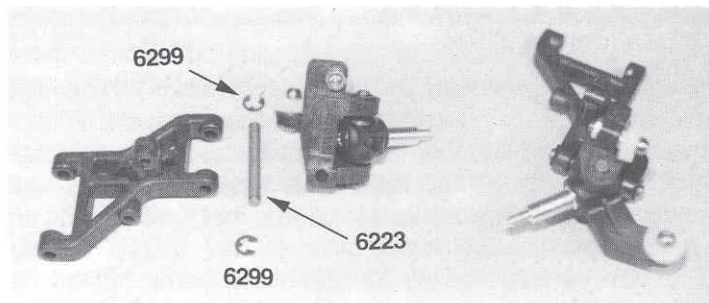


Fig. 13

□ **Fig. 14 & 15** 1) In the same bag #8-1 you will find the #8824 front bulkhead blocks, the #7208 aluminum front bulkhead support, and the last four #6299 1/8" E-clips (it's okay if you have extras). There is both a left and right bulkhead block. 2) Line up the left bulkhead with the left arm inner mounting holes. 3) Now do the same for the right bulkhead and arm. 4) The #7208 front end brace will go in front of the bulkhead but behind both front arm inner mounting holes. Place the block between the inner mounting holes of the arm. 5) Now slide the #8825 front inner hinge pins (we took these out in fig. 12) through the back arm hole, the bulkhead, the aluminum front brace, and out through the front arm mounting hole. 6) Now center the hinge pins and install a E-clip onto each end of each pin. Fig. 15 shows both arms and bulkheads assembled.

□ #6299 e-clip 1/8 shaft □ #8825

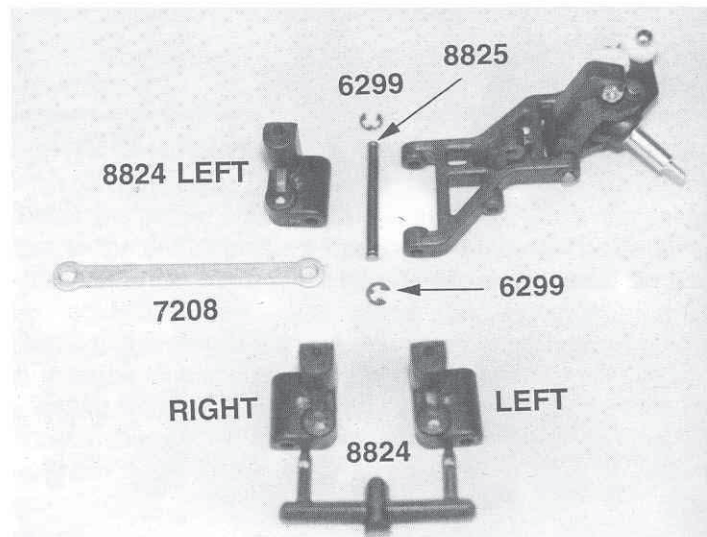


Fig. 14

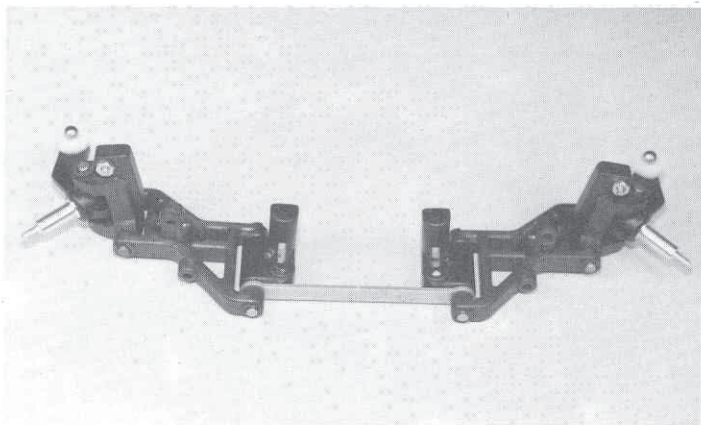


Fig. 15

□ **Figs. 16 & 17** 1) Remove the #8832 fiberglass front shock strut from bag #8-1. 2) Now go back to bag #8-14 and remove two #6270 short ball ends, two #7260 small 4-40 plain nuts, and two #6272 foam ball end dust covers. 3) Layout your strut so that the long flat side matches the photo. This will be the bottom of the shock strut. 4) On the sides of the front shock strut you will see two holes. Install the ball ends into the lower hole as shown. 5) Now, thread the 4-40 nut onto the end of the threads on the other side of the shock strut. 6) Now install the foam ball end dust covers over the ball ends.

7) Next remove two #6924 4-40 x 3/8" socket head cap screws from bag #8-1. 8) The ball ends will be on the back side of the front shock strut. Line up the strut with the two mounting holes in the back of the front bulkhead blocks. Use the 3/32" Allen wrench (the largest in the tool bag) to fasten the front shock strut to the bulkhead with the two #6924 screws. *Note: An Associated #6960 3/32" Allen driver, or similar driver, would make this assembly easier and quicker.*

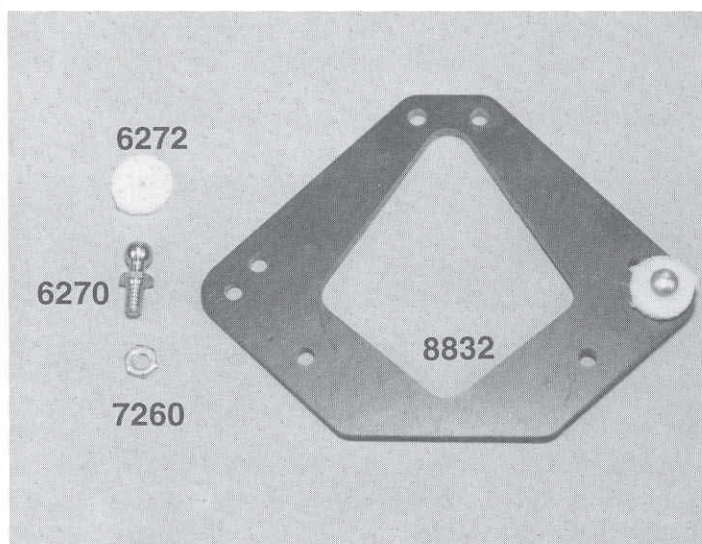


Fig. 16

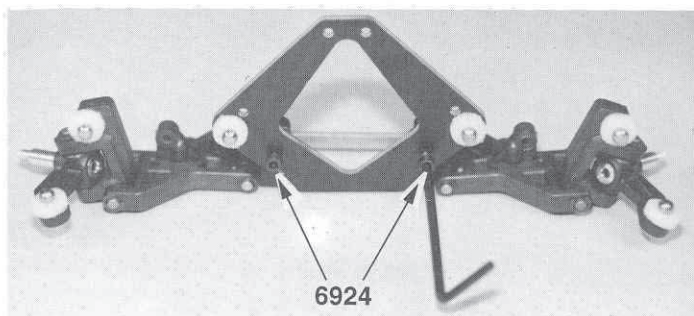


Fig. 17

Figs. 18 & 19 1) In bag #8-1 you will find the two #8812 turnbuckles. 2) Now go to bag #8-14 and remove four of the #6274 plastic ball end cups. (There are a total of 14 ball end cups on the molded parts tree, as shown in the photo.) When assembled these will become the front camber links. We suggest you read instruction figs. 18-19 all the way through before beginning. 3) Now we want to thread the ball end cups onto the turnbuckles. The best way to do this is to hold the center of the turnbuckle with the #8416 shock/turnbuckle wrench. 4) The turnbuckles have left hand threads on one end and right hand threads on the other, so the cups will screw on in different directions. (This feature helps to simplify adjusting camber. After it is installed, you can turn the turnbuckle with the wrench to lengthen or shorten the camber rod without removing it.)

Install both ball end cups as evenly as you can. 5) Finish the installation by using the smooth part of your needlenose pliers to hold the cup still and the use the #8416 wrench to turn the turnbuckle. **Racer's Tip: To prevent damaging the ball end cup, rotate only the turnbuckle, not the ball cup. Turning the ball cup will likely damage it.**

6) Thread the cups on until you reach a length of 1 9/32" (1.28" or 32.5mm) **THESE DIMENSIONS ARE MEASURED TO THE CENTERS OF THE BALL CUP SOCKETS, NOT THE ENDS OF THE SOCKETS**, as shown in the scale drawing below. When assembled and adjusted correctly both ball end cups will be facing the same direction. 7) Now look at fig. 19 and use your needlenose pliers to snap the turnbuckle ball end cups onto the four ball ends.

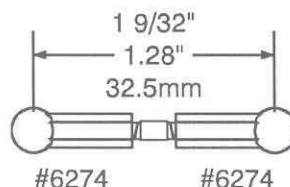


Fig. 18

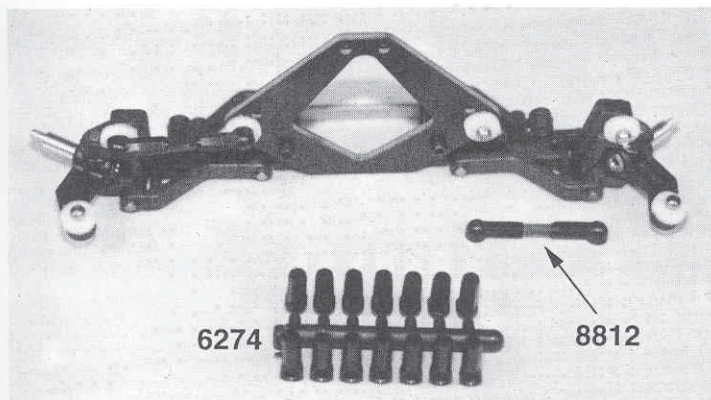
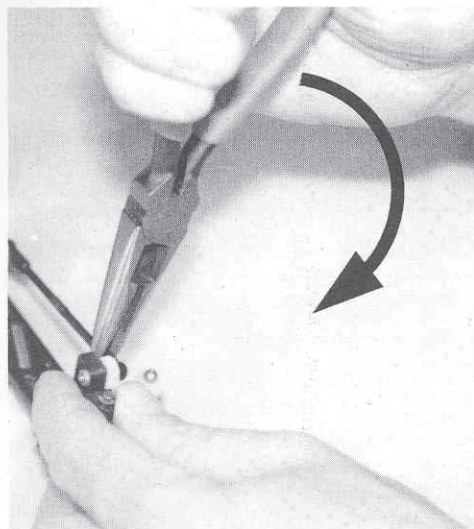


Fig. 19

□ **Fig. 20** The plastic ball end cups can be removed from the S.S. ball ends by holding the cups next to the ball with your needlenose pliers and twisting the cup off of the ball end.



7036
Fig. 20

□ **Fig. 21** 1) Go back to bag #8-1 and remove the #8820 front aluminum kick up and four #6292 4-40 x 3/8" flat head socket screw. 2) We are now going to attach the front bulkhead to the aluminum kick up. Place the front end over the kick up, then holding both parts, turn them over. 3) On the bottom side you will find four countersunk holes. Locate the bulkhead over the four holes and then thread the #6292 screws into the four holes with your 1/16" Allen wrench. 4) After all four screws have been installed, go ahead and tighten them down.

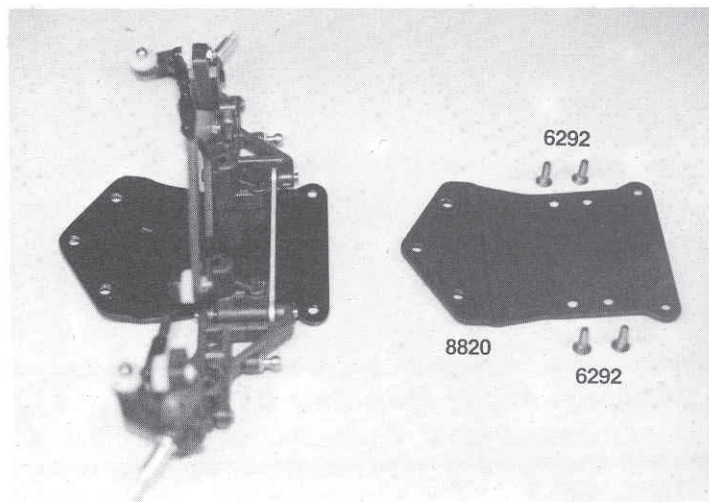


Fig. 21

SERVO SAVER ASSEMBLY

□ **Figs. 22 & 23** 1) From the kit box remove your #6301 black anodized aluminum chassis. 2) Remove the #6931 8-32 x 1/4" steel flat head machine screw from bag #8-1. 3) Place the nose plate and front end assembly over the front of the chassis as shown. There are three holes in the nose plate that need to line up with the three countersunk holes in the front of the chassis. 4) Take the 8-32 x 1/4" machine screw and thread it into the center hole from the bottom of the chassis. Just lightly secure the nose plate so that there is not a lot of space between the top of the chassis and the bottom of the nose plate. We will tighten this screw later.

