

□ **Figs. 53 & 54** Slip the #6577 left hand hub down onto the bolt, making sure the hub centers itself onto the drive rings. THIS IS IMPORTANT.

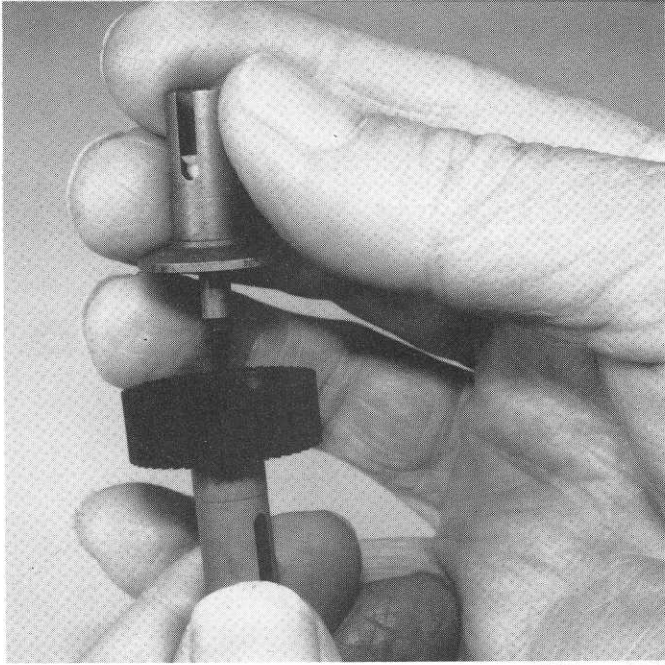


Fig. 53

□ **Fig. 54** Now start to tighten the bolt with the Allen wrench, making sure the hubs and drive rings stay centered. Do this very slowly. We want to make sure everything stays centered. We'll finish the tightening in the next step with figs. 55 & 56.

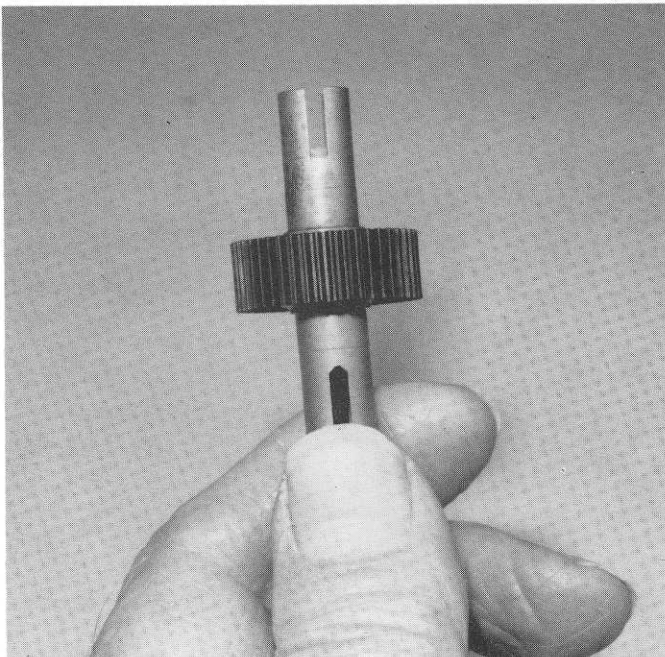


Fig. 54

□ **Figs. 55 & 56** Continue tightening slowly until the spring is just about completely collapsed. DON'T OVER-TIGHTEN! Correct adjustment is bottoming the spring and then backing off 1/8 to 1/4 turn.

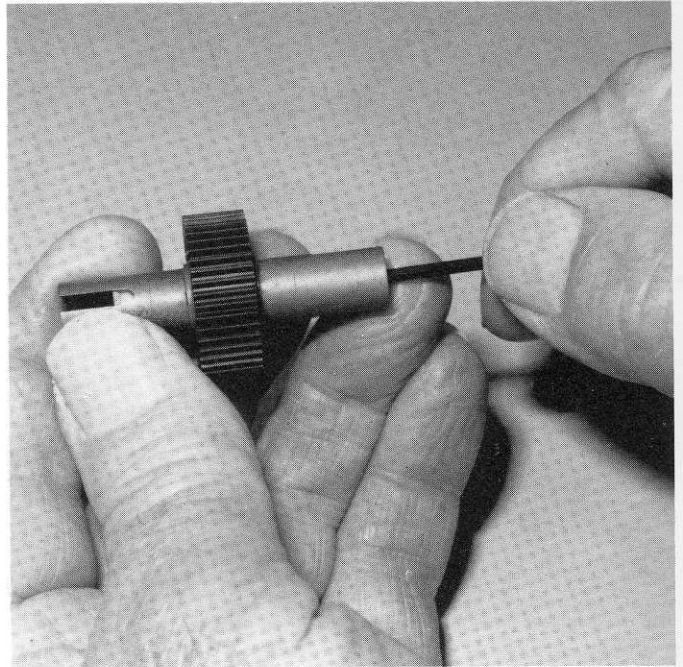


Fig. 55

□ **Fig. 56** As you're tightening, you'll notice the ear on the T-nut, shown by the arrow, moving closer and closer to the bottom of the slot in the hub. The spring should bottom out about the same time as the ear is at the bottom of the slot. When you feel the spring bottom out, that's when you back off 1/8 to 1/4 turn and your diff is correctly adjusted. The diff should operate very smoothly when turning the hubs in opposite directions. Recheck the adjustment before driving the car. There is never a need to adjust the diff in any other manner.

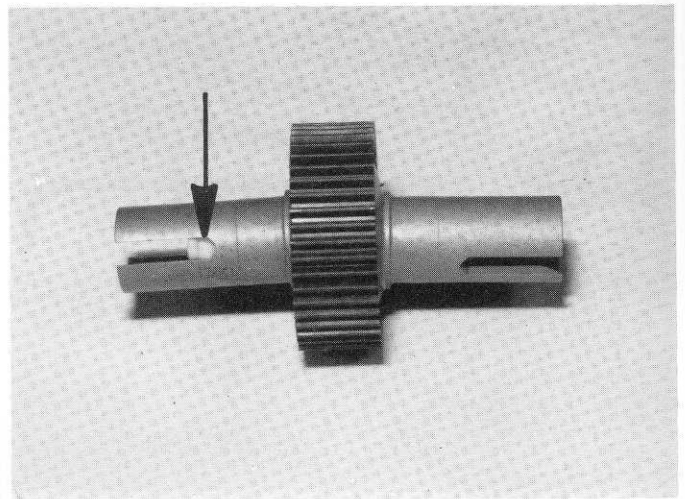


Fig. 56

□ **Fig. 57** Open Bag C and remove the #6565 left and right hand transmission cases (tranny cases), and remove any flash left from molding. Then install the four #6906 upper and two #6903 lower bearings.

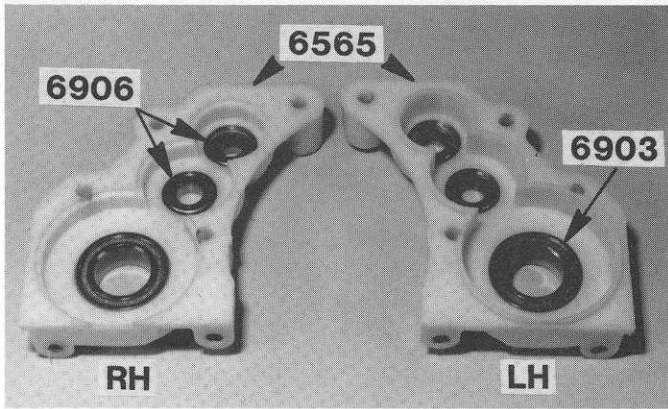


Fig. 57

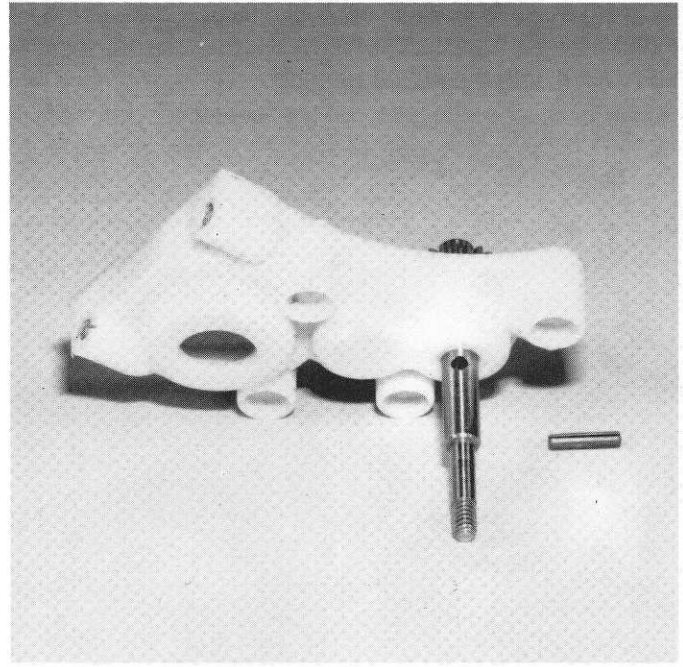


Fig. 59

□ **Figs. 58 & 59** Open Bag D and remove the #6571 drive gear assembly and slide it into the upper bearing in the right hand gear case.

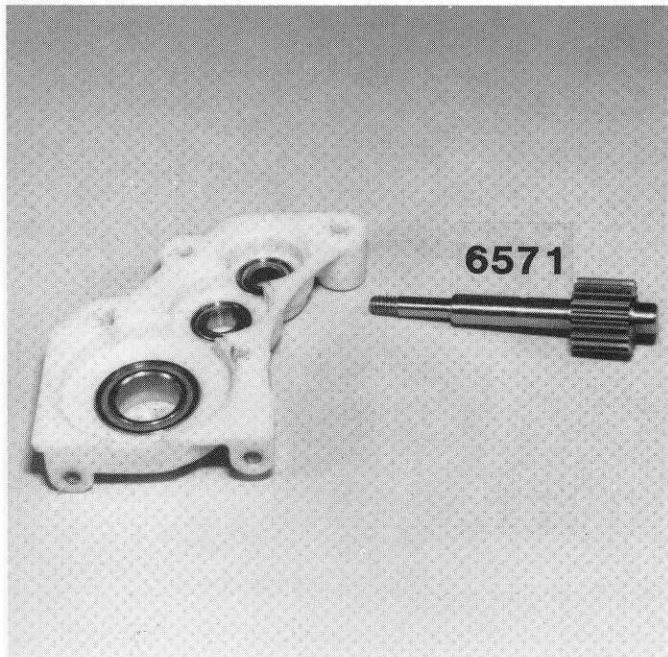


Fig. 58

□ **Fig. 60** Open Bag E and using a pliers, squeeze the roll pin into the hole in the shaft until it is equally spaced.

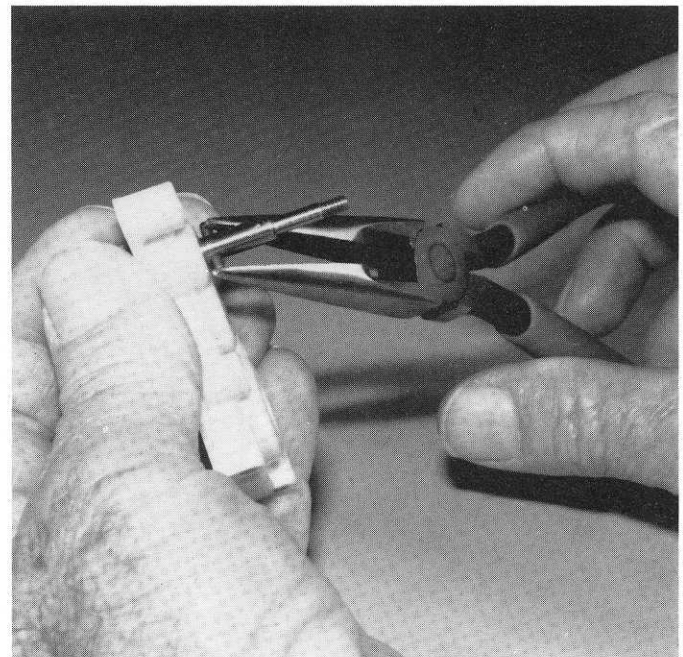


Fig. 60

Figs. 61 & 62 Now take the diff assembly and insert the right hand hub, which is the one that has the bolt HEAD in it, into the #6503 bearing.