5) We are going to leave bag #8-1 for a moment and open bag #8-2. Remove the two #7306 special servo saver mounting screws. The long screw is for the servo saver side of the steering and the short screw is for the bellcrank side of the steering. On the Dual Sport the long screw will be on the left (or driver's) side and the short screw will be on the right (or passenger) side. 6) Install these screws from the bottom of the chassis. 7) After both screws have been installed, go ahead and tighten them and the #6931 screw.

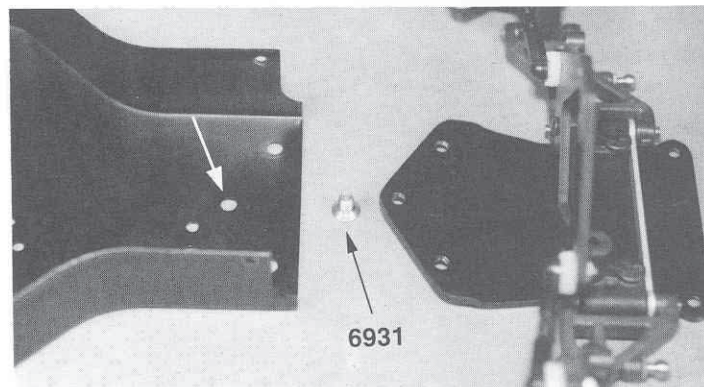
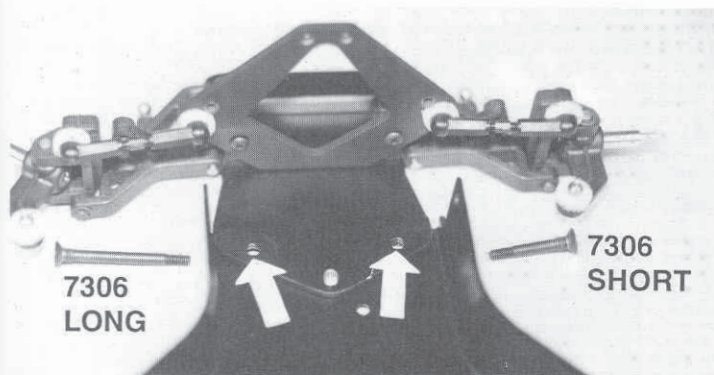


Fig. 22





#6931
8-32 x 1/4
steel

Fig. 23

Fig. 24 Inside the same bag you will find the #7531 plastic servo saver parts tree and the #9156 aluminum servo saver tube. The names of the parts on the parts tree are: (1) left upper servo saver arm, (2) lower servo saver bushing, (3) upper servo saver bushing, (4) left lower servo saver arm, (5) right side bellcrank. Remove the two servo saver bushings and install them into the servo saver tube. The upper bushing goes into the threaded end of the tube and the lower bushing goes into the hex end of the tube.

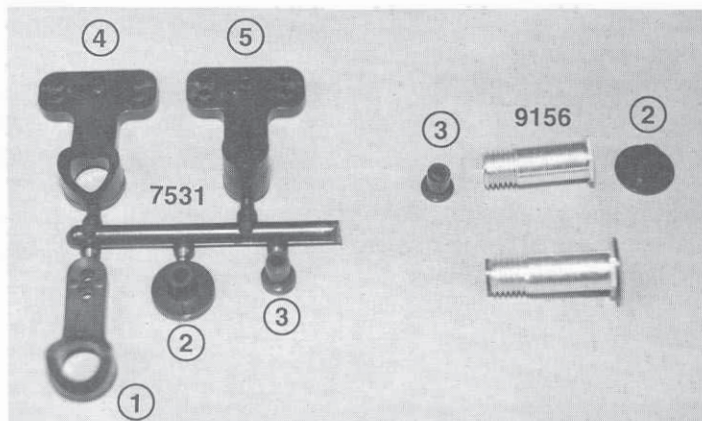


Fig. 24

Fig. 25 & 26 1) Take out the #9157 servo saver spring and the #9157 aluminum spring adjusting nut from bag #8-2. 2) Now remove the lower left servo saver arm from the parts tree. 3) Before we install the lower servo saver arm over the aluminum tube, look at the bottom of the arm. You will find a recessed hex shaped area that will match up with the hex portion at the bottom of the aluminum tube. Slide the lower servo saver arm over the aluminum tube and push it down until the tube hex fits into the hex shaped recess. 4) Next we need to remove the upper servo saver arm. Install it over the tube with the "V" shaped portion facing down into the "V" groove of the lower arm. Make sure the upper arm is facing to the right (with the lower arm facing away from you) as shown in the photo. **Racer's Tip: Team drivers coat the V-groove portion of the servo saver with a small amount of the #6588 black grease**

to improve the servo saver performance.

5) If you look at the top of the upper left servo saver arm (after it is installed onto the aluminum tube) you will see there is a recessed area. Slide the spring over the aluminum tube and into the recessed area. 6) Look closely at the spring adjusting nut. You will see that one side of this nut also has a recessed area. Slide the nut over the tube, recessed side first, and thread it onto the tube. 7) Tighten the nut until 1/32" of the tube threads is exposed above the adjusting nut. **Racer's Tip: You can adjust the servo saver tension by tightening or loosening the aluminum adjusting nut. This changes the tension on the servo saver spring. The more you tighten the servo saver spring, the more load you transfer to the servo gears. The adjusting nut should only be below the initial setting under limited racing conditions on an extremely high bite track.**

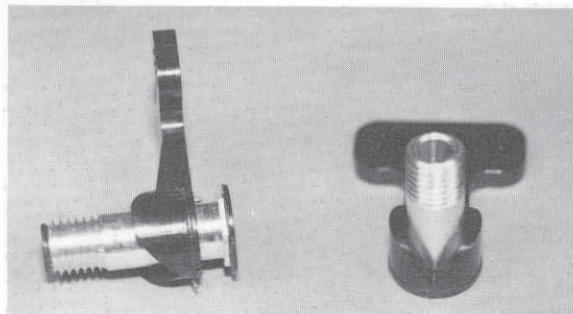


Fig. 25

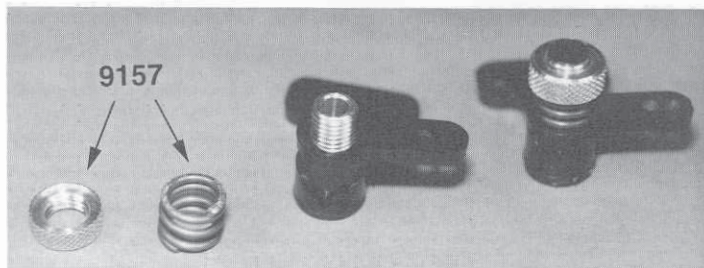


Fig. 26

Fig. 27 Now we need to go back to bag #8-14 and remove five #6270 short ball ends and five #6272 foam ball end dust covers. Layout the left servo saver arm assembly and the right bellcrank as shown in the photo. Now we need to thread the five ball ends into the servo saver and bellcrank. After all of the ball ends are installed you can then push the #6272 foam dust covers over the ball ends. **Note: You do not need to install nuts on the bottom of these five ball ends.**



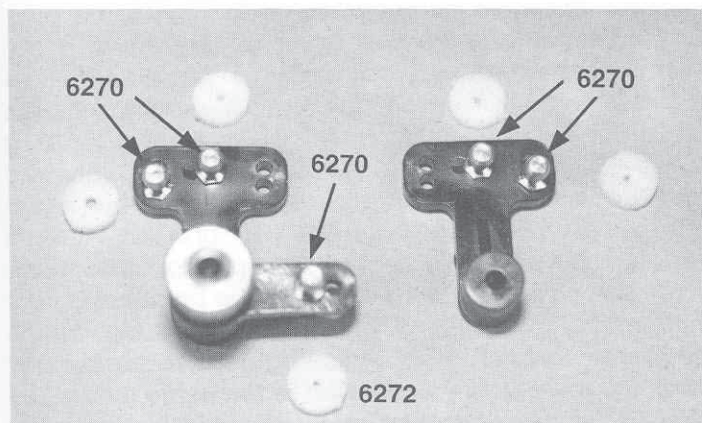


Fig. 27

□ **Fig. 28** From bag #8-2 remove the new #6265 molded drag link. We want to install the drag link by snapping it over the two center balls on both the servo saver arm and the bellcrank as shown in the photo.

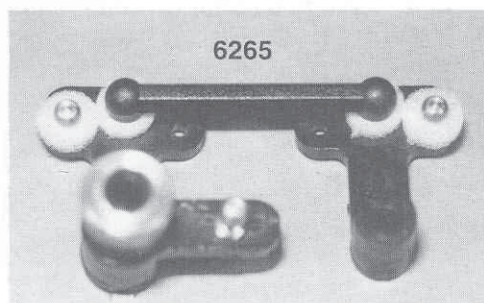



Fig. 28

□ **Fig. 29** 1) In order to install the servo saver assembly you will need to start with the left side. Turn the assembly to the right. Slide the arm assembly down over the long mounting screw. When the arm is at the bottom of the screw, rotate it to the left so that you can install the right bellcrank assembly over the short screw. The areas that you have to work around are the front shock strut mounting screw and the left upper servo saver arm. Move the bellcrank around to clear these as needed.

2) Now remove the two #6222 4-40/5-50 black self threading nylon locknuts (from bag #8-2) and thread them onto the #7306 servo saver mounting screws. 3) Tighten the nuts to take up any vertical free play or movement of the servo saver or bellcrank but **not so tight that it causes binding**. We want the servo saver arm and bellcrank to be able to swing freely to both the left and right. **Note: When you thread the #6222 nylon locknut over the left servo saver, the bottom of the nut will be going down over an unthreaded portion of the screw. Do not worry; this will not affect the holding power of the nut.**

 #6222
4-40/5-40
nylon locknut

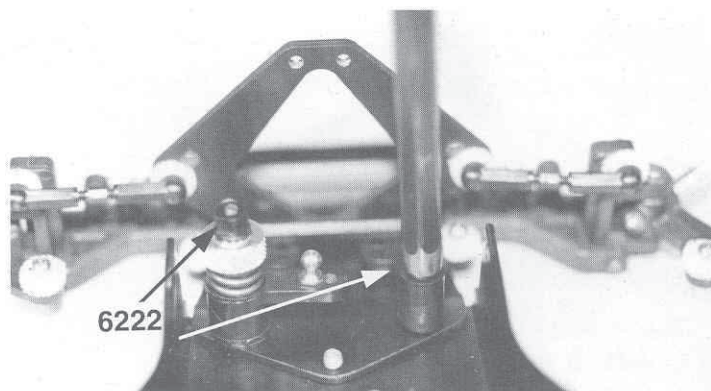




Fig. 29

□ **Figs. 30 & 31** 1) Now from bag #8-1 take out the two #8822 aluminum nose brace tubes, two #6285 4-40 x 1/4" socket head cap screws, and two #6919 4-40 x 5/16" button head socket screws. 2) Now look at the two #8822 nose brace tubes. You will see that on one end there is a hole drilled through the side that is threaded. This will be the back end of the tube. If you look at the front end of the tube you will see that the inside hole is threaded. 3) Install the button head screw into the front of the shock strut. Use the right side hole of the strut (next to the ball end) so that the screw threads come out the back of the shock strut. 4) Now line up the threaded end of the nose brace tube and thread the tube onto the button head screw. Leave a little play so we can line up the other end easily. 5) Now install one of the 4-40 x 1/4" socket head cap screws through the hole in the side of the chassis and thread it into the side of the nose brace tube. You may have to rotate the nose brace tube so that the screw and hole can line up correctly. Again, do not tighten this screw just yet. 6) Now repeat the above steps and install the second nose brace tube on the other side of the chassis and shock strut. Make sure you still leave these screws a little loose until both sides are installed, then you can go back and tighten all four screws.