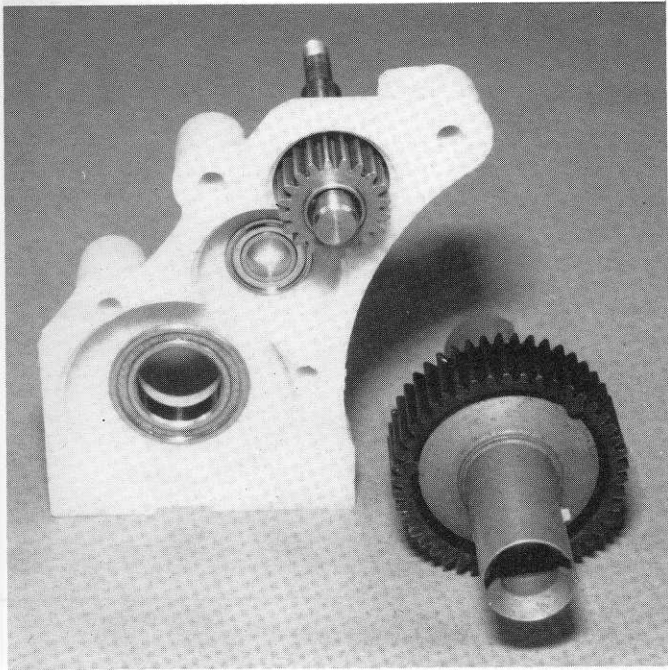


Fig. 61

Fig. 63 Now carefully slip the #6570 idler gear into the center bearing.

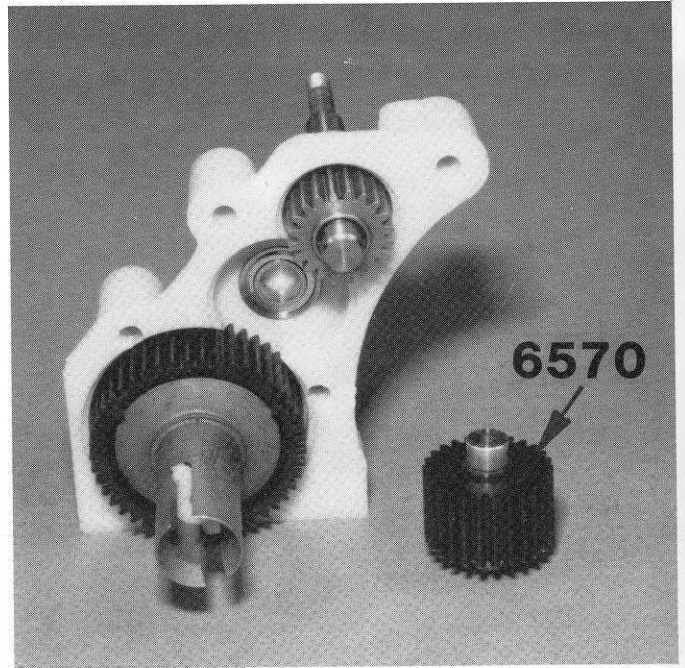


Fig. 63

Fig. 64 The inside of your tranny should look like this. Slip the left hand side of your tranny onto the right hand side.

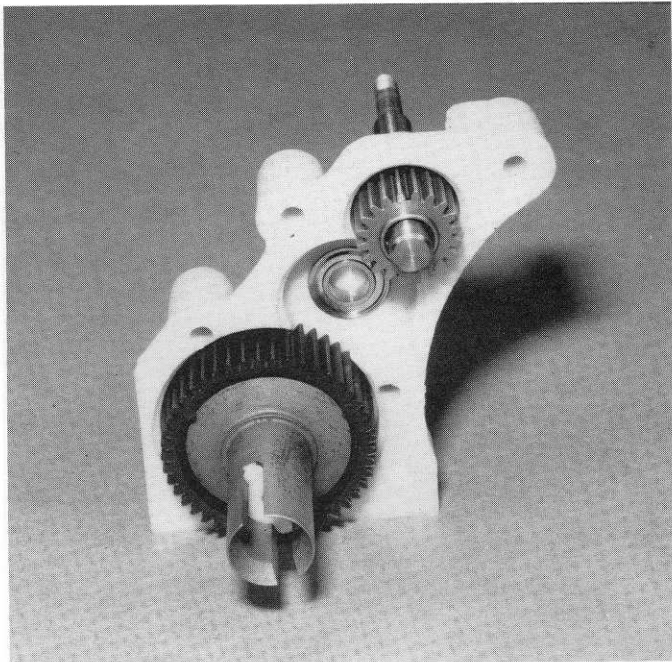


Fig. 62

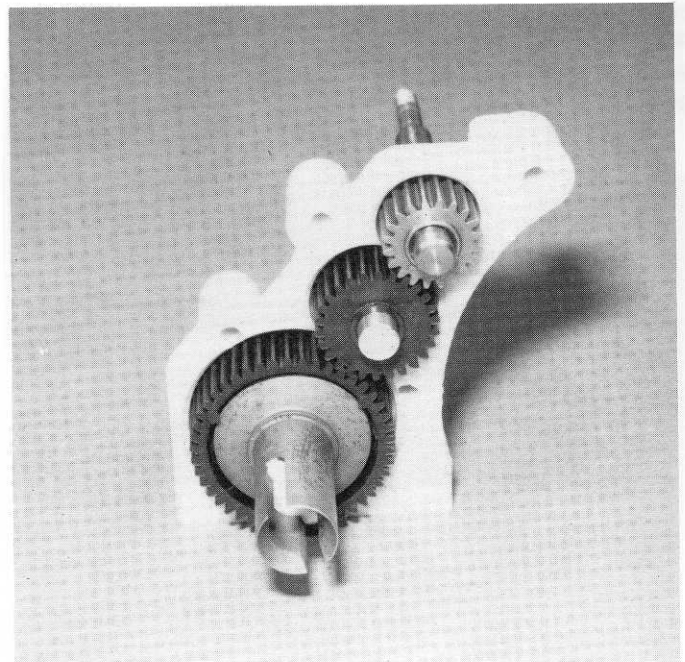


Fig. 64

□ **Fig. 65** From Bag F put the four 4-40 x 1" Allen head case bolts into the case from the left hand side. You'll have to screw them in. Screw in the bolts so they extend about 1/8" on the other side.

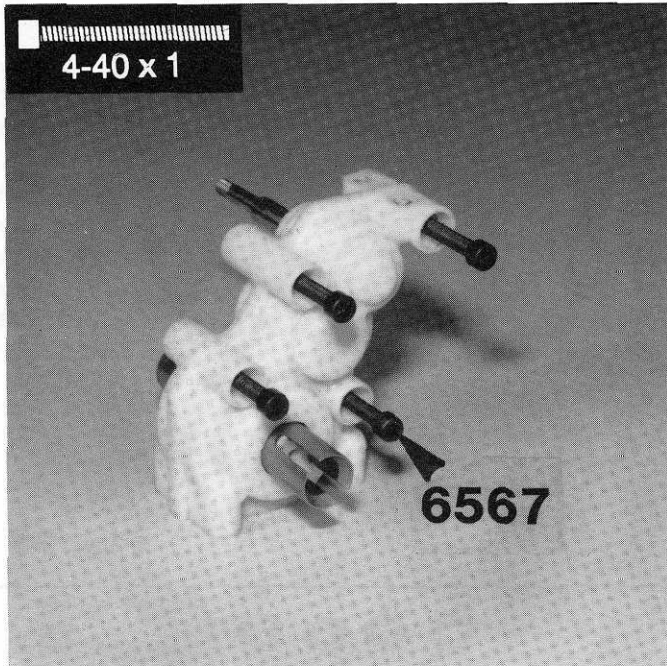


Fig. 65

□ **Fig. 67** Slip the felt dust shield on the three bolts as shown and slip the fourth plastic spacer on the other bolt.

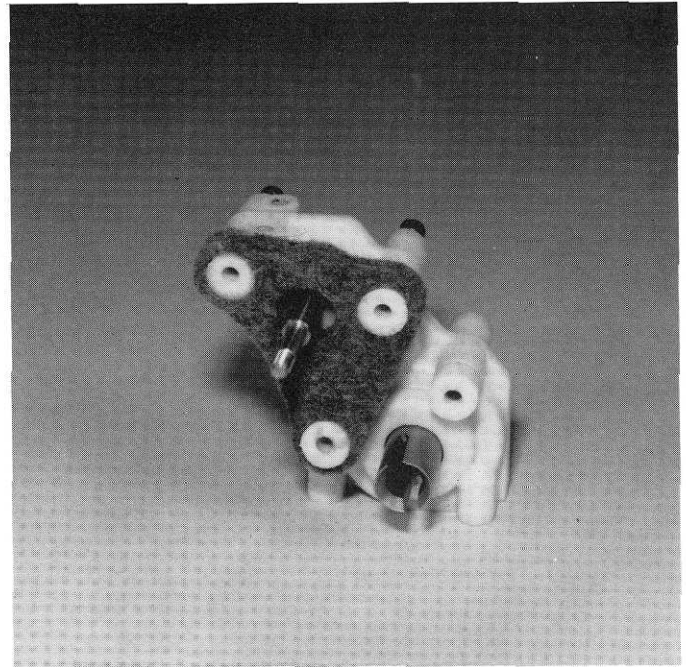


Fig. 67

□ **Fig. 66** Now take the four #6569 plastic spacers from Bag C and slip three of them into the #6566 felt dust shield from Bag F so that the small end of the spacers can go into the case holes.

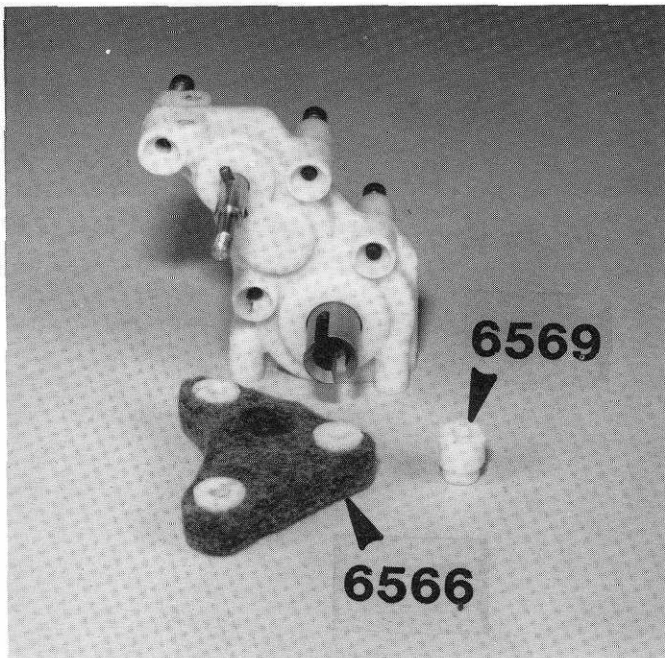


Fig. 66

□ **Fig. 68** Now take the #6604 black motor mount and bolt the tranny to it in the location shown and tighten the four bolts. Then install the small plastic dust cap in the case, where the arrow indicates.

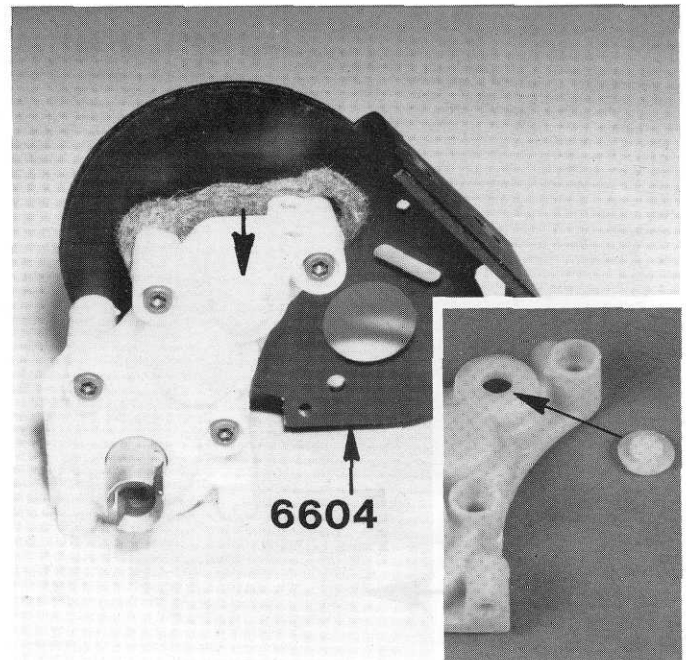


Fig. 68

Fig. 68A

□ **Figs. 69, 70 & 71** Now we'll assemble the clutch Torque Control assembly. Slip the #6583 clutch hub from Bag F onto the shaft, making sure the slots align with the pin.

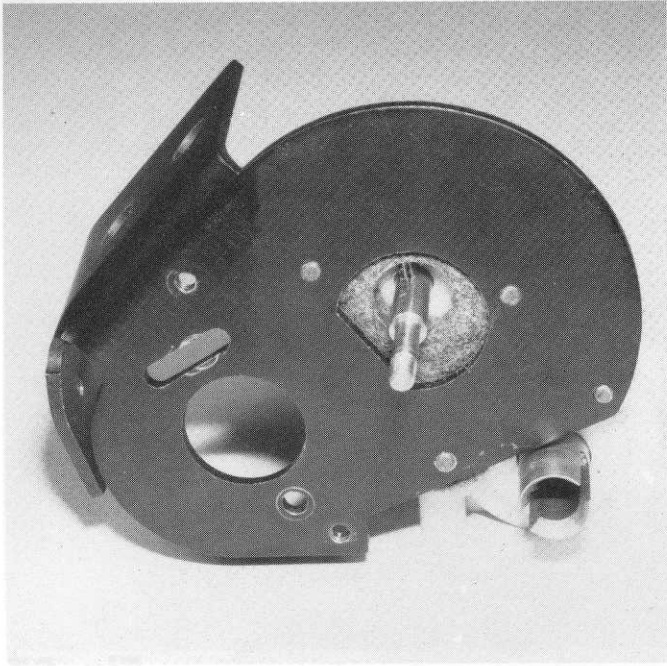


Fig. 69

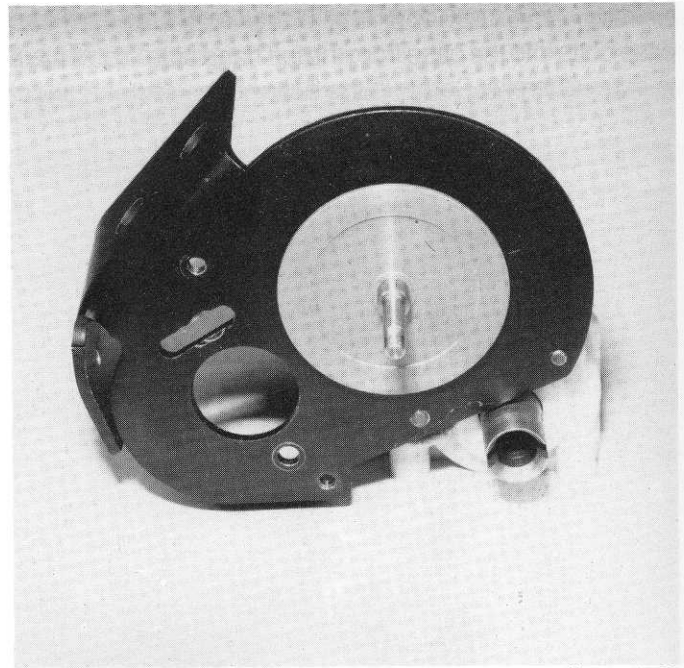


Fig. 71

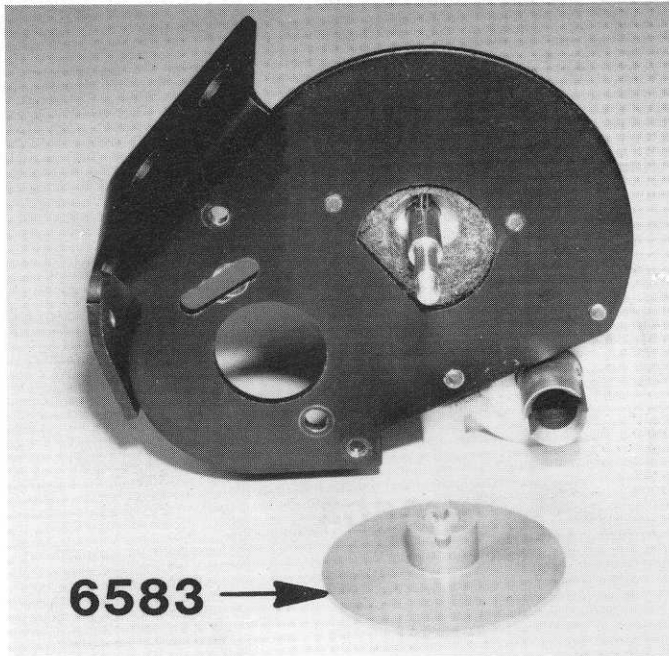


Fig. 70

□ **Figs. 72 & 73** Position the #6585 clutch disk so it's centered onto the #6584 outer hub, as shown.

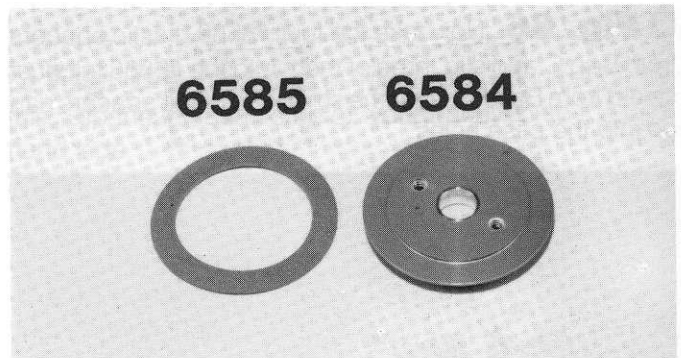


Fig. 72

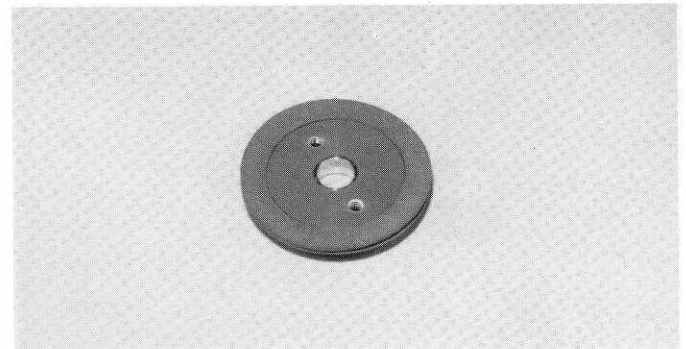


Fig. 73

□ **Fig. 74** Now we'll be assembling these parts, in the order shown, onto the shaft. First, install the #6901 ball bearing from Bag B into the #6584 clutch hub, and then slide the hub onto the shaft, making sure the clutch disk stays centered on the hub.

From Bag F, install one of the #6586 thrust washers, then the thrust bearing and the other thrust washer. (NOTE: when servicing this thrust bearing you can use a **very little** of the #6588 black grease.)

Now slip the #6587 spring on and start the 5-40 nut on. Tighten the nut until about 1/2 thread is showing outside the nut. This is a good starting point for the clutch adjustment. If the ball bearing in the clutch hub will not slip onto the shaft, then you have not used the correct bearing described in fig. 38. Disassemble the diff and install the correct bearing.

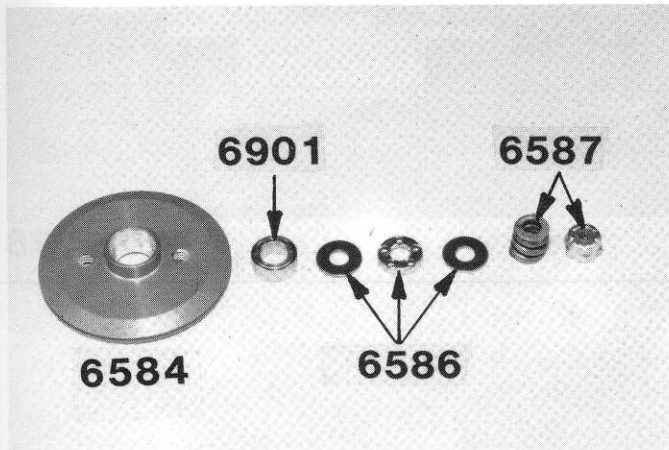


Fig. 74

□ **Figs. 75 & 76** Deburr the center hole and mount the # 6695 87 tooth 48 pitch spur gear from Bag 7-15 with the two #6568 4-40 x 3/16" button head mounting screws from Bag F. NOTE: your #6695 spur gear may be white.

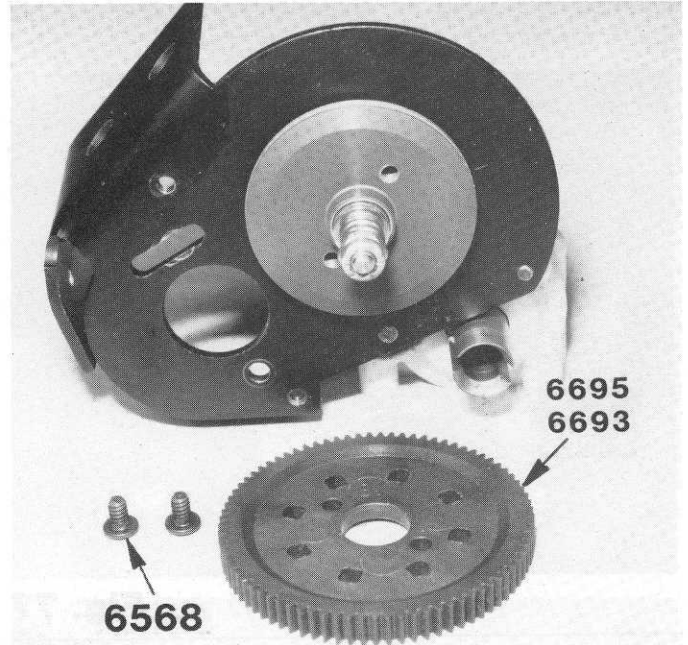


Fig. 75

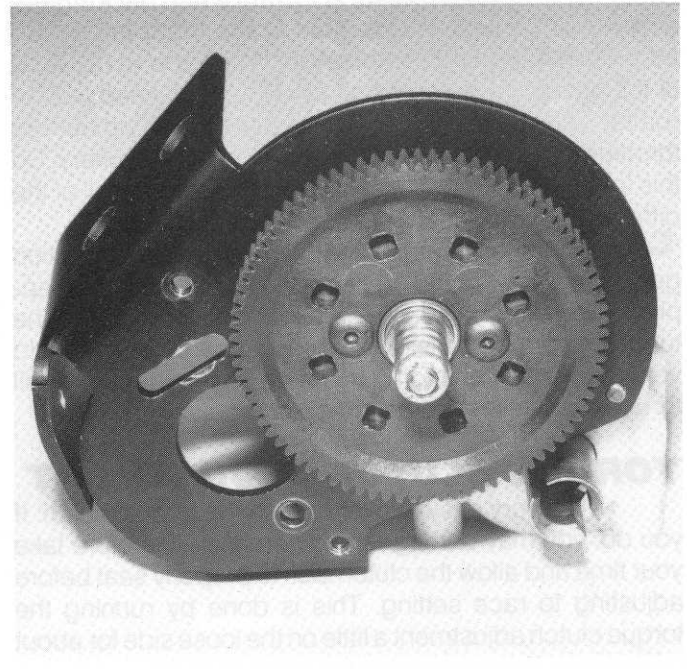


Fig. 76

□ **Fig. 77** From Bag A install one of the thick #6575 nylon washers inside the left hand #6578 outdrive hub, pushing it all the way in. And then install the plastic spacer with the two ears and the 2nd thick nylon washer in the right hand #6577 outdrive hub. The two ears should go all the way to the bottom of the slots and then they can be trimmed off as in fig. 42. These washers and spacer are very important for correct dogbone spacing.