 #6285
4-40 x 1/4
steel
  #6919
4-40 x 5/16

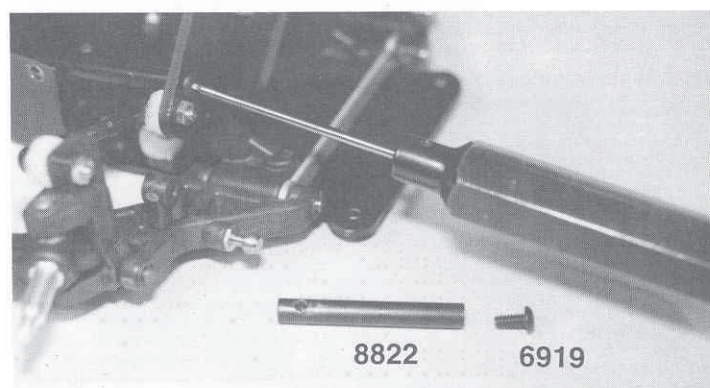


Fig. 30

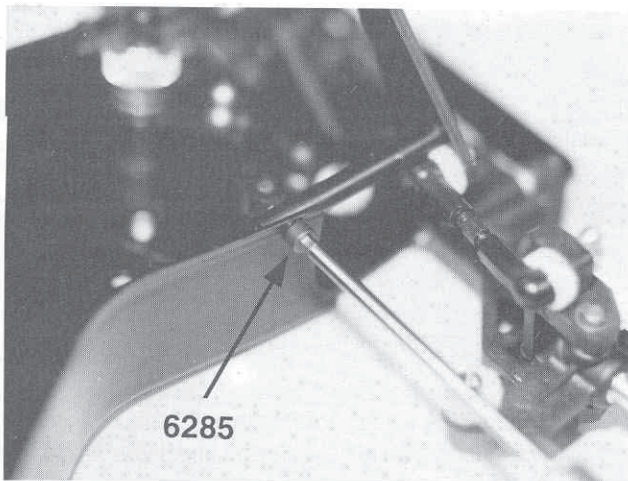


Fig. 31

❑ **Figs. 32 & 33** 1) Now remove the #6260 turnbuckles from bag #8-2 (the last two items in the bag). 2) You will also need to go back to bag #8-14 and remove four more of the #6274 plastic ball end cups. These turnbuckles will become the two steering tie-rods. We are again going to thread the ball cups onto the two turnbuckles. 3) The turnbuckles have both left and right handed threads on them. All adjustments are measured from the center of one ball cup hole to the center of the other ball cup hole, as shown in the drawing below. Go back to fig. 18 for procedures on putting ball cups onto the turnbuckles.

Thread on the ball end cups equally until you achieve a length of $1 \frac{11}{16}$ " (1.69" or 17.5mm). 4) Snap the turnbuckles onto the steering ball ends using your needlenose pliers. On these turnbuckles both ball cups will be facing the same direction. To make it easier to install the inside ball cup, rotate the servo saver so that the inside ball is exposed as much as possible. Reverse the servo saver direction when you have to install the other turnbuckle on the other side of the car.

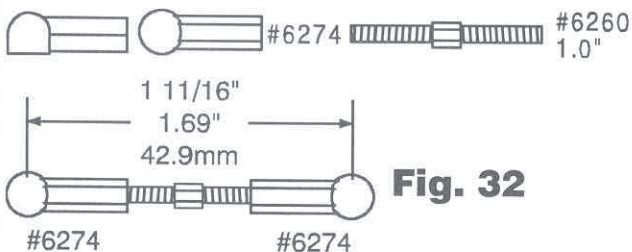


Fig. 32

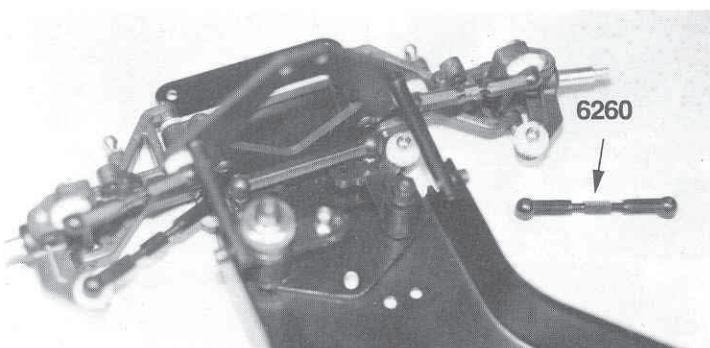


Fig. 33

FRONT ANTI ROLL/SWAY BAR ASSEMBLY

❑ **Fig. 34** Now open bag #8-3 and remove the two #6270 short ball ends. If you look at the front of the car you will see a hole on the leading edge of each of the front arms. Thread one of the short ball ends into each of the two holes. Because of the shape of the arm you may not be able to fully install the ball ends with a nut driver or socket. Use your #8416 shock/turnbuckle wrench or needlenose pliers to finish the job.

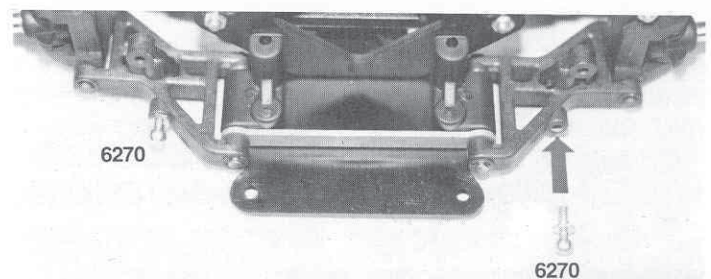


Fig. 34

❑ **Fig. 35** Go back to bag #8-3 and remove the parts tree containing the #8828 molded roll bar ball cups, and two #8828 4-40 x 5/16" socket set screws. If you look at the ball cups you will find two with an open cup and two that have a closed cup. Thread one open cup and one closed cup onto each of the 5/16" set screws. Do your best to thread them on equally and then make sure they go on until they bottom out against each other. This will now become the adjustable pivot link. Because of their small size you can use your .050" Allen wrench to thread one cup onto the set screw. After one is installed thread on the other one until it bottoms out.

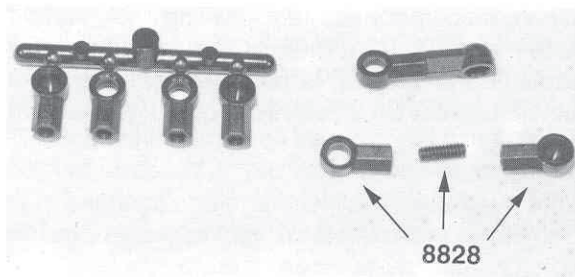



Fig. 35

❑ **Fig. 36** We can now take out the #8826 roll bar wire and the two #6920 4-40 x 3/16" button head socket screws. Look at the front side of the front bulkhead. At the top of each bulkhead section, next to the shock strut, you will find a small recess and a hole. Lay the wire in the two recesses with the ends going towards the front of the car. Now use the two #6920 screws to hold the wire in place by threading them into the two holes at

the top of the bulkhead. Carefully tighten them after both have been installed.

 #6920
4-40 x 3/16

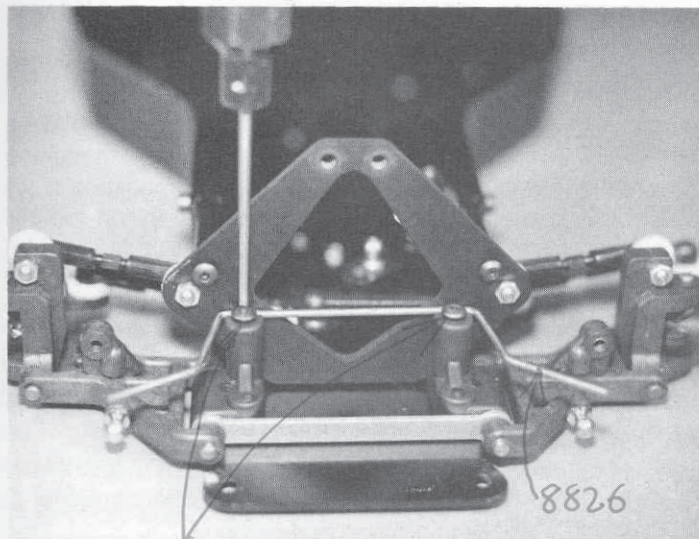
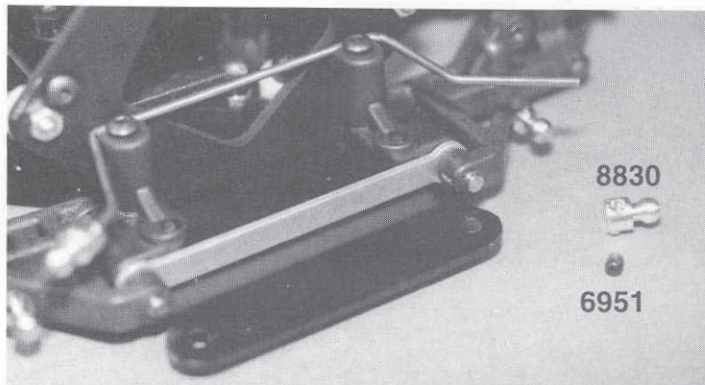


Fig. 36

□ **Figs. 37 & 38 1)** (Fig. 37.) Now we can remove the two #8830 aluminum roll bar pivots and two #6951 4-40 x 1/8" socket set screws. **2)** There is a hole through the center of the pivots. Slide the roll bar wire through the hole (collar side first) until the wire just comes out the front of the pivot. **3)** Now take the set screw and thread it into the collar. Just lightly snug it down for now. We will make some adjustments in a moment. **4)** Install the other pivot ball on the opposite end of the roll bar.

5) (Fig. 38.) Now go back and pick up the #8828 adjustable pivot links (we assembled them in fig. 35) and snap the closed ball end cup onto the ball end of the front suspension arm, and **6)** the open ball end onto the roll bar pivot. **7)** After both adjustable links have been installed we will need to set the roll bar pivot position. Looking at the front end assembly from the front of the car, adjust the pivot balls so that both of the adjustable links are close to vertical. We want to make sure that the pivot balls are not binding but still remain close to vertical. **8)** Once they are lined up correctly and pivoting freely, tighten the set screws. **9)** Make sure that the spacing on both roll bar pivots is the same. If the spacing is not the same, the car's handling characteristics will be different for both right and left turns.

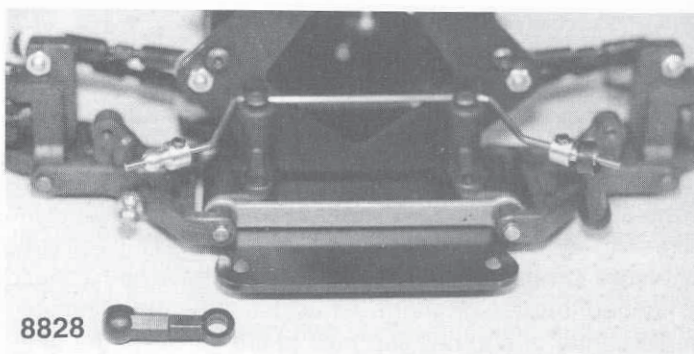
 #6951
set screw



8830

6951

Fig. 37

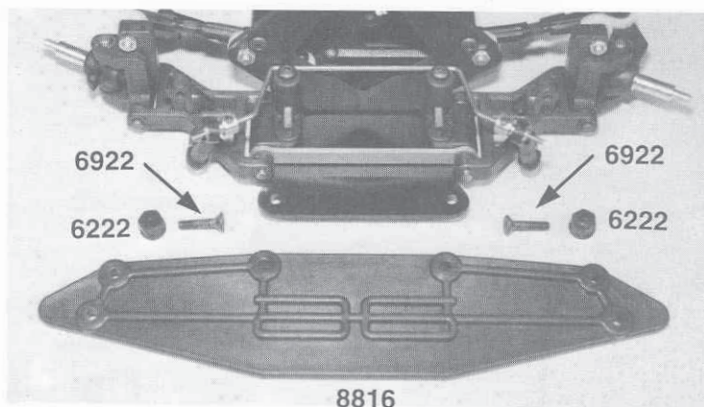


8828 

Fig. 38

FRONT BUMPER ASSEMBLY

□ **Fig. 39 1)** Open bag #8-4, the front bumper bag, and remove the #8816 front bumper, two #6922 4-40 x 1/2" flat head socket screws, and two #6222 4-40/5-40 black nylon self threading locknuts. **2)** Near the center of the bumper there are two mounting holes. They are on the back edge. The "AE" indicates the top of the bumper. Place the back edge of the bumper over the front aluminum kick up then line up the holes in the bumper with the holes in the kick up. In the bottom of the bumper there is a ridge designed to fit against the front of the nose plate. Install the two #6922 screws through the bottom of the kick up and then the bumper. **3)** Now thread the #6222 nylon nuts on to the threads and tighten both nuts to secure the bumper. After the bumper is installed you can set your chassis aside for a few moments.



6922  6922
6222  6222

8816

Fig. 39



#6922
4-40 x 1/2



#6222
4-40/5-40
nylon locknut

2.25:1 STEALTH TRANSMISSION ASSEMBLY

Your new Dual Sport includes the original race proven Stealth transmission. It has been used to win many National and World Championship Titles and is the design base for the GT, T2, and B2 versions of the Stealth tranny. This low maintenance, low drag transmission gives you excellent adjustability for almost any track condition. You will find that when assembled correctly and properly maintained, your vehicle's performance and reliability will be about the best around. This all depends, of course, on how well you assemble and maintain the transmission. So take your time during assembly and frequently clean and re-lube your parts. **Note:** *All of the molded parts in this transmission are made of engineered materials. This means you have to use lubrication only where we indicate in the assembly manual. The life of these parts are greatly affected by frequency of maintenance. This does not mean you have to replace parts each time, just that frequent cleaning and lubing will increase part life and performance.*

Please note that during the assembly of the transmission we will be using the same instructions showing assembly of both the bushing and ball bearing kits. The only parts that will be different will be either the bushings or ball bearings, so the only bag that will be different will be bag B. If you are uncertain which kit you have, the description on the box end label underneath the retail price and model number will indicate if you have ball bearings.

Fig. 40 1) Open the Stealth main bag. Inside you will find several smaller bags. You will find bags marked A, B, C, D, E, & F. You will also find a couple that have no markings and two tubes of lubricants. Remove the tube of #6591 Stealth diff lube (this will be an almost clear lube) from the main bag. 2) Now open bag A and remove the #6580 diff gear, and the bag containing the twelve #6581 3/32" carbide diff balls. There are two bags with balls in this bag, we want the bag with the larger balls. These carbide balls are the best available. They will outlast the drive rings at least ten times (if the diff is kept clean and lubed).

WARNING!! NEVER replace your 3/32" diff balls with any other balls except our #6581 carbide diff balls. The tolerances we use are tighter than any other company that we know of. Due to these tight tolerances and careful packaging of matched balls, when replacing lost or worn 3/32" diff balls, you MUST replace ALL 3/32" balls at the same time with new balls from the same package. This means you cannot even mix balls from two different #6581 packages. Not observing this warning will reduce your diff consistency and performance and could cause premature part failure.

3) Look at the center hole of the #6580 diff gear. If there is any flashing on the inside hole (as indicated in the photo) you

must remove it, or the diff will not work or go together correctly. Use your X-acto® knife to carefully trim any flash from the center hole. We suggest using the tip of the blade since it will turn easier and follow the shape of the gear with less chance of damage to the gear. It is important to remove only the flashing and not any of the gear material.

4) There are twelve holes in the diff gear. Fill each hole with #6591 silicone diff lube. **WARNING!! DO NOT substitute any other type of diff lube on the balls. It took us countless hours of intense testing to find the correct silicone diff lube to make the diff work correctly. Do yourself a favor: use what comes in your kit. While the #6591 is called silicone diff lube, it actually is a silicone compound. It is not used to make the diff slip, like most people would think, it is used to control how fast the diff locks up. Lube has just become a standard description for all greases and silicone compounds.** 5) Now gently push the twelve 3/32" balls into the twelve holes around the gear. 6) After all of the balls are installed wipe the excess lube back into the ball holes with your finger. You will see your diff gear with balls installed in the third step of the photo. 7) Clean the diff lube from your hands. We do not want to take a chance of this lube getting mixed into the #6588 black grease that we will use in a few steps.

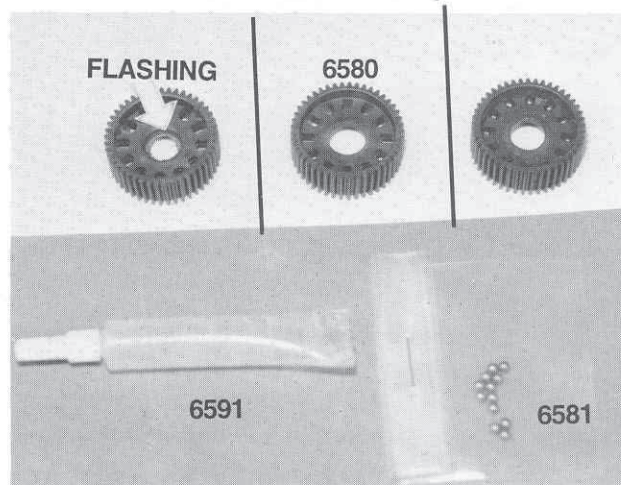


Fig. 40

Figs. 41 & 42 Open bag B of the Stealth main bag. (This will be the only transmission bag that will be different between the two kit versions.) If you have a ball bearing kit, use the parts and part numbers on the left side of fig. 41. If you have a bushing kit, use the parts and part numbers on the right side. All kits (bushing and ball bearing) will use a #6596 bushing for the torque clutch. If you have a ball bearing kit you will have eight bearings and one bushing. If you have a bushing kit you will have nine bushings. **Note:** *All of the bushings used in this kit are pre-oiled through a special manufacturing process, so no oil is needed on the bushings during assembly.*

4) Remove one of the #6589 5/32" x 5/16" unflanged ball bearings or one of the #6597 5/32" x 5/16" unflanged bronze bushings. **WARNING!! On bushing kits both the #6596 and #6597 bushings have the same outside diameter, only the inside diameter is different. Do not use the larger inside diameter bushing in this step. If you do, the torque clutch will not go together later and you will have to take the trans-**

mission and differential apart again to locate the #6596 bushing. 5) Place the #6589 bearing or #6597 bushing into the center hole of the diff gear as shown.

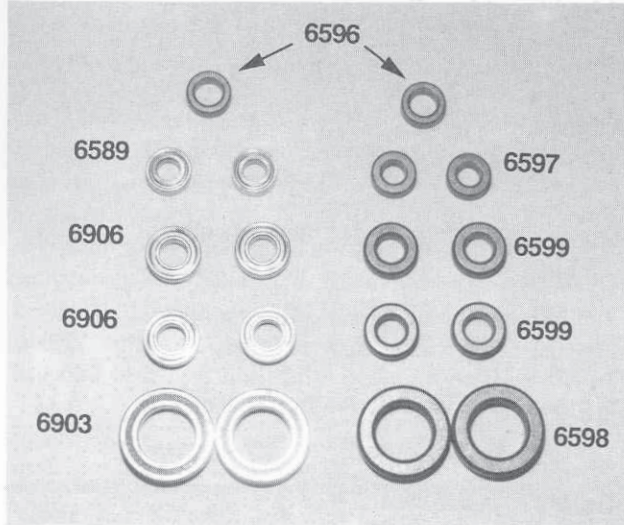


Fig. 41

go in with very light pressure until it reaches the bottom of the outdrive. Next, align the T-nut with the slots in the outdrive and push it. Make sure the steel insert side goes in first. This will place the ears on the outside away from the spring. Slide the T-nut all the way down against the spring.

(Fig. 45.) The ears on the T-nut should be approximately 3/32" or a little less than .100" from the bottom of the slot. Take your X-acto® knife and trim off any of the plastic T-nut that extends outside both sides of the slot in the outdrive hub. The diff outdrive hub will not slide through the ball bearing later if we do not take care of this now. **WARNING!! Be careful here so that you do not cut yourself, since you will be cutting towards your thumb.**

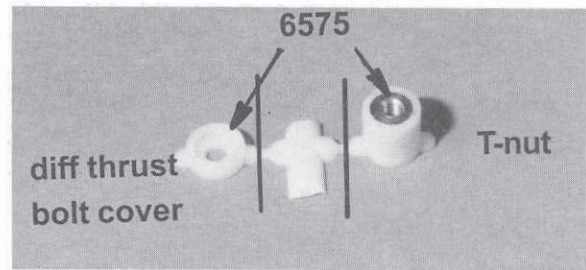


Fig. 43

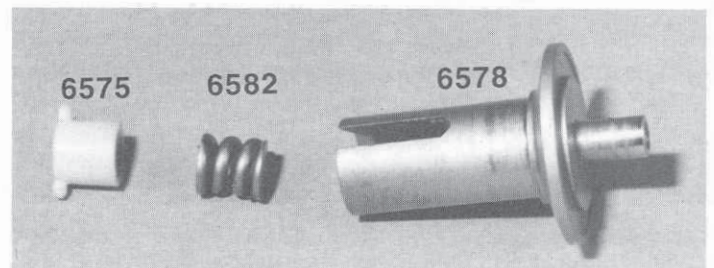


Fig. 44

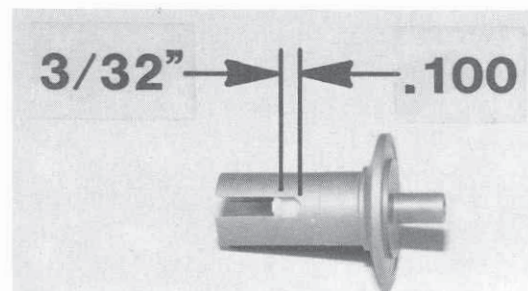


Fig. 45

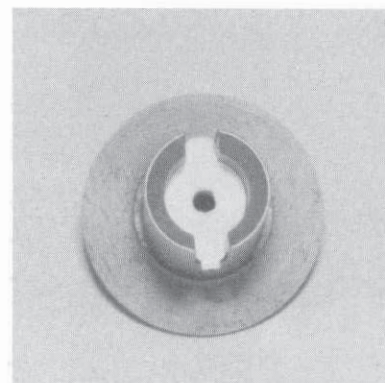


Fig. 46

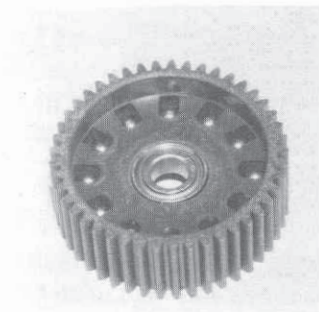


Fig. 42

Fig. 43, 44, 45 & 46 1) Back in bag A you will find a molded parts tree containing the #6575 T-nut and diff thrust bolt cover. 2) Trim the two parts from the tree as shown in fig. 43. **WARNING!! Make sure you do not cut the "ears" off the T-nut or thrust bolt cover. The ears are needed to prevent the parts from spinning freely in the outdrives.** For now set the diff thrust bolt cover aside; we will use it near the end of the transmission assembly.

3) Now remove the #6582 diff thrust spring and the #6578 left diff outdrive hub (the one with the small nipple on it) from the same bag A. **WARNING!! Please make sure you do not get the #6582 diff thrust spring mixed up with the #6587 torque control spring (from bag E) we will be installing later. The torque control spring has a slightly larger outside diameter and will jam inside the diff outdrive hub if forced in.** Now check to make sure that there are no burrs or residue on the inside or outside, of the diff outdrive hub, which could damage parts or reduce the performance of the diff. Slide the diff spring into the left diff outdrive hub. It should slide in or

Fig. 47 1) Still using bag A remove the small bag containing the six #6574 5/64" diff thrust balls. Remove another small bag that contains the two #6573 diff thrust washers (special hardened steel washers) and the #6575 diff thrust bolt which we also need to remove. **WARNING!! Again follow the same warning we explained in fig. 40 about only using the balls that came with the kit. These are special tight tolerance balls that are not available from any other company that we know of. Remember, the tolerance is so tight that you cannot even mix balls from two different bags of Associated #6574 diff thrust balls. You must replace all six at the same time or you will reduce the performance and durability of the diff assembly.**

2) Now slide one of the #6573 diff thrust washers onto the #6575 diff thrust bolt. **Racer's Tip: Carefully look at the center hole of the first thrust washer; you will see that each side is beveled. One side is beveled more than the other; this side is installed towards the head of the thrust bolt. This will help to insure that the thrust assembly will work as smoothly as possible.** 3) Go back to the Stealth main bag and remove the tube of #6588 black grease. 4) Open the tube and place a small amount on the washer. Use just enough grease to hold the six balls you will place on the washer. **WARNING!! DO NOT use the #6591 Stealth silicone diff lube on the #6574 diff thrust balls.** 5) Now carefully place six #6574 balls in the grease around the washer. 6) Slide on the second washer until it contacts the balls. **WARNING!! Make sure that you have exactly six thrust balls installed between the washers. More than six will cause the diff to back off and less than six can cause the thrust washers to crack.**

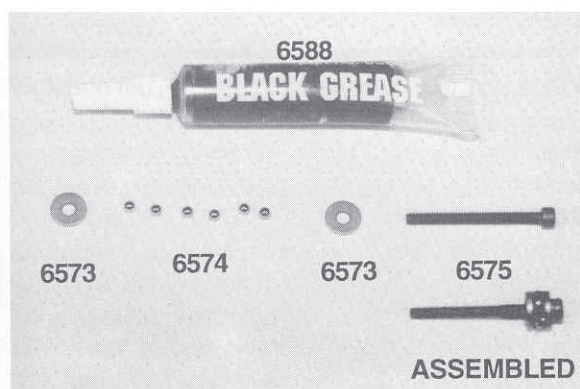
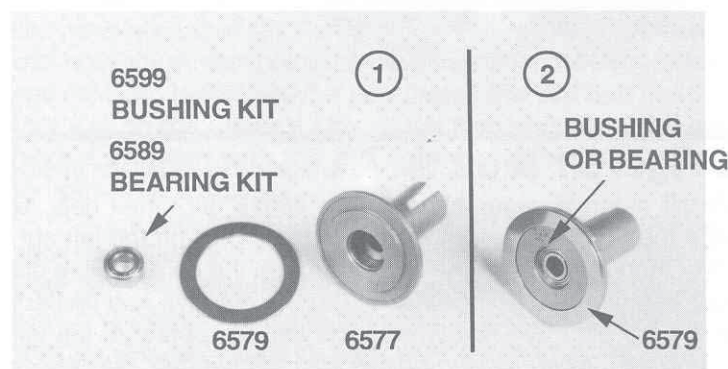