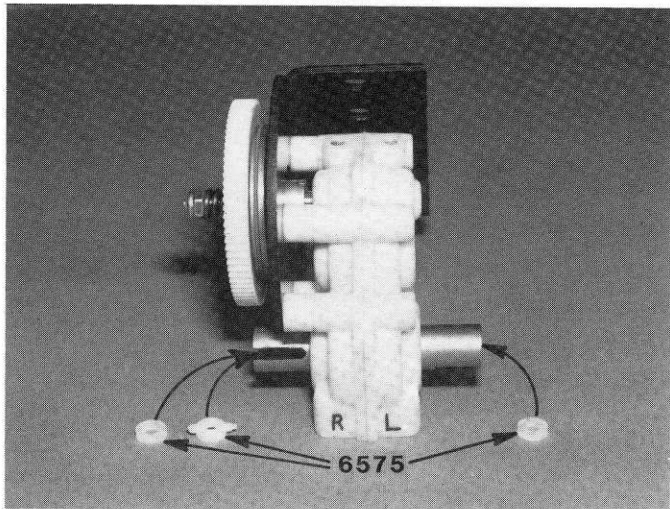


Fig. 77

**CLIFF LETT SAYS:
IMPORTANT-- PLEASE READ**

DIFFERENTIAL ADJUSTMENT

Once the differential has been correctly adjusted there should be no need to change it until rebuilding time. **Be very careful when bottoming the spring during adjustment and extremely accurate when backing the screw out 1/8 to 1/4 turn. This is the most important adjustment in the transmission.** When you've made all of the necessary adjustments and the car is ready to run (battery and motor included), apply a small amount of throttle while holding one of the rear wheels stationary. Do this for about 15 seconds. This will correctly seat all of the differential parts. Now re-check the diff adjustment.

You should rebuild the differential when the action gets somewhat "gritty" feeling. Usually cleaning and applying new diff lube will bring it back to new condition. The tungsten carbide balls (which are standard parts) should very rarely need changing. However, the large and small thrust washers should be checked regularly.

TORQUE CLUTCH ADJUSTMENT

It is very easy to over-tighten the torque clutch. If you do, you may damage the differential. Therefore take your time and allow the clutch disk to properly seat before adjusting to race setting. This is done by running the torque clutch adjustment a little on the loose side for about one minute. Remember that the purpose of the clutch is to gain traction, not break the tires loose.

REAR END ASSEMBLY

□ **Fig. 78** Remove the #6323 rear bulkhead from Bag 7-4 and install two #6273 steel ball ends with long threads where shown.

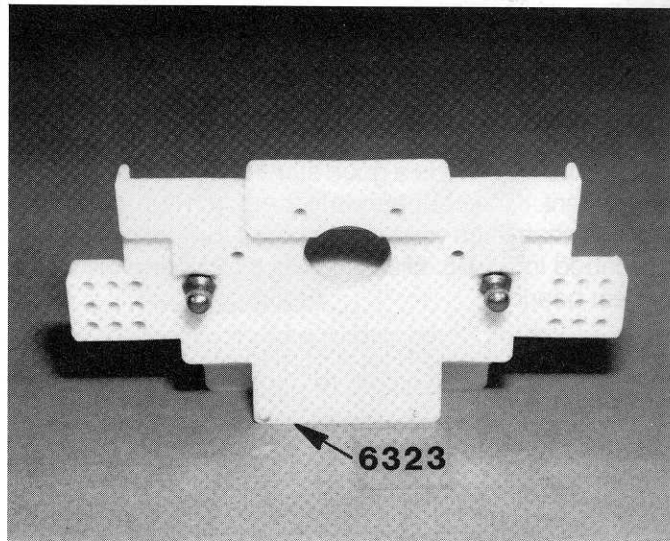


Fig. 78

□ **Figs. 79 & 80** Install the rear bulkhead in the chassis, as shown, with the two #6280 8/32 x 1/2" aluminum screws and two #6925 4/40 x 1/2" SHCS screws. Do not tighten these four screws yet. We need to be able to shift the bulkhead slightly. We tighten the screws later in fig. 85.

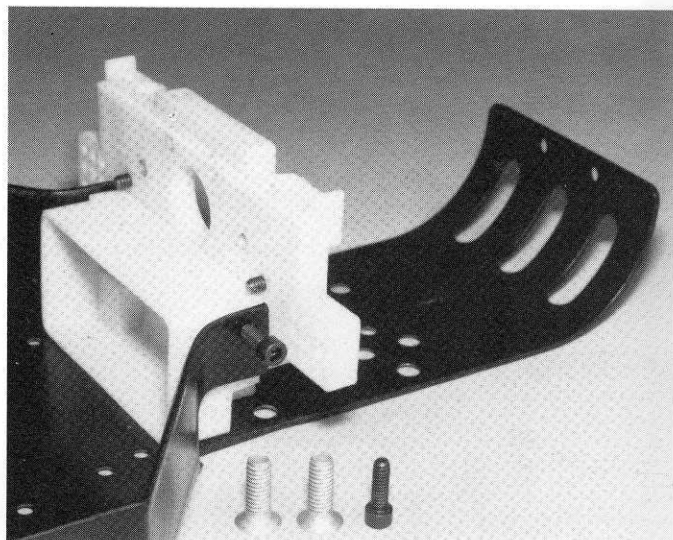


Fig. 79

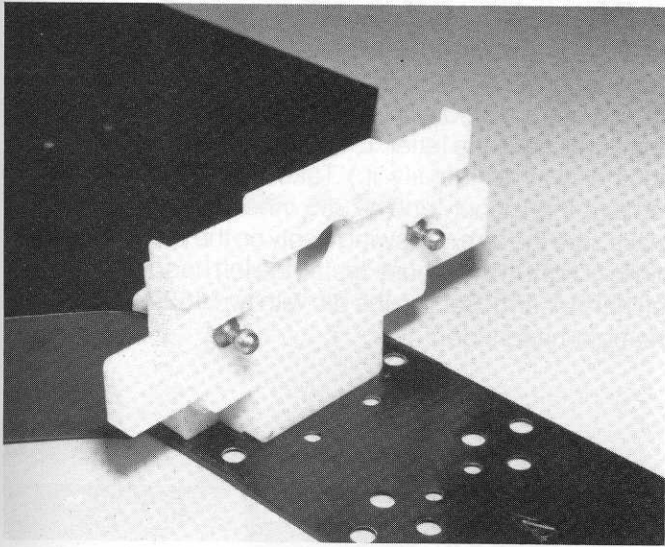


Fig. 80

□ **Figs. 82 & 83** From Bag 7-4, take the #6325 transmission brace and install it on the transmission and rear bulkhead, as shown. Leave the 4-40 x 5/16" SHCS screws fairly loose with the #4 flat washers.

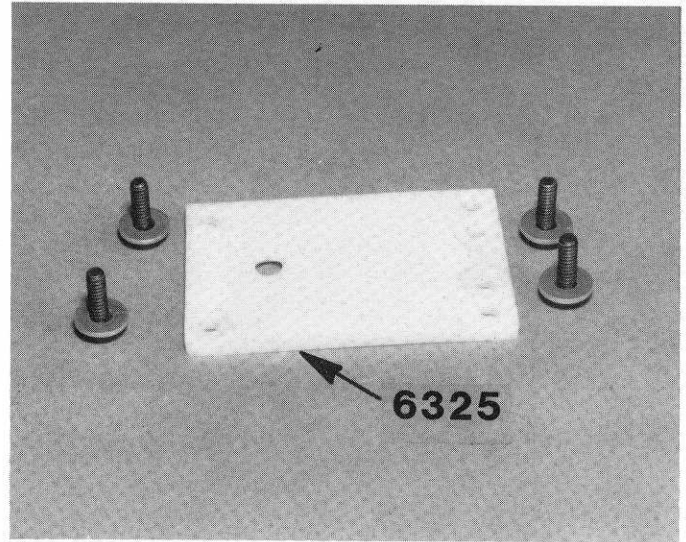


Fig. 82

□ **Fig. 81** Locate the transmission on the chassis, where shown, and install the four #6292 4/40 x 3/8" flat head screws, from Bag F, through the bottom of the chassis into the transmission. Leave the screws very loose; we'll tighten them later.

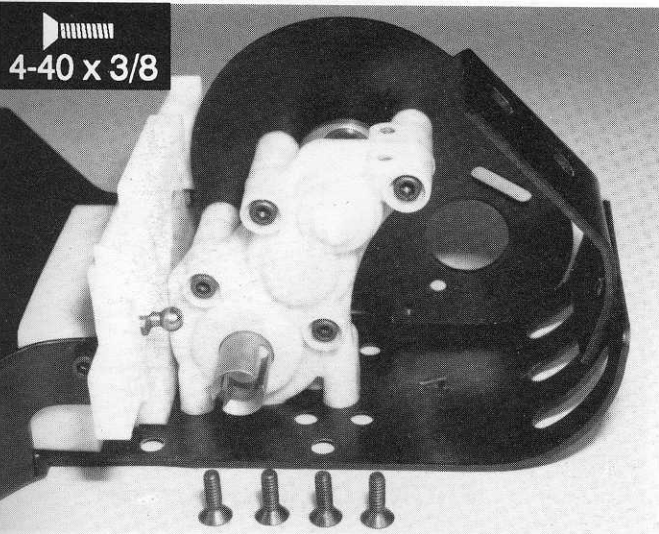


Fig. 81

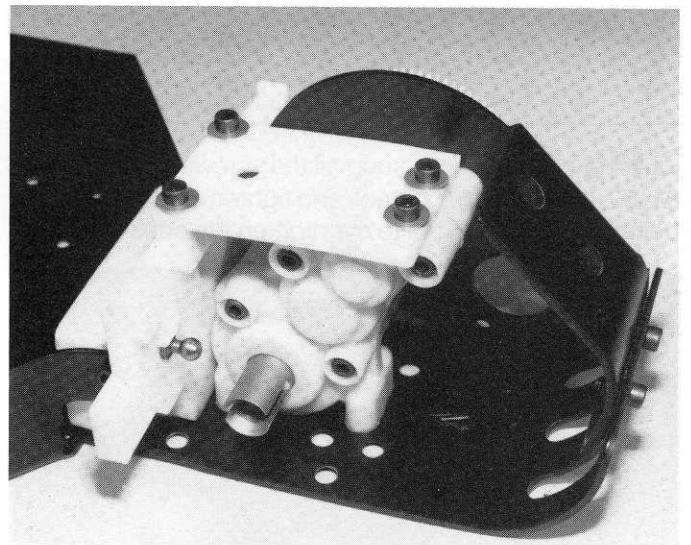


Fig. 83

□ **Fig. 84** From Bag 7-4 install and tighten the two 4/40 x 1/4" SHCS screws in the rear of the chassis and the motor plate, as shown.

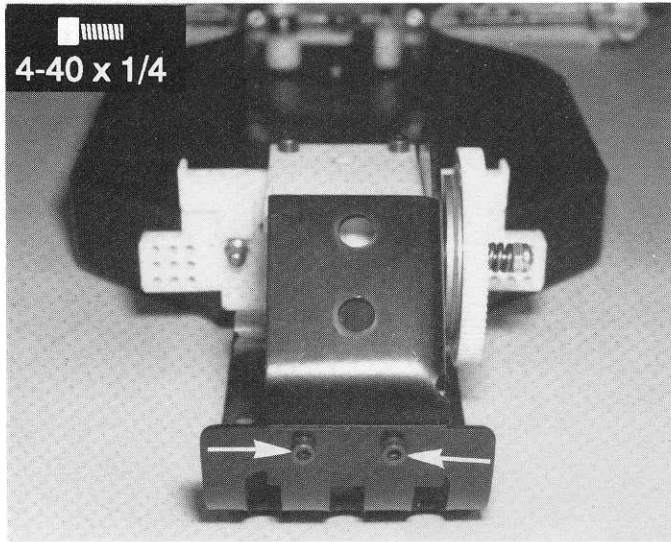


Fig. 84

□ **Fig. 85** Lightly snug all the screws in figs. 79, 80, 81, 82, and 83. Now go back and tighten all those screws, being careful again not to overtighten the ones in plastic.

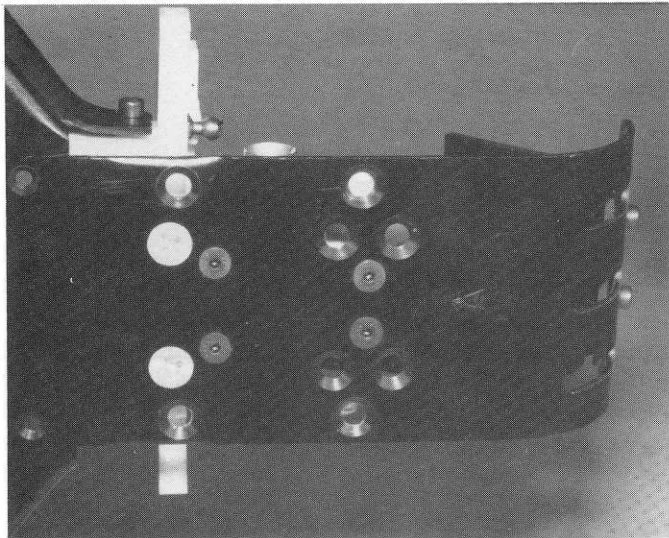


Fig. 85

□ **Figs. 86, 87 & 88** From Bag 7-8 take the #6360 rear suspension mount out. (Note: the left and right rear mounts are attached together by a thin "runner" that should be removed with scissors.) We want the left hand one. It will have the letter "L" on the bottom. (Fig. 87 shows another way to identify it.) Take the #7355 left A-arm, remove the runner, and #7356 inner rear hinge pin and make sure the arm can swing freely on the pin. We want the pin to fit tight in the mount. Install the left hand mount to the left hand A-arm. Secure the pin with two #6299 E-clips. Do the right hand side.