Fig. 47



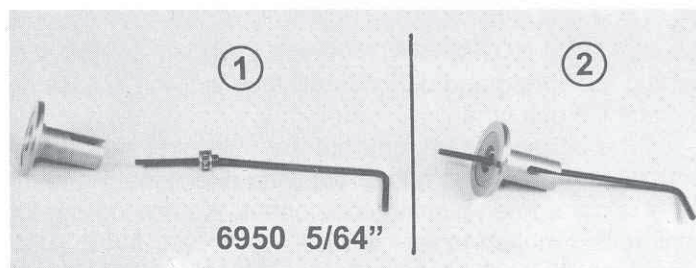
Fig. 48 Remove the #6577 right diff outdrive hub and one of the #6579 diff drive rings from bag A. Go back to bag B and remove either the second #6589 5/32" x 5/16" unflanged ball bearing or #6597 5/32" x 5/16" unflanged bushing (depending upon which kit you purchased). Now check to make sure that there are no burrs or residue on the inside or outside of the diff outdrive hub, which could damage parts or reduce the performance of the diff. Install the #6589 ball bearing or #6597 bushing into the cavity in the center of the #6577 right diff hub. It should push in with your finger. **Never drive or force the bearing or bushing into the hub cavity.** Now place the #6579

drive ring onto the outdrive hub as shown. **Racer's Tip: Our Team drivers always check the diff drive rings for the side that is more rounded on the outer edge. They place this side against the hub as it gives you a more consistent diff action. If you are on a budget you can still use both sides of the drive rings to reduce your maintenance costs. DO NOT try to pin the drive rings to the diff hubs as is done on other designs. Our hub and drive rings are designed to lock the drive ring without pinning. Please leave the diff AS IS.**



9000 **Fig. 48**

Fig. 49 Go back to your #6950 tool bag and remove the 5/64" Allen wrench. Slide the long leg of the Allen wrench into the head of the #6575 diff thrust bolt. We will be inserting the bolt, washers, and thrust balls into the center of the #6577 right diff outdrive. **Note: An Associated #6959 5/64" Allen driver would work well here.**



9000 **Fig. 49**

Fig. 50 With the Allen wrench still in the head of the diff bolt, turn the right diff outdrive hub upright so that the wrench is on the bottom. Make sure that the #6579 diff drive ring is still on the hub and centered. Now pick up the #6580 diff gear (with the 3/32" diff balls and ball bearing or bushing installed) and slip it over the diff thrust bolt. We want to center it onto the diff drive ring on the right diff outdrive hub.

Go back to bag A and remove the second #6579 diff drive ring. Install this ring over the diff thrust bolt and down over the balls on the top side of the gear as shown in the photo. If you are doing the racer setup, the rounded side will be up. **WARNING!! If you remove the diff gear before you completely assemble the diff halves, always double check to see that you do not have both drive rings on the same side. This can happen easily because one drive ring may stick to the diff gear and the other may stick to one hub. It is easy to turn the diff gear around without realizing it. This situation would place both drive rings on the same side and the diff will not work correctly.**

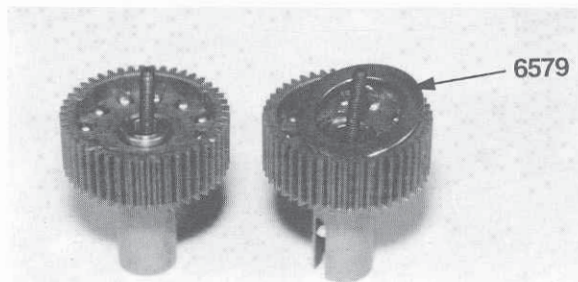


Fig. 50

□ Figs. 51 & 52 Now we are going to install the #6578 left diff outdrive assembly over the #6575 diff thrust bolt. 1) Slide the thrust bolt into the hole of the nipple on the left outdrive, then lightly push the nipple through the center of the diff gear bearing or bushing. Make sure the outdrive hub centers on the top diff drive ring when it fits into the center of the diff gear. **Note:** When picking up the left outdrive hub, place your finger over the slotted end of the hub to prevent any chance of the T-nut and diff spring from falling out during this assembly. Make sure you securely hold the Allen wrench in the head of the diff thrust bolt. This will prevent the bolt, washers, and thrust balls from sliding out during assembly and possibly losing any of the diff thrust balls.

2) Tighten the bolt using the Allen wrench, making sure that the hubs and drive rings stay centered. 3) Once you have lightly snugged the two halves together you can turn the diff assembly on its side to make the final adjustment easier. Fig. 52. Hold the left outdrive and tighten the diff spring and the screw until it stops. **DO NOT OVERTIGHTEN.** Correct adjustment is tightening the spring and diff bolt until they stop, then backing the bolt off 1/8 of a turn.

The diff should be tight but the operation should feel smooth when turning the hub in opposite directions. Remember, this is not a free spinning component. We are looking for the ball rolling motion to feel smooth, not rough. **Note:** After you have run the car once you will need to recheck the diff adjustment. The first run will make sure all the parts seat correctly. After you have rechecked the diff it should only be necessary to check the diff adjustment occasionally.

ADJUSTING THE DIFF. As you are tightening the diff bolt, you will notice the ears on the T-nut moving closer to the bottom of the slots in the left diff outdrive hub. This causes the diff spring (behind the T-nut) to compress. The spring and diff bolt should stop about the same time as the T-nut ears reach the bottom of the slot (if it is off by only a small amount there is no

problem). Bottoming out the spring and bolt is very important. The tension of the spring can only be consistent if you start from the same point. A fully collapsed spring is your starting point. This way, when you back off the bolt 1/8 of a turn you will always have the same spring tension, so your diff will be consistent. We again remind you that this diff is not designed to slip. We use the torque clutch to control any slippage the car needs. This is why the wrong diff lube or even silicone compound can allow the diff to slip, which would reduce transmission performance and increase parts wear.

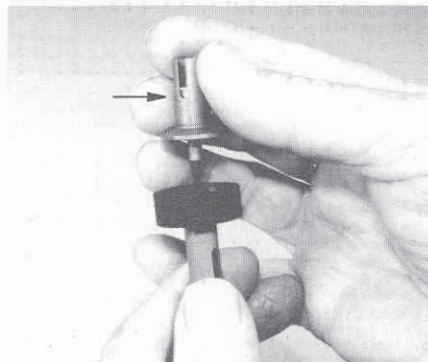


Fig. 51

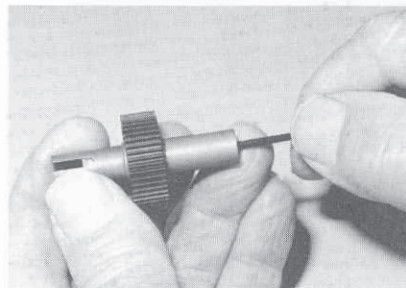


Fig. 52

□ Fig. 53 Open bag C and remove the #6565 left and right case halves. There are five other parts on the parts tree so make sure you put them back in bag C for now. Make sure that you remove any flashing near the bottom of the case halves. Go back to bag B and remove four #6906 3/16" x 3/8" unflanged ball bearings or four #6599 3/16" x 3/8" unflanged bushing. Also remove two #6903 3/8" x 5/8" unflanged Teflon sealed ball bearings or two #6598 3/8" x 5/8" unflanged bushings. (Bag B is the only tranny bag that will vary depending upon which kit you have.) In the photo we have installed bushings in one case half and ball bearings in the other case half. Both halves will receive the same bushings or bearings depending upon which kit you have.



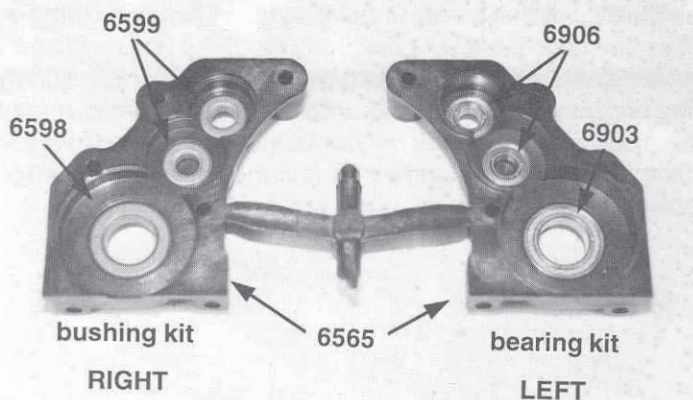


Fig. 53

□ **Figs. 54 & 55** 1) Open bag D and remove the #6571 drive gear/shaft assembly. 2) Carefully deburr the roll pin hole in the drive gear shaft. We are trying to make sure the hole is not blocked and that there are no raised edges around the hole that will prevent the bearing or bushing from sliding onto the shaft. Be sure to deburr both sides of the hole. 3) Now insert the #6571 drive gear/shaft through the upper bearing in the right case half. The shaft will be on the outside of the case and the gear on the inside against the ball bearing.

4) Now open bag E and remove the #6572 roll pin. Using your needlenose pliers squeeze the roll pin into the hole of the drive gear/shaft. Do your best to center the roll pin. ***Racer's Tip:** you can use your needlenose pliers to gently close the split on one end of the roll pin. This slightly smaller end will then be easier to get started into the hole.*

□ #6572
roll pin

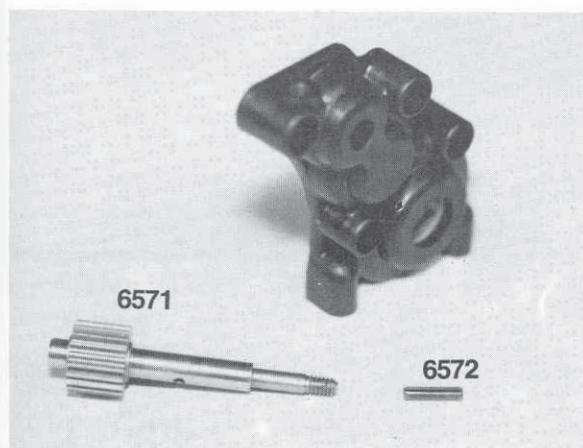


Fig. 54

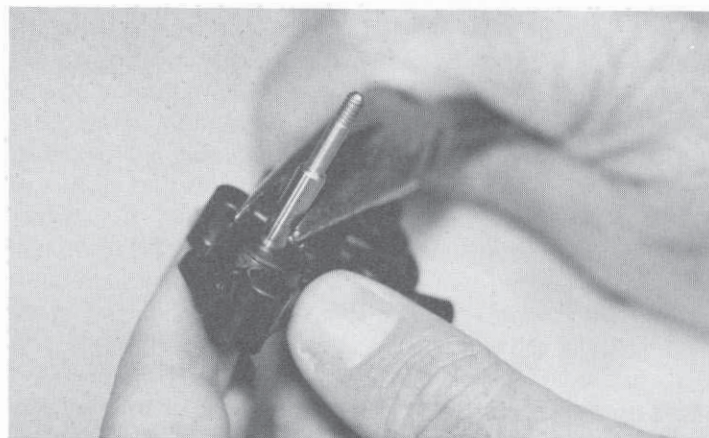


Fig. 55

□ **Figs. 56 & 57** We now need to install the diff assembly into the right case half. We need to make sure that the diff bolt head goes through the right case half. We want to end up with both adjustment points on the same side (the torque clutch and diff bolt). **WARNING!!** If you install the diff bolt head so that it is on the driver's side of the transmission, you may have a problem with the diff adjustment backing off and the diff then slipping.

Go back to bag D and remove the #6570 idler gear and shaft. Install the idler gear into the center bearing on the right case half. You may have to turn the gear so that it will mesh with the other two gears in the case. It does not matter which way the idler gear goes in, it will work correctly either way.

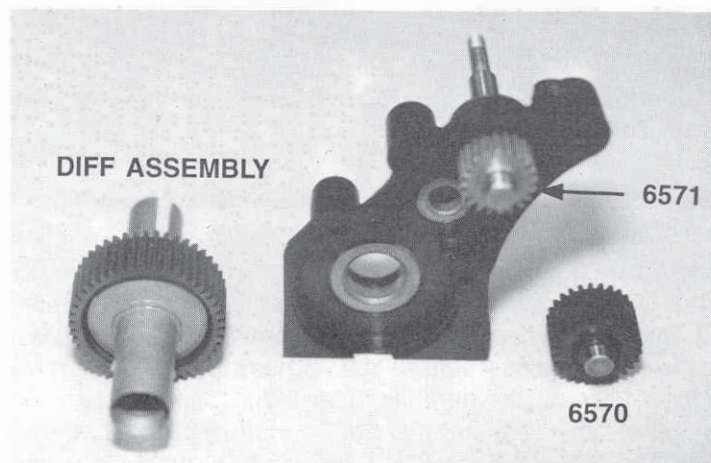


Fig. 56

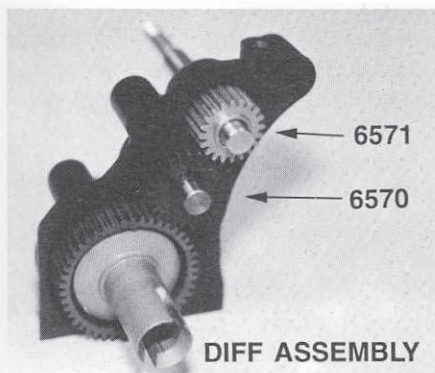


Fig. 57

□ **Fig. 58** Open bag F and remove the four #6928 4-40 x 1" socket head cap screws. Thread them into the bolt hole locations on the left hand case. Take the left hand case and install it over the gears and differential, making sure that each gear fits into the appropriate bearing or bushing. There is a locating ridge on the inside of the case to help line up the case halves. Screw the bolts in until they extend out the right side of the case 1/8".