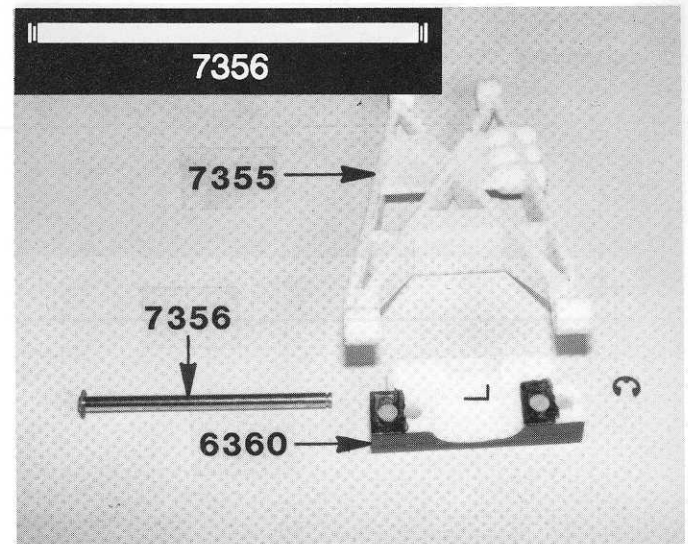


Fig. 86

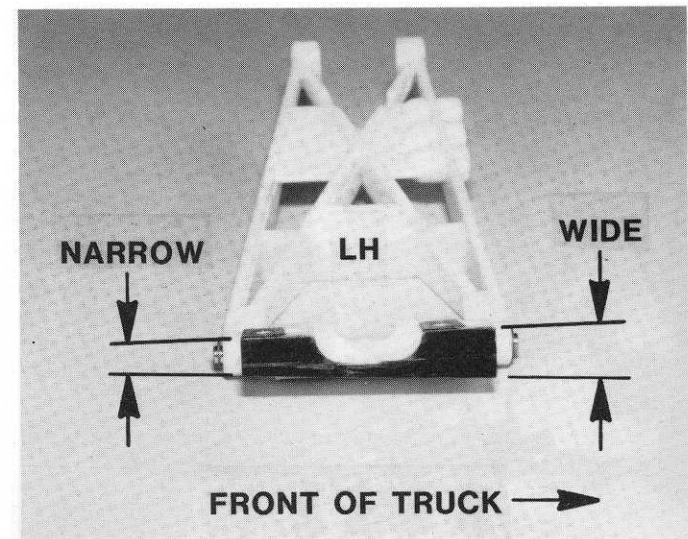


Fig. 87

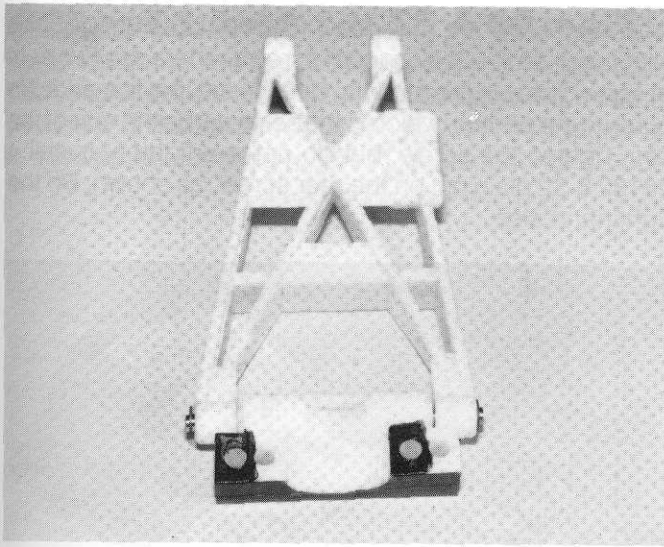


Fig. 88

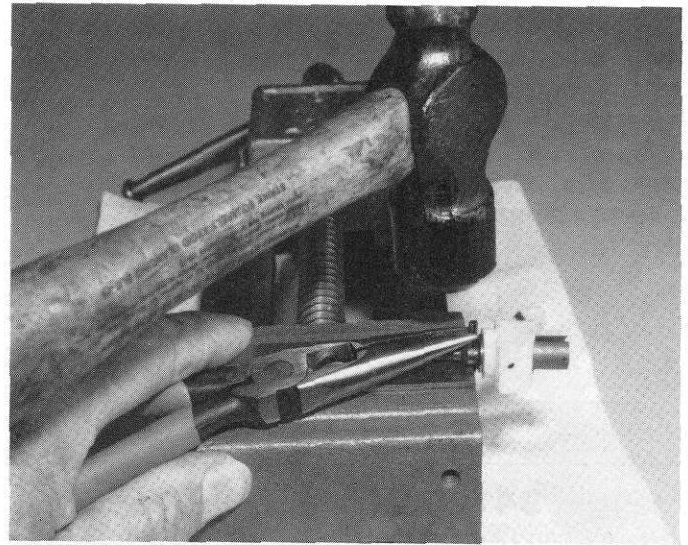


Fig. 90

□ **Figs. 89, 90, 91, & 92** From Bag 7-8, take out the left hand #7358 rear hub carriers. The left rear hub carrier will have an L marked where shown in the photo. Take two #7359 1/4" x 3/8" unflanged ball bearings out of the same bag, and install them into the left rear hub carrier. Seat the bearings all the way in.

Slide the #6374 rear stub axle all the way into the hub carrier from the side shown. Now slip the #6388 tapered washer on, so that the taper on the small diameter is towards the bearing.

Now we want to install the small #6375 split roll pin into the hole in the axle. If you have a vise and a needle-nose pliers, you can install it as shown in fig. 90. Otherwise you can use a pliers to squeeze it into the hole. Make sure the pin is centered in the axle. Do the right hand side.

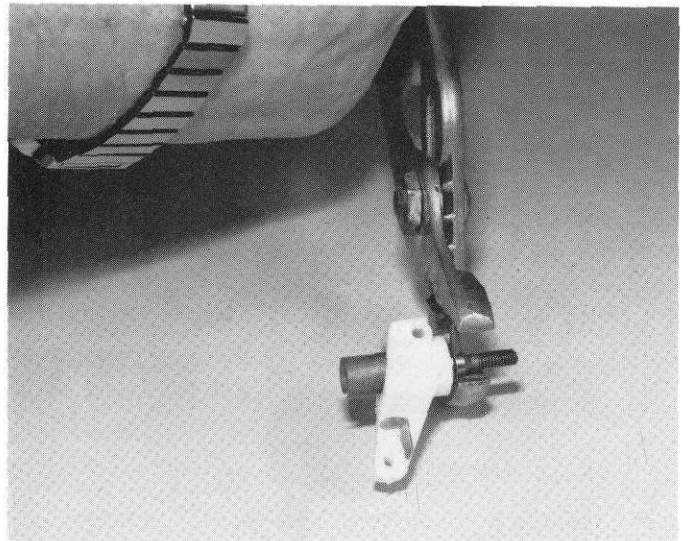


Fig. 91

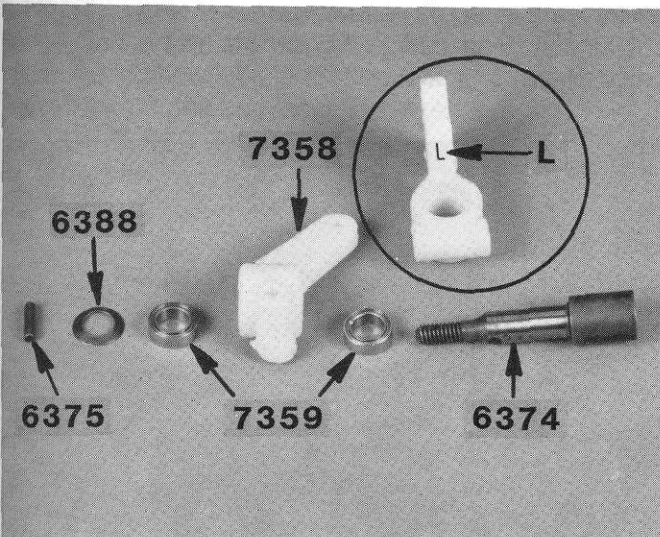


Fig. 89

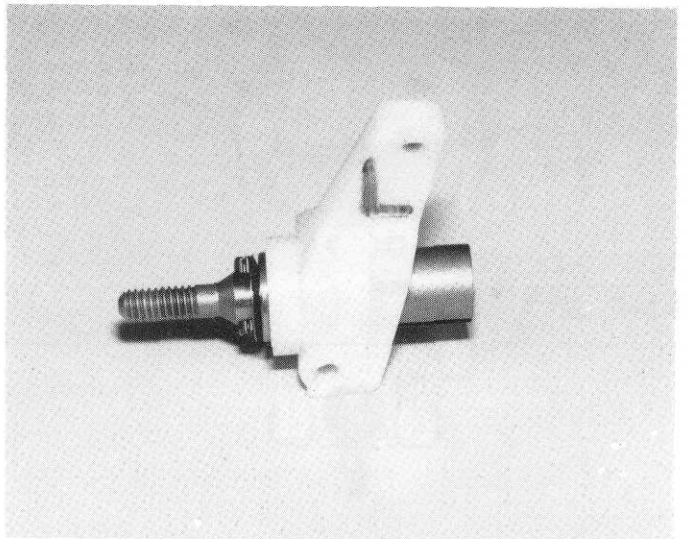


Fig. 92

□ **Fig. 93** Install a #6273 steel ball end with the long threads and a #7260 plain nut, as shown. Do the right hand side, but make sure the ball is facing forward.

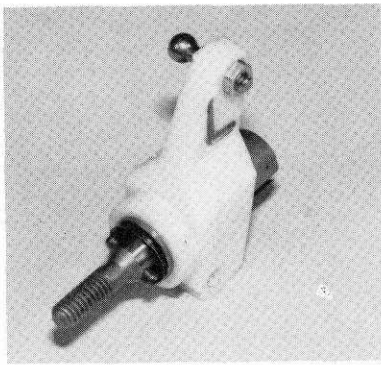


Fig. 93

□ **Figs. 94 & 95** Check the pin fit in the outer hole in the left hand A-arm with the #7357 pin. We want the hole tight in the hub carrier. Assemble the parts and secure with the #6299 E-clips. Do the right hand side.

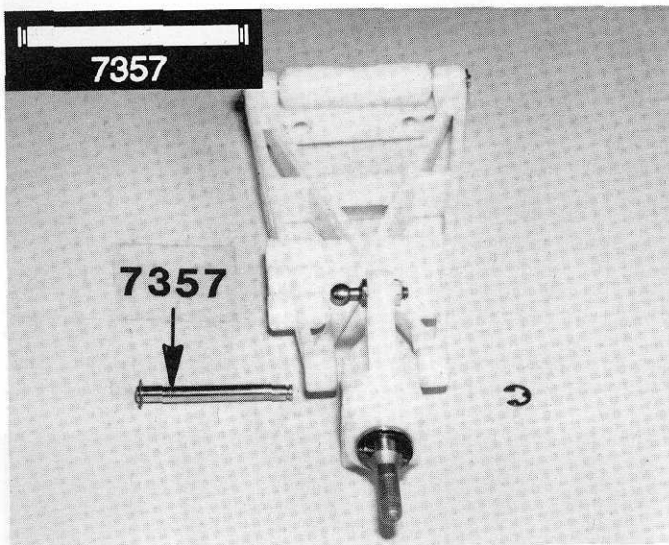


Fig. 94

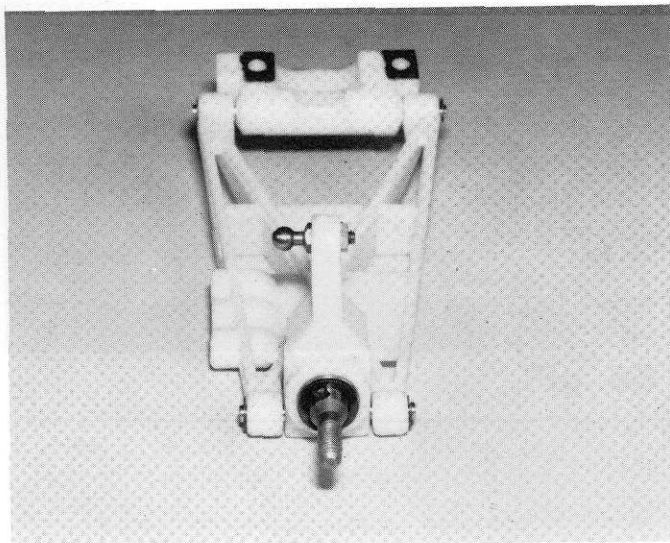


Fig. 95

□ **Figs. 96 & 97** Mount the arms onto the chassis with the 8-32 x 1/2" aluminum screws. There are two sets of screw holes in the mounts. Use the set that is marked in black in the photos, which is the set towards the rear of the car. Tighten the screw, but do not overtighten. Install a #8182 8-32 plain nut on the rear screw, as shown. Do the right hand side.

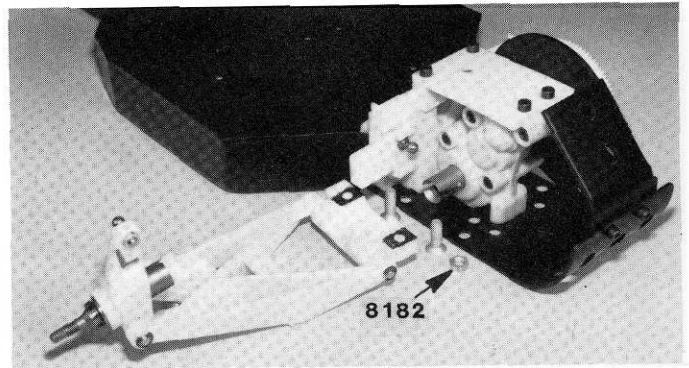


Fig. 96

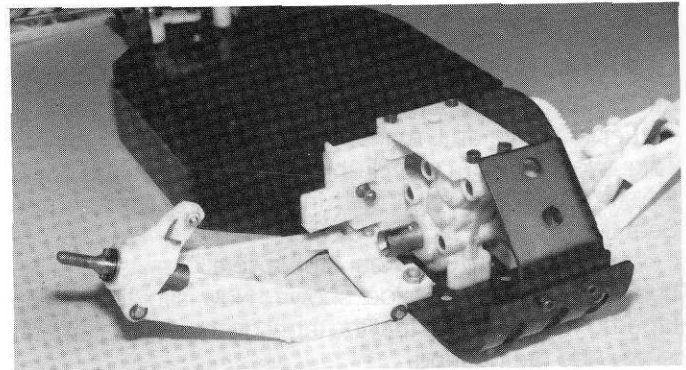


Fig. 97

□ **Figs. 98 & 99** From Bag 7-8, take the #6372 dogbone spring and install it inside the #6374 outer axle. Then align the slots and slip the #7361 dogbone in place. (Note: the technical term is 'rear half shaft', but 'dogbone' is more popular among racers.) Do the right hand side.

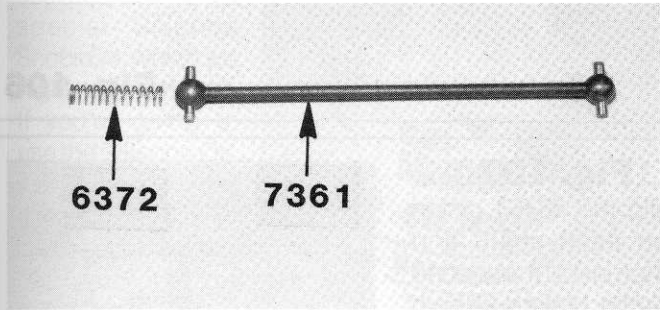


Fig. 98

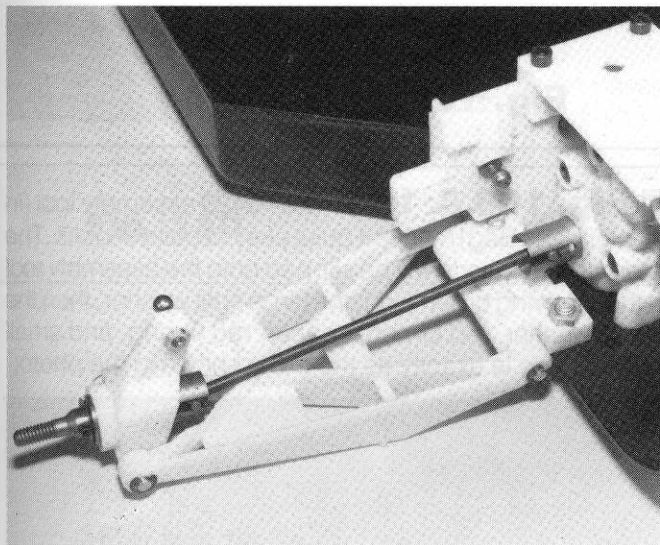


Fig. 99

□ **Fig. 100** Take two of the #7253 long turnbuckles, install and adjust the #6274 plastic ball cups to the dimensions shown. Note that on this strut one ball end faces forward and one faces to the rear.

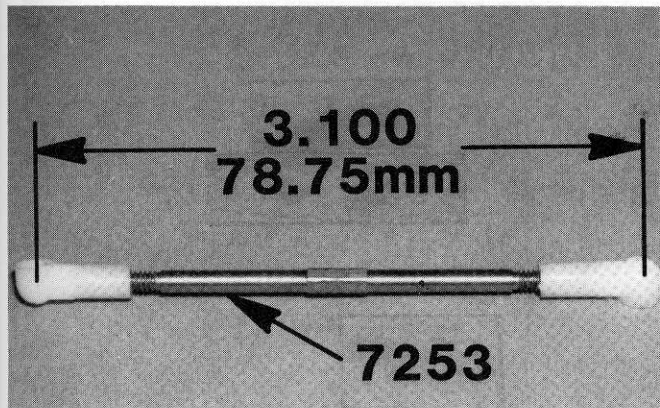


Fig. 100

□ **Fig. 101** Using a pliers, snap the ball ends in place, as shown. Do the right hand side.

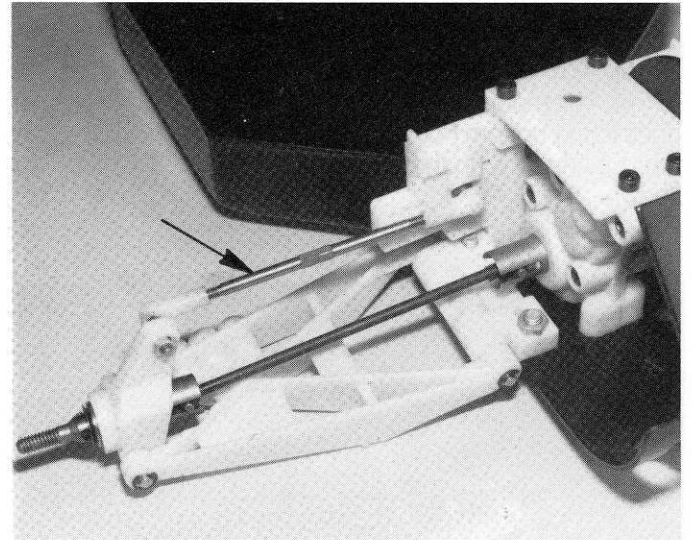


Fig. 101

□ **Fig. 102** From Bag 7-5 take out the two #7323 rear body mounts. Your body mounts will look just a little different than these. Mount the round part of the mount to the base with a 4/40 x 1/4" SHCS screw, as shown. Do both of them. Body clip holes should point to the left and right.

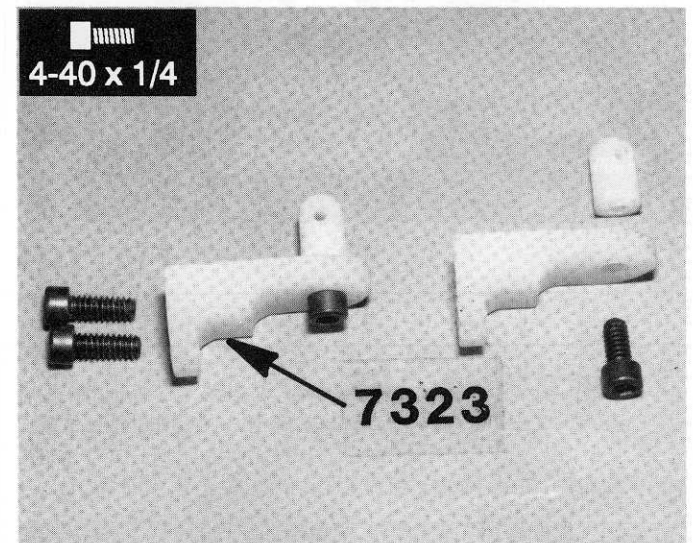


Fig. 102

□ **Fig. 103 & 104** Install the body mounts from Bag 7-5 to the #7353 rear shock strut from Bag 7-4 in the location shown, using the center of the three holes for the 4/40 x 5/16" SHCS mounting screw. Although the photo shows two mounting screws, your mounts only require one screw. The mount is held in alignment by a short knob that goes in the bottom hole. Now attach the shock strut to the rear bulkhead with the four 4/40 x 1/2" SHCS screws, as shown.

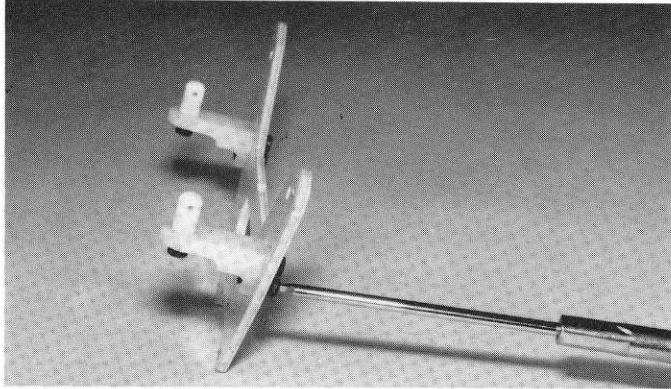


Fig. 103

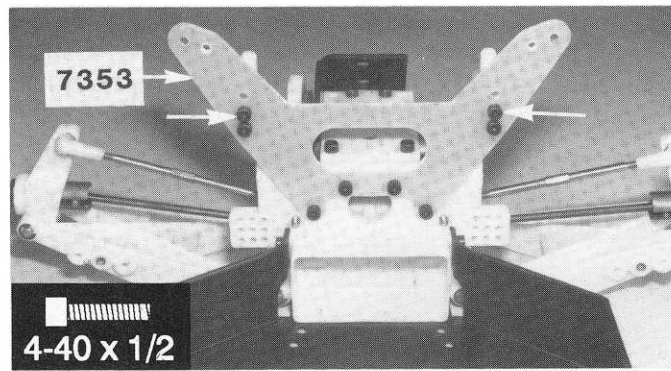


Fig. 104

□ **Fig. 105 & 106** It's easier to build all four shocks at the same time, so take all four of the #6459 and #6458 shafts and install one of the E-clips on each shaft, as shown. The shock parts are in Bags 7-9 and 7-10.

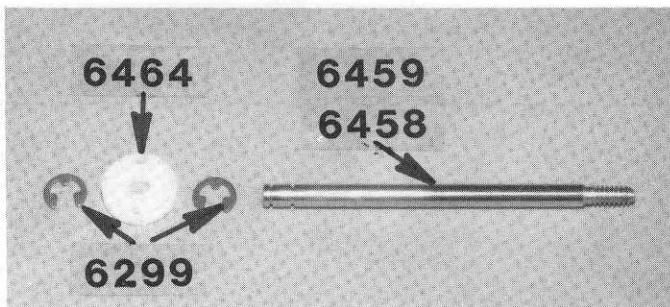


Fig. 105

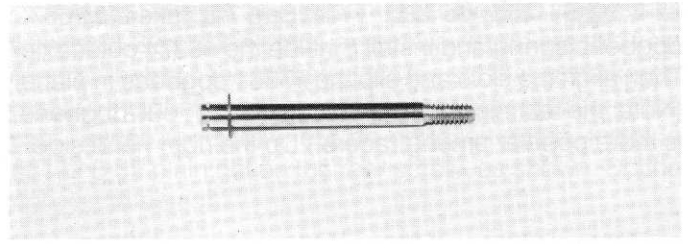


Fig. 106

□ **Fig. 107** Now slip the #6464 piston on each shaft, and then install the second E-clip. Make sure both E-clips are fully seated in the groove.