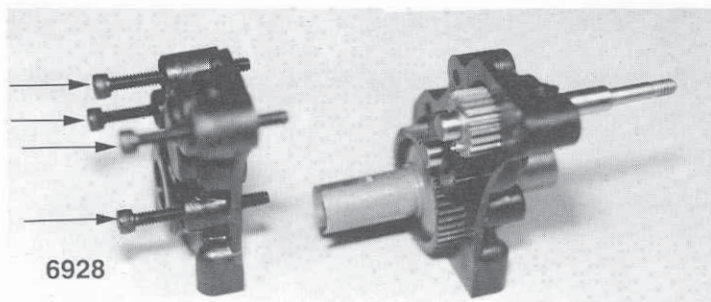


Fig. 58

□ **Figs. 59, 60 & 61** 1) Back in bag C you will find the four #6569 motor plate spacers and the case dust end cap on the remaining parts tree. 2) Remove the five parts from the tree. Set the end cap aside for a moment. 3) In bag F you will find the #6566 felt dust seal. 4) You will need to carefully remove the three felt cutouts where the motor plate spacers will go (fig. 59). 5) We can now install three of the motor plate spacers into the felt seal like this: The felt seal will only go on one way, so line it up over the holes in the case, before you start, so you will know how it is installed. Lay the felt seal down with the case side up. Install the three #6569 spacers so that the small end is pointing up. The small ends of the spacers will fit into the case holes on the right side of the case. The fourth spacer will fit into the bottom front hole which is not covered by the felt dust seal. 6) Now install the felt seal and three spacers over the drive shaft and onto the case as shown (fig. 60). The spacers will also be going over the threaded ends of the four #6928 case screws. 7) Install the fourth motor plate spacer in the front hole.

8) Orient the tranny as in fig. 61. If you look at the upper part of the case you will see a hole in the left side at the drive gear/shaft location. You will need to press the #6569 case dust

end cap into the hole in the case at the end of the drive gear/shaft. You will see an arrow pointing to the location for the case dust end cap. **Note:** On occasion the case dust end cap will break off the parts tree before the parts are packaged. When this occurs we will normally install the end cap into one of the case halves so that it cannot get lost. If it is installed in the right case half push it out and install it in the left case half where it belongs.

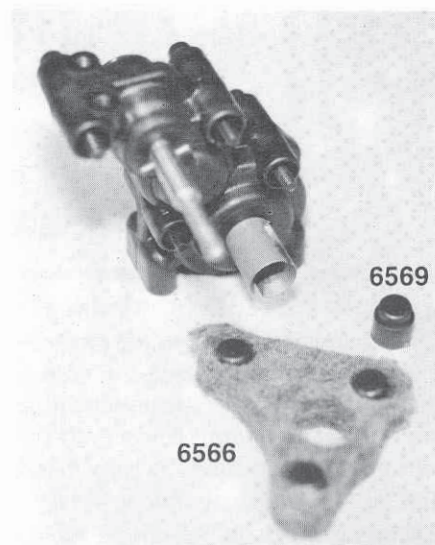


Fig. 59

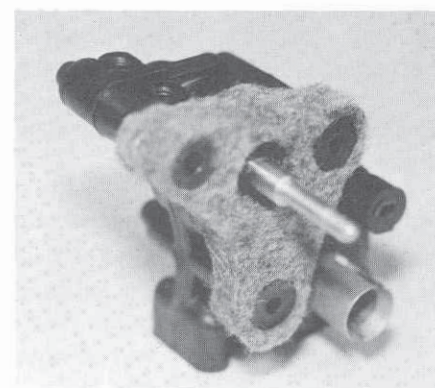


Fig. 60

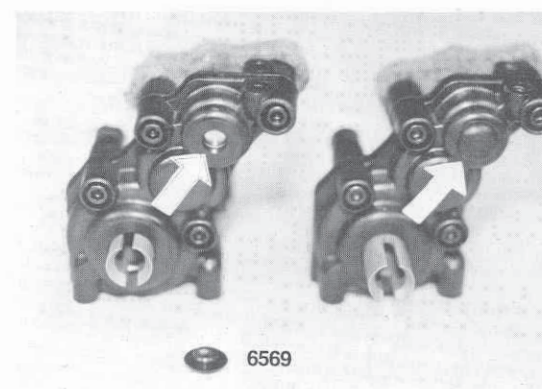


Fig. 61

□ **Fig. 62** In the Stealth main bag you will find the #6604 black anodized motor mounting plate. Place the motor plate over the drive gear/shaft. There are four holes around the motor plate shaft opening. You will need to line up the four threaded

holes in the motor plate with the four screws that are coming through the case. **Tighten all four screws after the screws have been started into the holes.** These screws only have to be snugged down evenly. Overtightening these screws can give you transmission problems in the future.

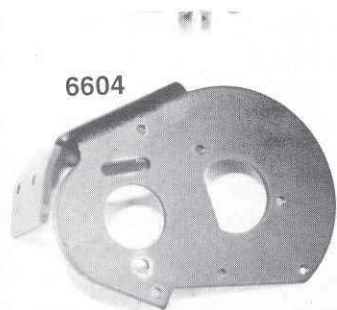


Fig. 62

□ **Fig. 63** We can now start to assemble the Associated Torque Control assembly. Go to bag E and remove the #6583 inner torque control hub. Fig. 63 shows you both a front and back view of the inner hub. We now need to slide the inner hub over the drive gear/shaft. We want to install the back side first (the side with the slot) so that we can line up the slot in the hub with the #6572 roll pin going through the shaft. We want the slot, in the hub, to go down over the roll pin so that it will be locked with the shaft when the shaft rotates.

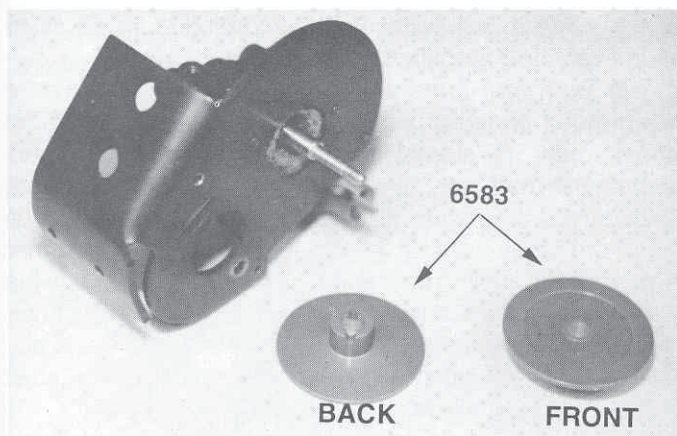


Fig. 63

□ **Figs. 64 & 65** 1) Now we need to remove the final #6596 3/16" x 5/16" unflanged bushing from bag B. (Both ball bearing and bushing kits use the same #6596 bushing for this assembly.) 2) From bag E remove the #6584 outer torque clutch hub, #6585 Rulon clutch disc, #6594 thrust bushing, two #6594 thrust bushing steel washers, #6587 torque control spring, and #6629 gold colored 5-40 steel locknut. **Note:** Associated's #6587 replacement part contains both the torque control spring and one #6629 5-40 locknut.

3) Fig. 64 shows both sides of the #6584 outer torque clutch hub, the #6585 Rulon disc, and both parts assembled together. To install the Rulon disc, place it over the recessed area on the back side of the outer torque clutch hub. Make sure the disc is centered on the hub.

4) Now turn the disc and outer hub over. Fig. 65 has

the parts laid out in the order we are going to install them onto the drive gear/shaft. Place the #6596 bushing into the hole of the outer clutch hub. 5) Install the clutch hub and bushing onto the gear shaft, making sure the Rulon clutch disc is still centered on the hub. Make sure the bushing goes over the larger portion of the gear shaft and that the outer edge of the bushing is slightly below the surface of the clutch hub when properly installed. 6) Now install one of the #6594 steel thrust bearing washers. This will be just about even with the outer edge of the hub when installed. 7) This is followed by the #6594 bronze thrust bushing and 8) the second steel thrust bearing washer. **WARNING!! Do not mix up the special hardened steel thrust washers from bag E with any other washers in the kit. Using the wrong washer will ruin the thrust bushing and reduce clutch performance.**

9) Now install the #6587 torque control spring and 10) #6629 5-40 gold colored 5-40 locknut. 11) Tighten the nut until at least 1/2 of a thread is exposed outside the nut. This will just be a starting point for the torque clutch until we make the final adjustments later in the manual.

Cliff Lett's Racer's Tip: "Like any other spring, a new slipper spring will 'take a set' after use. This means that it will be slightly shorter after being fully collapsed, but its spring rate will be the same. You can bypass this change problem by collapsing the spring a couple of times yourself using your pliers. Collapsing the spring now will prevent it from doing so after you have built the car and run it a few times."

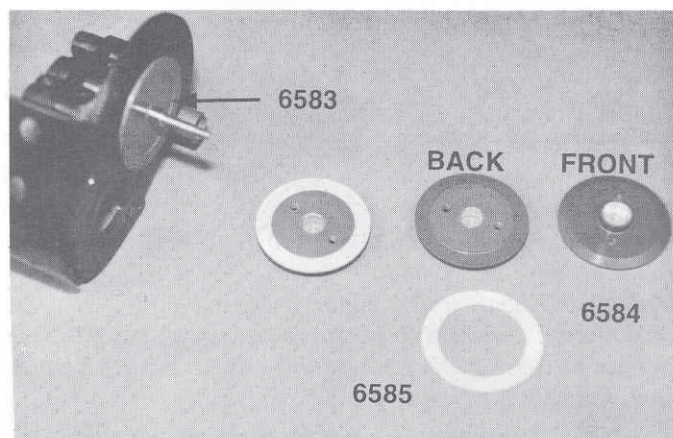


Fig. 64

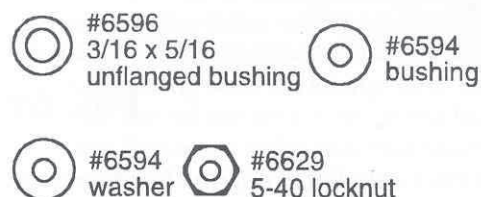
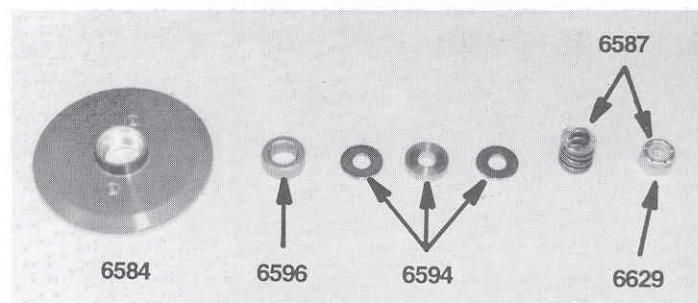


Fig. 65

❑ **Fig. 66** Open bag #8-15 and remove the #6693 81 tooth 48 pitch spur gear. From bag F remove the two #6568 4-40 x 3/16" button head socket screws. The photo shows both the front and back side of the spur gear. Mount the spur gear with the back side towards the clutch hub. Line up the two mounting holes of the spur gear with the two mounting holes in the outer clutch hub. Make sure the spur gear is pressed on as far as possible and as evenly as possible before installing the two #6568 screws. Now do your best to tighten the two screws evenly so the spur gear will not try to warp. **Racer's Tip:** These screws are subjected to a lot of vibration so make sure you check them for tightness frequently. Your completed tranny with spur gear installed will look like fig. 66.

 #6568
4-40 x 3/16

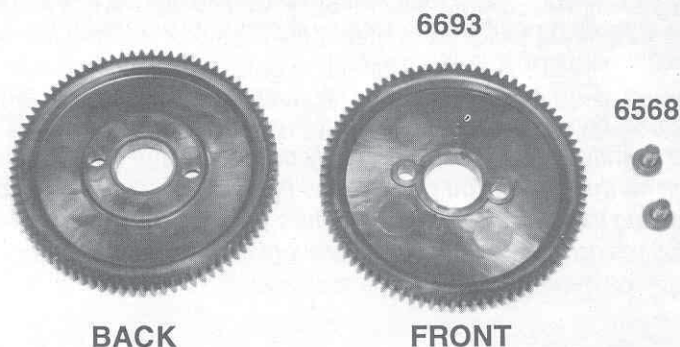


Fig. 66

❑ **Fig. 67** Locate the #6575 diff bolt thrust cover we set aside in fig. 43. Install this dust cover into the right diff outdrive over the head of the diff thrust bolt (flat side out). This is the same side as the spur gear, or the opposite side of the T-nut. Your transmission is now completed. If you have any questions about the transmission, refer to the tuning and maintenance section near the end of the manual. Go ahead and set it aside. We will install it later in the manual.