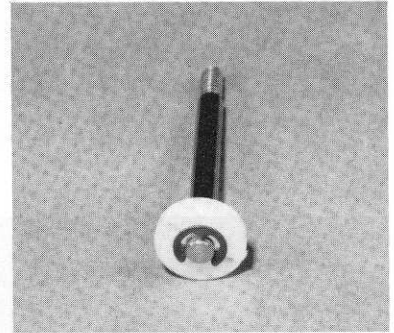


Fig. 107

□ **Fig. 108 & 109** The #6429 assembly tool (in master parts Bag) makes it quite easy to build shocks. The internal shock parts will be slipped onto the assembly tool in the following order. First, the large split washer, then the small washer, red O-ring, spacer, red O-ring, and small washer. This is exactly as the order shown in the photo.

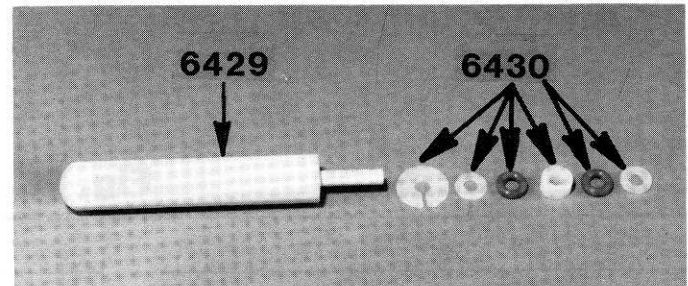


Fig. 108

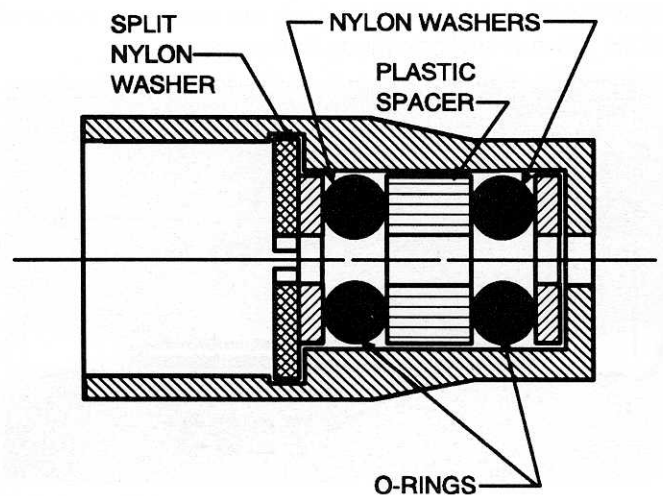


Fig. 109

Fig. 110

Your kit comes with a very high-quality shock oil, but if you want the best, Associated also has a special Silicone Shock Oil, which we highly recommend. If you're going to use the Silicone Oil, then do not build the shocks with the kit oil, because the two oils will not mix. This oil is one of our Speed Secrets!



Fig. 110

Fig. 111 Apply a liberal amount of oil to the parts on the installation tool.

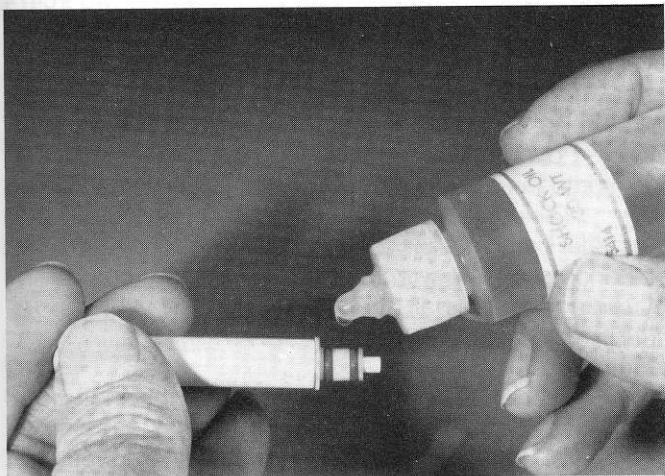


Fig. 111

Fig. 112 Put a few drops of oil into the #6436 front and #6435 rear shock bodies to make assembly easier also. We don't want to cut the red O-rings on assembly.

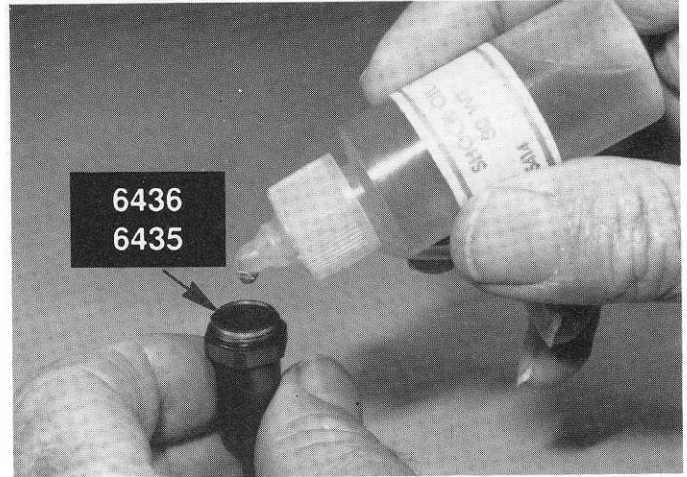


Fig. 112

Figs. 113, 114 & 115 Now take the shock body and the installation tool and push the parts slowly into the shock body all the way down until it bottoms out. Then give it a hard push to seat the split washer. You should be able to hear the washer snap into place. Pull the installation tool out. Look into the shock body to check the installation. **IMPORTANT!** The split ring should look like fig. 114. If it looks like fig. 115, then the washer is not seated in the lock groove and the shock will come apart. **MAKE SURE THE WASHER IS FULLY SEATED IN THE GROOVE.** (Note: To remove the parts, take the installation tool, insert it up through the bottom of the shock, and push the split washer out.)

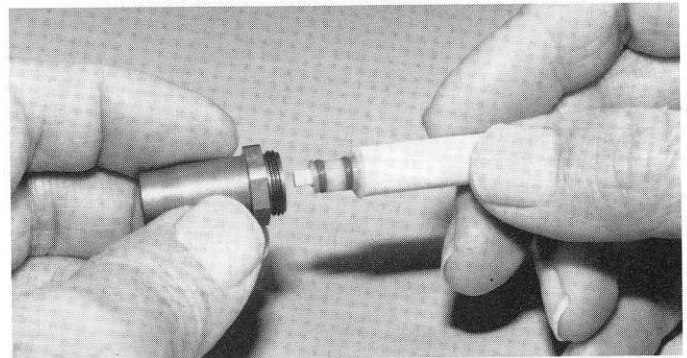


Fig. 113

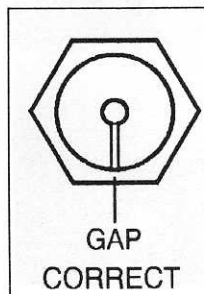


Fig. 114

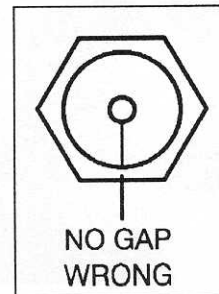


Fig. 115

- Fig. 116** After the split washer is fully seated, place a liberal amount of oil on the short shock shaft and slowly push it into the shock, and pull it all the way to the bottom.

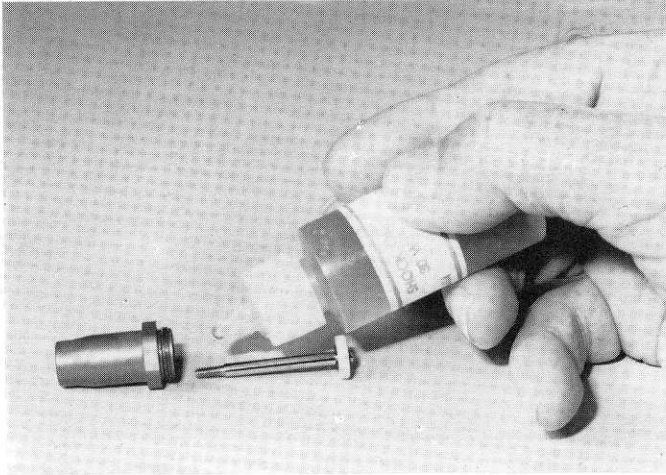


Fig. 116

- Fig. 117** Slip the #6469 black O-ring over the threads and seat it against the pocket at the bottom of the threads.

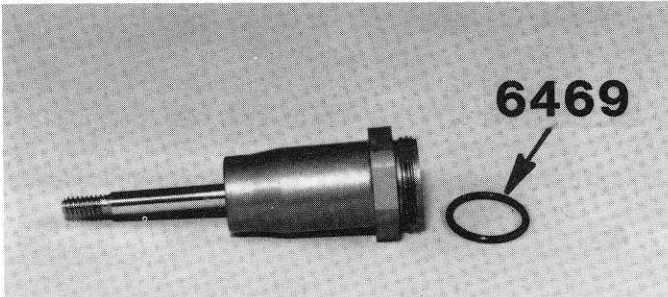


Fig. 117

- Fig. 118** IMPORTANT: Thoroughly lubricate the threads in the cap BEFORE installing. IT MUST BE LUBRICATED FOR PROPER INSTALLATION. We'll install it in a minute.

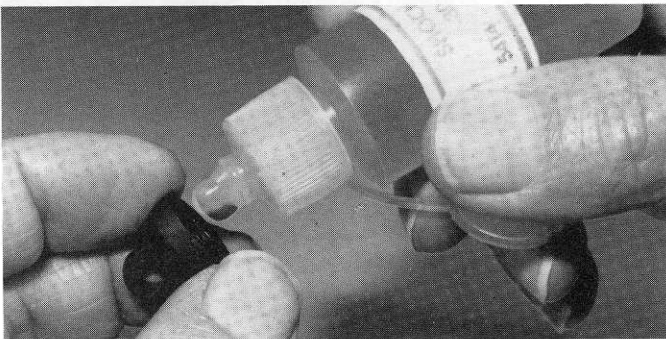


Fig. 118

- Fig. 119** Fill the front shocks all the way to the top, but fill the rear shocks only to within 1/16" of the top.

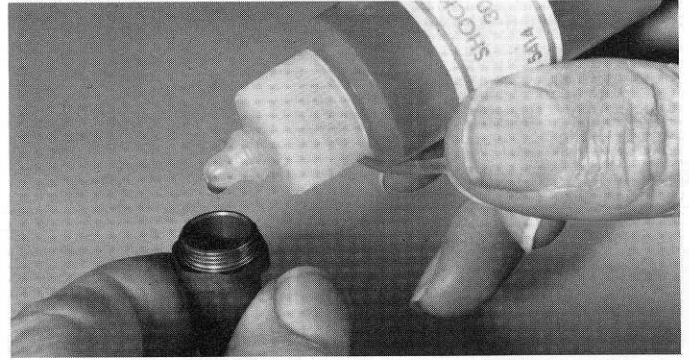


Fig. 119

- Fig. 120** Push the shaft up so the piston is up to the top of the body, otherwise there will be too much internal pressure. VERY CAREFULLY screw the shock cap onto the body, making sure the cap goes on straight. BE CAREFUL not to crossthread the cap.

The cap needs to screw all the way down to the shock body. There should be no gap between the cap and bottom where the arrow is indicating. The O-ring will actually be doing the sealing so we must BE CAREFUL not to overtighten the cap and strip out the threads. As soon as the cap comes into contact with the body just turn it a VERY SMALL amount to seat it.

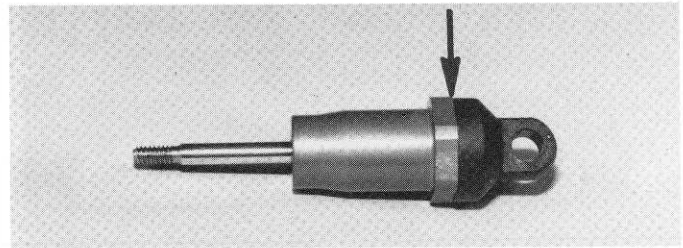


Fig. 120

- Fig. 121** From Bag 7-11 install the two #6474 spring clamps on the rear shocks. The spring should go over the thin flange. Push the screw through the larger hole of the spring clamp and thread it into the smaller hole to tighten. Tighten the screws just enough to lock the collars. DO NOT overtighten. Take the long gold springs and slip them onto the shocks.

Take the #6471 plastic rod end and push it onto the metal ball. The easiest way to do it is to lay the metal ball end on a table with the flat end on the table. Set the plastic end on the ball and push it in place with your 1/4" nutdriver. Or you can use a pliers to squeeze the parts together.

Then thread the plastic ball end on the shaft. You'll have to keep the shaft from rotating with a needle-nose pliers. Grab the shaft close to the threads so that you don't scratch the part that rides in the "O" rings. With your spring on the shock, snap in the plastic split spring collar.

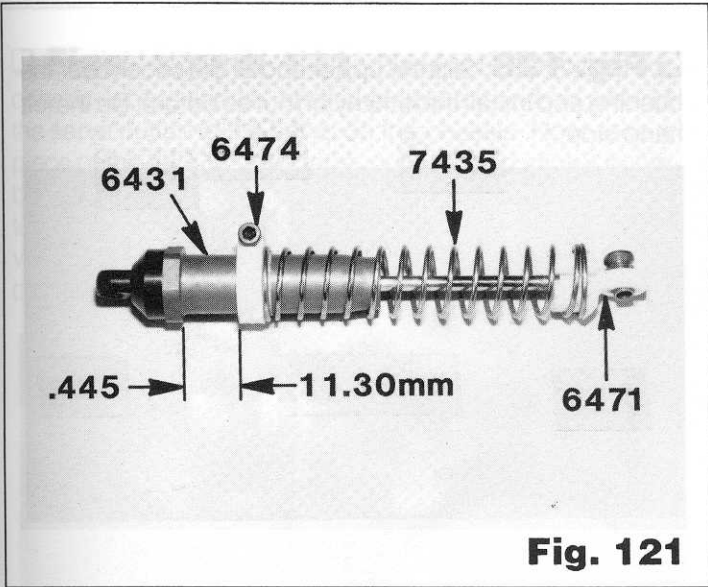


Fig. 121

□ **Fig. 122** On the front shocks, install the spring collars, as shown. Use the short gold springs.

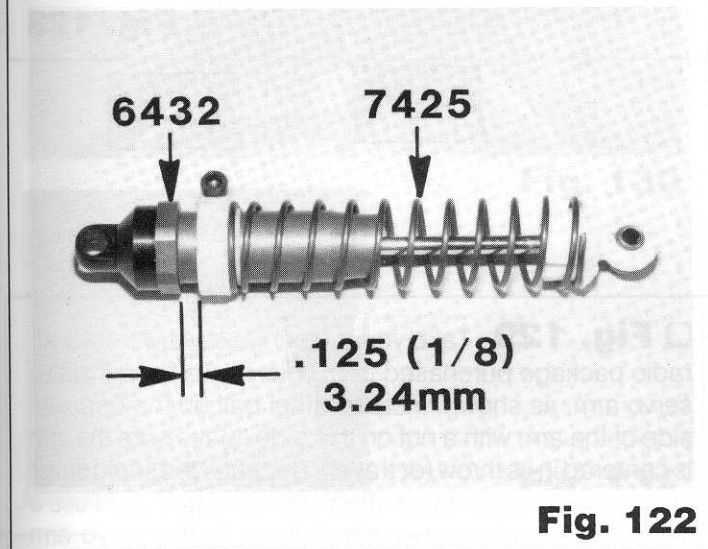


Fig. 122

□ **Figs. 123 & 124** From Bag 7-1 take one of the long #7420 4/40 x 5/8" Special SHCS screws that has threads on the end only. Slip the shaft end of the right hand front shock into the slot of the front A-arm, as shown. make sure the flat flange of the steel ball is towards the rear. Install the screw in the direction the arrow shows. Do the left hand side.

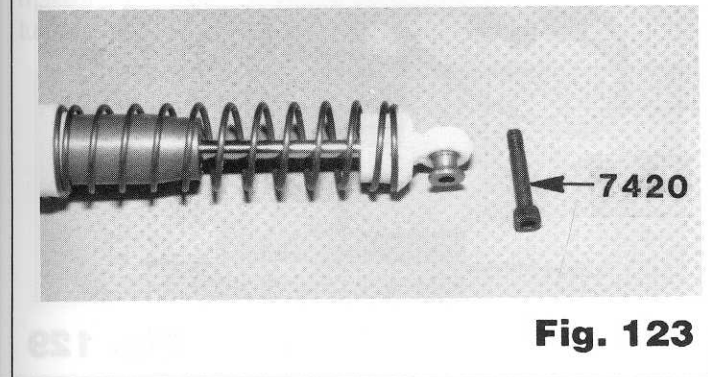


Fig. 123

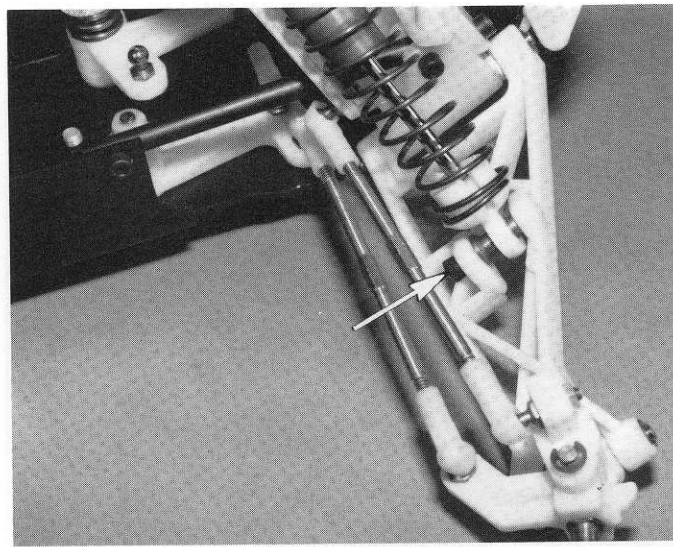


Fig. 124

□ **Figs. 125 & 126** From Bag 7-9, add a washer to each 4-40 x 3/4" shock mount screws and tighten with nuts as shown, with threads toward the front. Slip one of the #6473 plastic shock bushings on each of the four upper shock mounting screws, as shown, so that the thick flange part is towards the rear, as shown. Slip the upper shock cap onto the bushing, and screw on the #6295 4/40 plastic nut. Just screw the nut on till it touches the bushing, then stop, otherwise you'll compress the bushing and bind the movement of the shock. Do the left hand side.

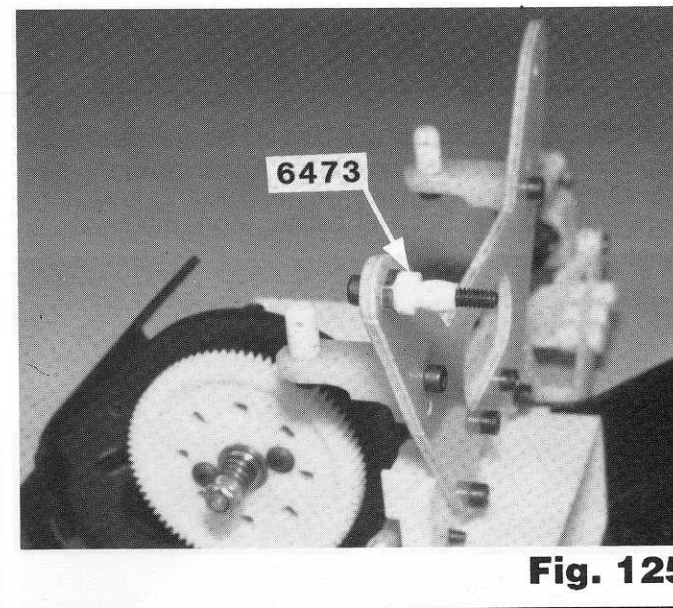


Fig. 125

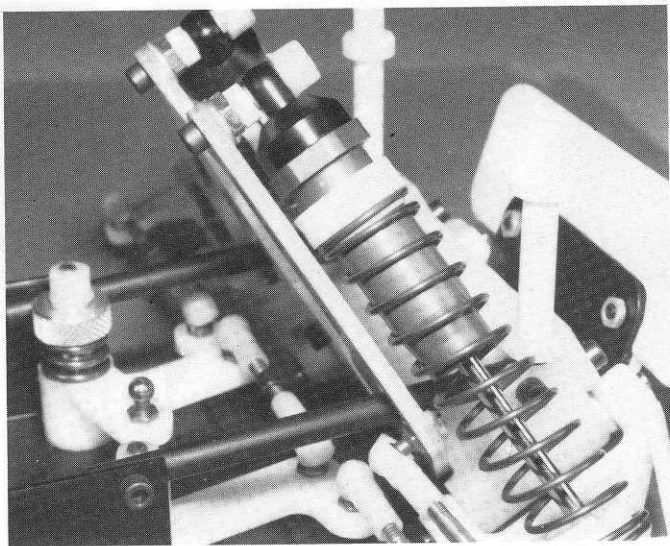


Fig. 126

□ **Fig. 127** From Bag 7-9 install the shaft end of the rear shock in the center hole in the A-arm using a 4/40 x 3/4" SHCS screw and an aluminum washer, as shown. Do the left hand side.

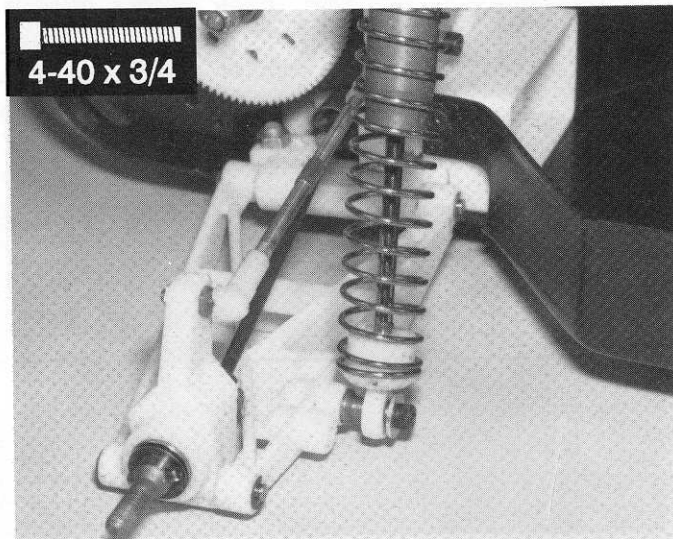


Fig. 127

□ **Fig. 128** Slip the upper end of the shock over the bushing and install the 4/40 nylon nut as before. Do the left hand side.

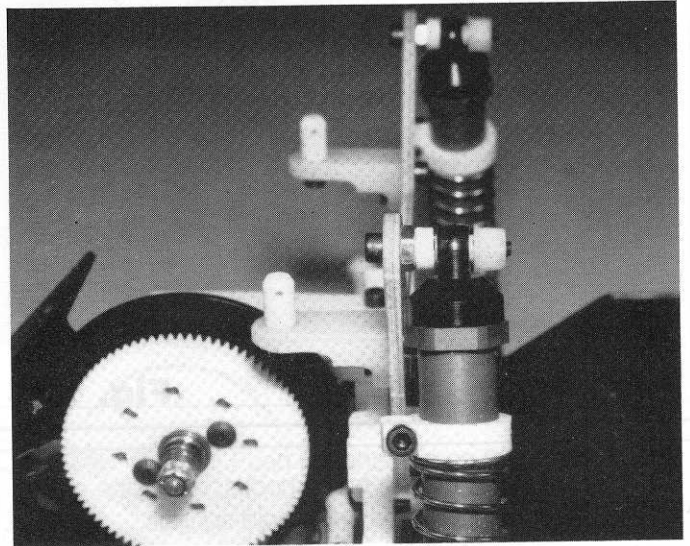


Fig. 128

□ **Fig. 129** Take your steering servo (part of your radio package purchased from your dealer) and install a servo arm, as shown. Install a steel ball on the opposite side of the arm with a nut on this side. Make sure the arm is centered in its throw (or travel). Because the servo saver arms have a longer throw than normal, you should use a lower hole in your servo arm (closer to the servo arm screw.)

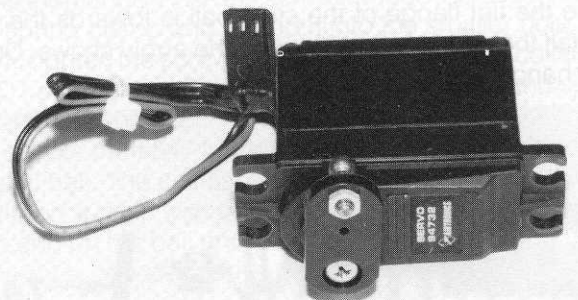


Fig. 129