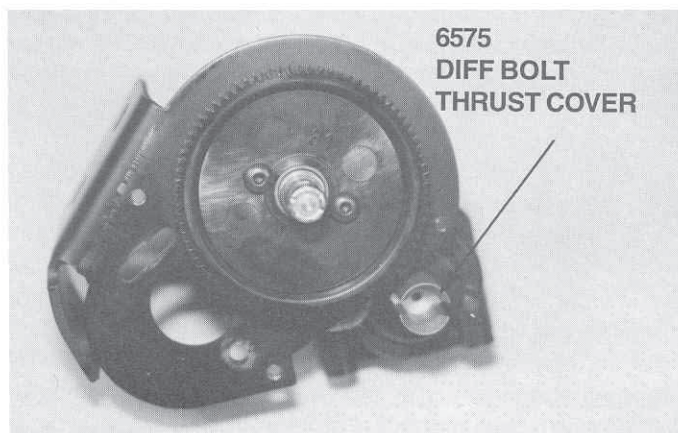


Fig. 67

REAR END ASSEMBLY

❑ **Fig. 68 & 69** 1) Now open bag #8-8 which has all the rear end parts. Remove the two #8860 rear suspension arms, two #8862 rear inner hinge pins, two #8864 rear outer hinge pins, the #6360 rear suspension mounts, and four #6299 1/8" E-clips. Remember, the E-clips will be a very small roll held together with white tape.

2) We also need to open bag #8-12, which contains the rear anti-roll/sway bar parts, for a moment. We want to remove two #6270 short ball ends. 3) Look at the front of the rear suspension arms. There are three mounting holes in the arm. Thread one #6270 ball end into the middle mounting hole of each rear arm. Now set bag #8-12 aside we will come back to it shortly.

4) Next, trim the molding runners from the two #8860 rear suspension arms. 5) Check the pin fit on the rear suspension arms just as we did on the front suspension arms. Refer back to fig. 12 and follow the same procedures to make sure that both inner and outer pins pivot freely in both arms. Set the #8864 pins aside; we will not need them for a couple of steps.

6) Now trim the mold runner that connects the #6360 rear suspension mounts together. 7) Each rear mount has 1.5° of rear toe-in built in, giving the car a total of 3° of rear toe-in. This means there is a right and left mount. These can be identified by looking for the "R" and "L" molded into the bottom of the mounts. To make sure that everything is laid out correctly, the front of each mount is thicker than the back when looked at from a side edge view. Lay them out according to fig. 68 when you have everything identified.

8) Both rear arms are identical so it will not matter which arm goes on which side until they are attached to the rear arm mounts. The side of the arms with the mounting holes will become the front side. Now start with the right side mount and place one of the rear arms around the mount so the holes in the arm are to the front. 9) Take one of the #8862 rear inner hinge pins and slide it into the back hole of the arm, through the rear suspension mount, and out the front arm hole. 10) Center the pin and install a #6299 E-clip on each end of the hinge pin. 11) Assemble the left side arm and mount the same way. Just remember, it will be a mirror image.

 #6270
4-40  #6299
e-clip
1/8 shaft

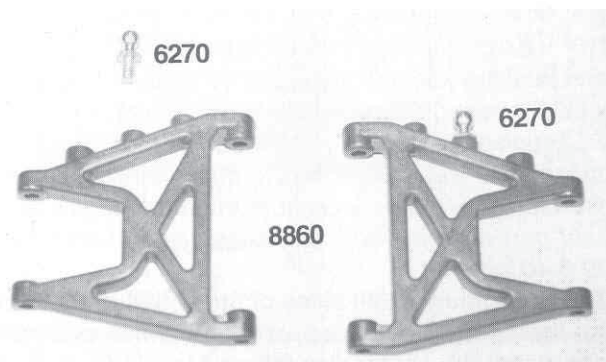


Fig. 68

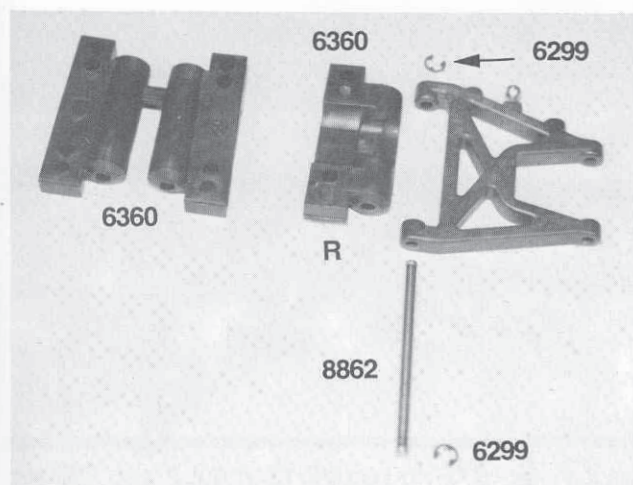


Fig. 69

Fig. 70 Remove the four #6280 8-32 x 1/2" aluminum flat head machine screws and two #8182 8-32 aluminum plain nuts (bag #8-8). We are going to use the 8-32 screws to secure the mount/arm assemblies to the chassis. Again we will start with the left side. There are four holes in each mount. Line up the back mounting hole of the rear mount with the back mounting hole in the chassis. Use a second #6280 screw and install it into the front mounting hole. This will put the mounts in the forward position. Now repeat these steps to install the right mount/arm assembly. Now install the two 8-32 plain nuts by threading them onto the back screw of each mount.

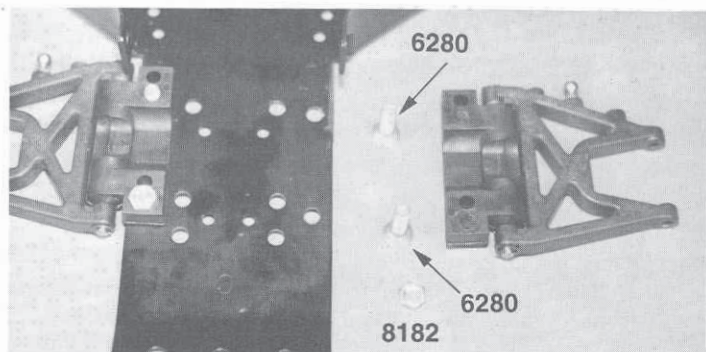


Fig. 70

Fig. 71 Remove the #6323 nylon rear bulkhead from bag #8-8. We need to go back to bag #8-14 and remove two #6273 long ball ends, two #6272 foam ball end dust covers, and two #7260 4-40 small pattern plain nuts. The photo shows you which side is the front and which is the back of the bulkhead. There are five holes on each side of the bulkhead that can be used to mount the ball end. We are going to use the middle hole of the three holes on the top horizontal row (not the vertical row). Thread the ball end in from the back side and then thread the #7260 nut onto the exposed threads on the front side. After both ball ends are installed push the foam ball end dust covers over the end of the balls.

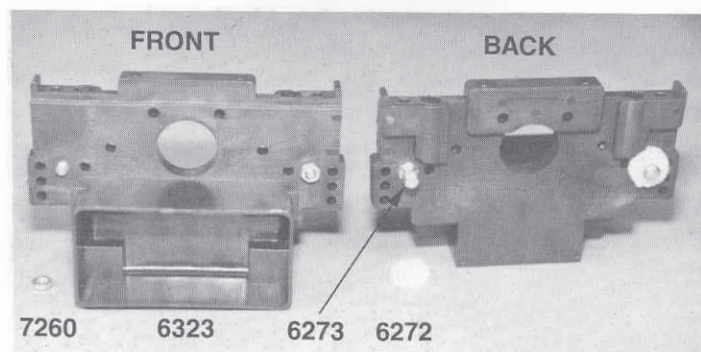


Fig. 71

Fig. 72 From bag #8-12 remove the #8872 rear anti-roll bar wire, two #8830 aluminum roll bar pivots, and two #6951 4-40 x 1/8" socket set screws. Slide the #8830 roll bar pivots onto each end of the roll bar wire so that the ball portion is to the outside. Install one #6951 set screw into each aluminum ball pivot, line the end of each pivot up with the end of the roll bar wire and tighten up the set screws.

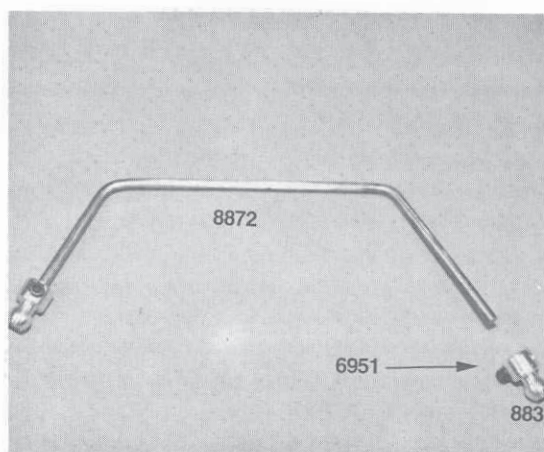
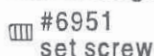


Fig. 72

Figs. 73 & 74 Remove the #8870 molded rear shock strut and four #6925 4-40 x 1/2" socket head cap screws from bag #8-8. In the photo you will see both the front and back sides of the rear shock strut. The back side can be identified very easily by the two molded locator pins that are used to hold the rear anti-roll bar in place.

Now pick up the #8870 rear bulkhead and place it in front of you. On the front of the bulkhead, at the top, you will find a recessed ledge shown by an arrow. Place the center of the roll bar wire on the ledge with the pivots facing forward. Now pick up the #8870 shock strut and place it in between the ends of the roll bar, making sure the locator pins, on the back side, are going over the roll bar wire. Line up the four holes in the rear strut with the four holes in the rear bulkhead and secure the strut to the bulkhead with the four #6925 4-40 screws as shown.

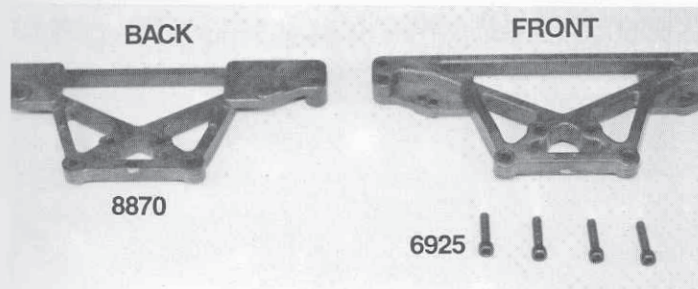
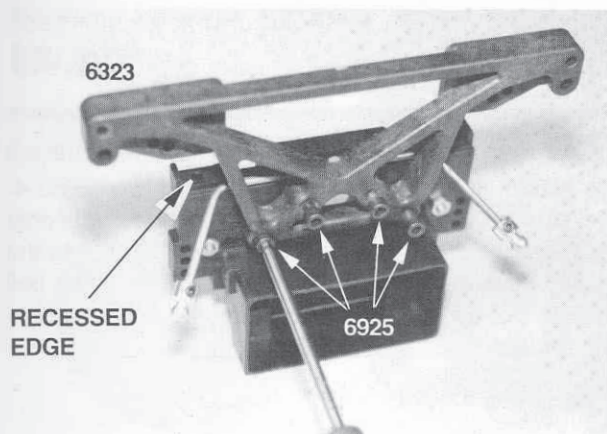


Fig. 73



 #6925
4-40 x 1/2

Fig. 74

Fig. 75 & 76 We want to install the #6323 nylon rear bulkhead and anti-roll bar now. Remove two #6280 8-32 x 1/2" aluminum flat head machine screws and two #6925 4-40 x 1/2" socket head cap screws from bag #8-8. We are going to use the two #6280 aluminum screws to fasten the bulkhead to the bottom of the chassis and the two #6925 4-40 screws to fasten the bulkhead to the sides of the chassis. After all four screws have been installed go ahead and tighten them.

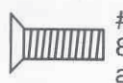
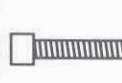
 #6280
8-32 x 1/2
aluminum  #6925
4-40 x 1/2



Fig. 75

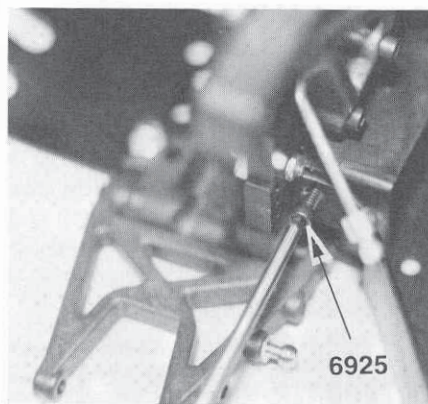


Fig. 76

Fig. 77 & 78 In bag #8-12 you will also find two #6385 4-40 x 1 1/4" threaded rods and the parts tree containing the #8828 molded roll ball cups. Again the parts tree contains two each of the open ball cups and two of the closed ball cups. Thread one closed and one open ball cup onto each #6385 threaded rod until the ball cups bottom out.

To install the threaded ball cup links we just assembled, snap the closed end ball cup onto the #6270 ball end on the rear suspension arm. Then slide the open ball end cup over the aluminum roll bar pivot. After you have installed the second link you will now have a completed rear anti-roll bar assembly.

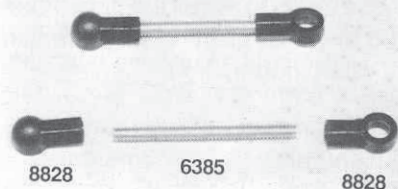


Fig. 77

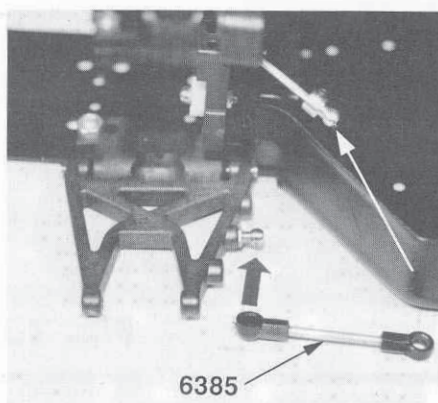


Fig. 78

Fig. 79 & 80 We are now ready to install the Stealth transmission. In bag F of the Stealth main bag you will find four #6292 4-40 x 3/8" flat head socket screws. Place the transmission between the two rear suspension mounts so that the spur gear is on the right or passenger side and the curved part of the motor plate is inside the rear curved portion of the chassis. While holding the transmission against the chassis turn both of them over. Now take the four #6292 screws and secure the transmission to the chassis as shown. Do not tighten these screws just yet.

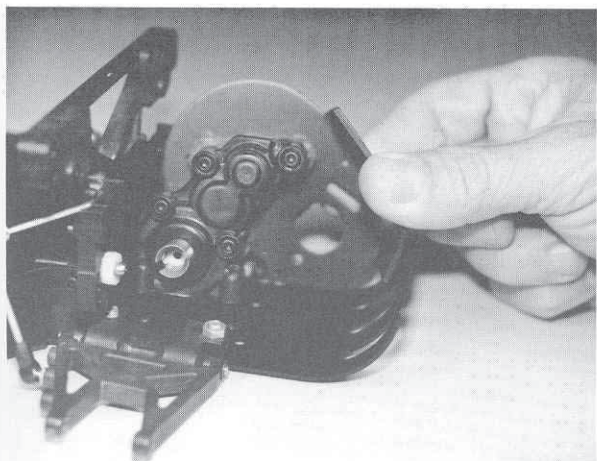


Fig. 79

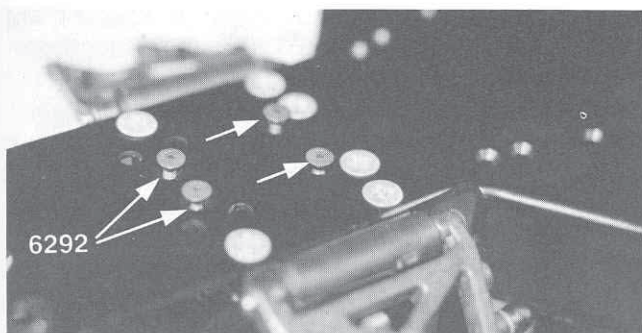


Fig. 80

□ **Fig. 81** Also in bag F you will find two #6288 4-40 x 1/4" button head socket screws. If you look at the back of the chassis you will see that there are two holes. We will use the #6288 screws to secure the chassis to the motor plate. Make sure the motor plate fits inside the chassis as shown then thread the two #6288 screws into the motor plate. This is the reason we did not tighten up the transmission mounting screws. After both screws have been started go ahead and tighten them both. Now you can go back and tighten the four #6292 screws we used to mount the transmission to the chassis.

□ #6288
4-40 x 1/4

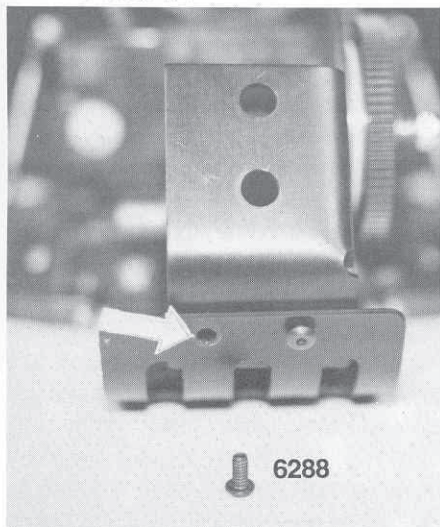


Fig. 81

□ **Fig. 82 & 83** In bag #8-8 you will find the #6325 nylon transmission brace, two #6932 4-40 x 5/16" socket head cap screws, and two #6925 4-40 x 1/2" socket head cap screws. Look at the brace, you will find two holes on the flat end and four holes on the contoured end. The flat end will go over the top of the rear bulkhead and the contoured end will go over the transmission. Use the two #6932 5/16" length screws to secure the brace to the transmission and the two #6925 1/2" screws to secure it to the bulkhead.

□ #6932 4-40 x 5/16 □ #6925 4-40 x 1/2

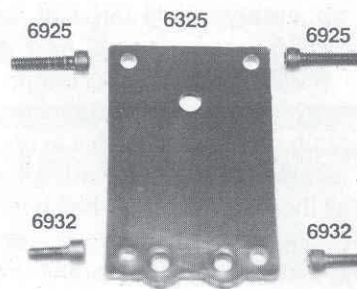


Fig. 82

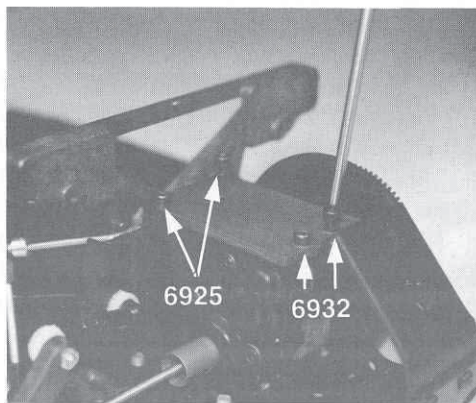


Fig. 83

□ **Figs. 84 & 85** We will now need to start assembling the rear axles and hub carriers. Depending upon which model of the RC10DS you own, you will have different parts for this assembly. If you look at fig. 84 you will see the parts for assembling the rear axle for both the bushing and ball bearing kits. **Note:** The photos after this step will only show the installation of the dogbones and stub axles in order to save time and space.

1) From bag #8-8 remove the two #7365 0° rear hub carriers. 2) Depending upon your kit you will also need to remove the following parts:

For the bushing kits: also remove the two #8868 rear stub axles, two #7368 3/16" axle shims, two #7369 1/16" rear axle spring pins, and the small bag with the four #6599 3/16" x 3/8" unflanged bushings.

For the ball bearing kits: also remove the two #8869 universal dog bone axles, twelve #7368 3/16" rear axle shims, two #7377 rear axle bearing spacers, two #7369 1/16" rear axle spring pins, and the small bag with the four #6906 3/16" x 3/8" unflanged ball bearings.

3) Fig. 84 shows the parts laid out in the order they will be assembled. The hub carrier will be the same for both but the

parts at the top of the photo are for bushing kits and the parts at the bottom of the photo are for ball bearing kits.

Bushing kit axle assembly: Slide one of the #6599 3/16" x 3/8" unflanged bushings onto the #8868 rear stub axles. 4) Slide the threaded end of the stub axle through the back side of the #7365 0° rear hub carrier and press the parts in until the bushing seats into the rear hub carrier. 5) From the front, slide on the second #6599 bushing and seat it into the front of the #7365 hub carrier. 6) This will be followed by one #7368 3/16" rear axle shim and 7) the #7369 rear axle roll pin, which you press in the hole with your needlenose pliers. 8) Repeat the process to assemble the second axle. At this point both axle assemblies are interchangeable for both the right and left side. Finish the assembly below under "Both kits."

Ball bearing kit axle assembly: Slide three of the #7368 rear axle shims onto the #8869 rear universal axle. 4) Follow this with one #6906 3/16" x 3/8" unflanged ball bearing 5) and the #7377 rear axle spacer. 6) Install the threaded end of the axle into the back of the rear hub carrier and push it in until the #6906 bearing seats into the hub carrier. 7) Now from the front side of the hub carrier install the second #6906 ball bearing and seat it into the front. 8) This will be followed by three more of the #7368 rear axle shims and 9) the #7369 rear axle spring pin, which you will press into the hole on the axle with your needlenose pliers. 10) Repeat the process for the second axle assembly. Again there is no right or left axle assembly at this point.

Both kits: Now go to bag #8-14 and remove two #6273 long steel ball ends, two #6272 foam ball end dust covers, and two #7260 4-40 small pattern plain nuts. Thread one #6273 ball end into each hub carrier, but from opposite sides. Now you can thread one #7260 4-40 plain nut onto the ends of the threads. After you have installed the ball ends you can finish by installing the #6272 foam ball end dust covers. Now you will have a right and left rear hub carrier/axle assembly. Please do not get them mixed up.

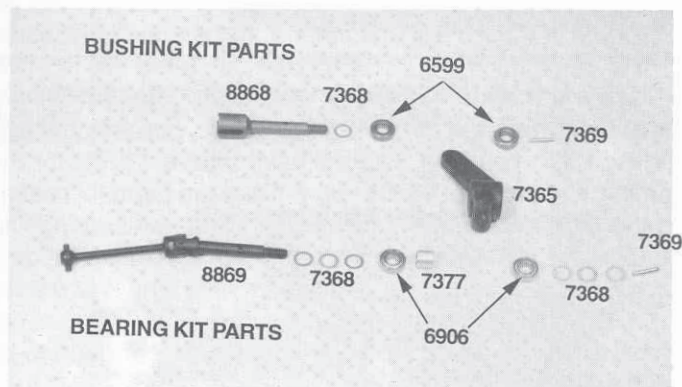


Fig. 84

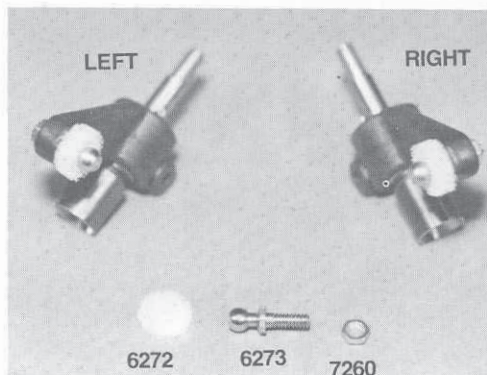


Fig. 85



Fig. 86 & 87 1) Remove the two #8864 rear outer hinge pins, two #6466 1/8" (.125") black plastic spacers, and four #6299 1/8" E-clips from bag #8-8. 2) (Fig. 86.) Place the left rear hub carrier assembly between the outer mounting holes on the left rear suspension arm. Move the assembly against the front mounting hole. 3) Use one of the 1/8" spacers to take up the gap between the hub carrier and the back mounting hole on the suspension arm. 4) We can now install the #8864 outer hinge pin through the back mounting hole, then through the plastic spacer, the rear hub carrier and out the front arm mounting hole. 5) Now center the pin and install an E-clip onto each end of the #8864 pin. 6) Repeat the above steps to install the right side parts. Make sure that you keep the hub carrier/axle assembly against the front mounting hole on the arm.

7) Locate the two #8867 dogbones in bag #8-8. We must insert the dogbones into the slots in the transmission outdrives and the rear axles. Remember, if you have a ball bearing kit your universal axle will only have to fit into the slots of the transmission outdrives, because the other end of the axle and dogbone are connected by a universal pivot.

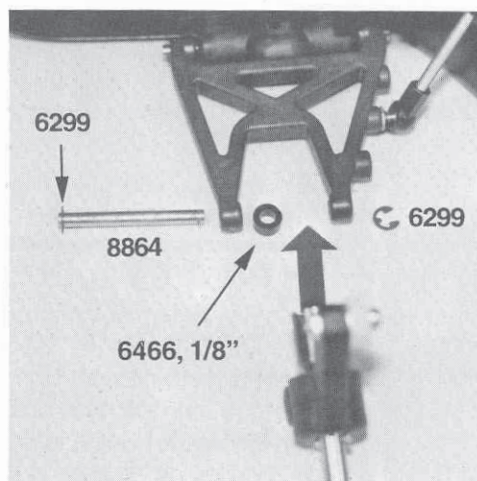


Fig. 86