

□ **Fig. 48** 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 #6906 upper and #6903 lower bearings.

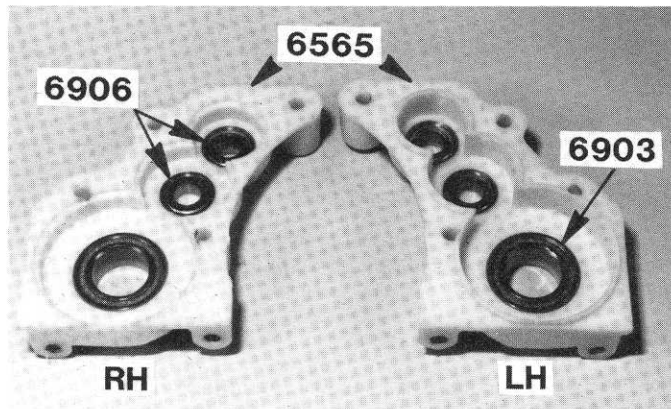


Fig. 48

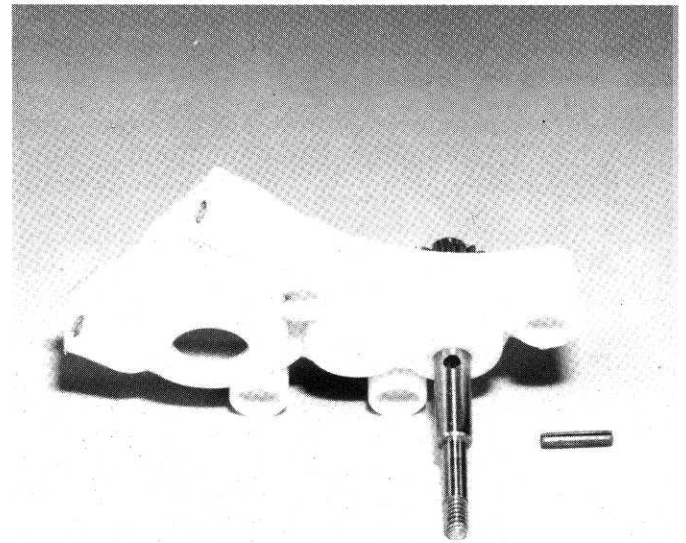


Fig. 50

□ **Figs. 49 & 50** Open Bag D and remove the #6571 drive gear assembly and slide it into the upper bearing in the right hand gear case.

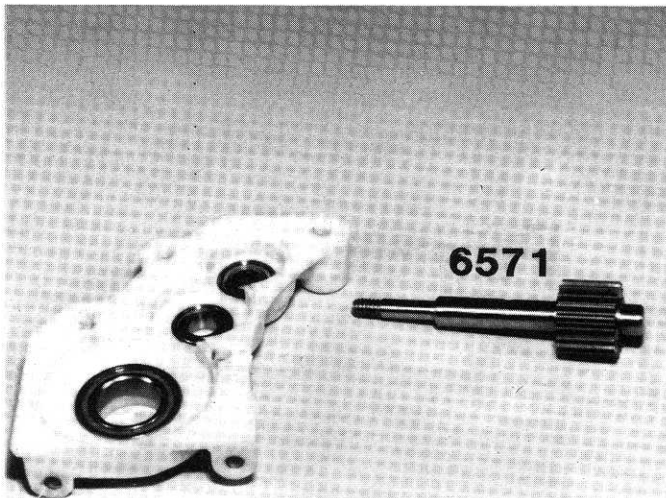


Fig. 49

□ **Fig. 51** Open Bag E and using a pliers, squeeze the roll pin into the hole in the shaft until it is equally spaced.

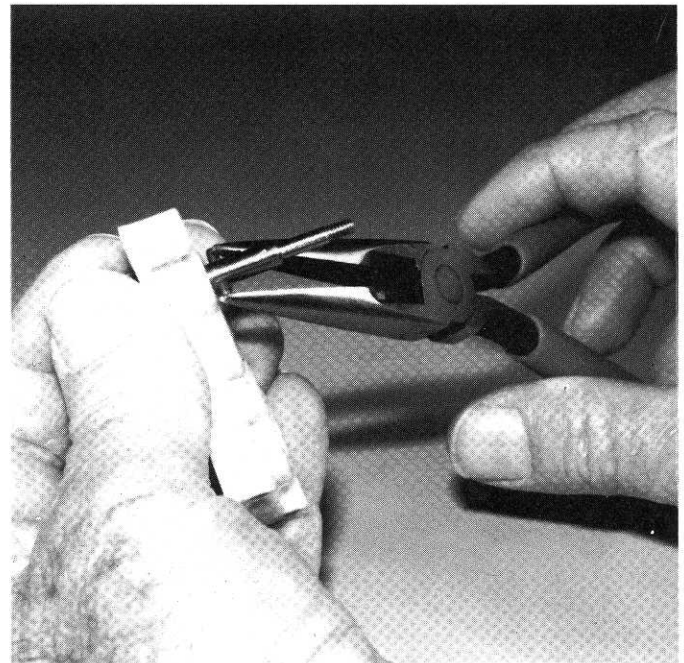


Fig. 51

□ **Figs. 52 & 53** Now take the diff assembly and slip the lower big bearing into the right hand case. Insert the right hand hub, which is the one that has the bolt HEAD in it.

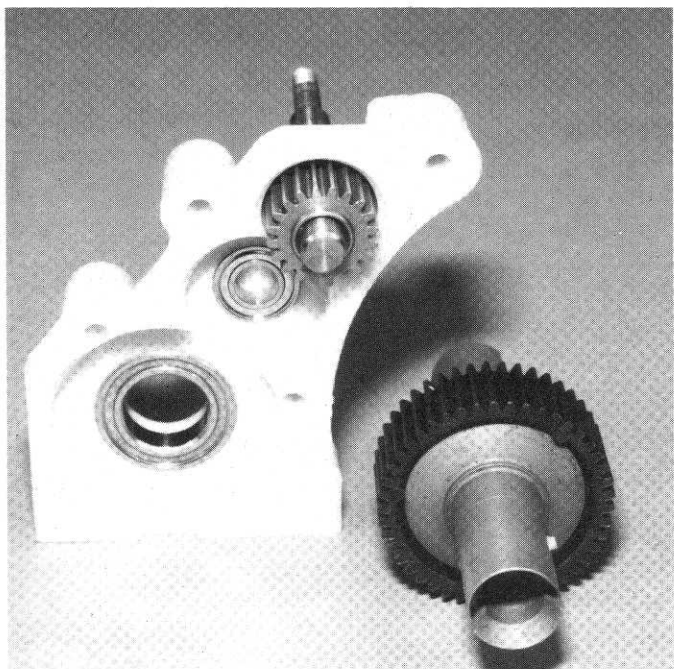


Fig. 52

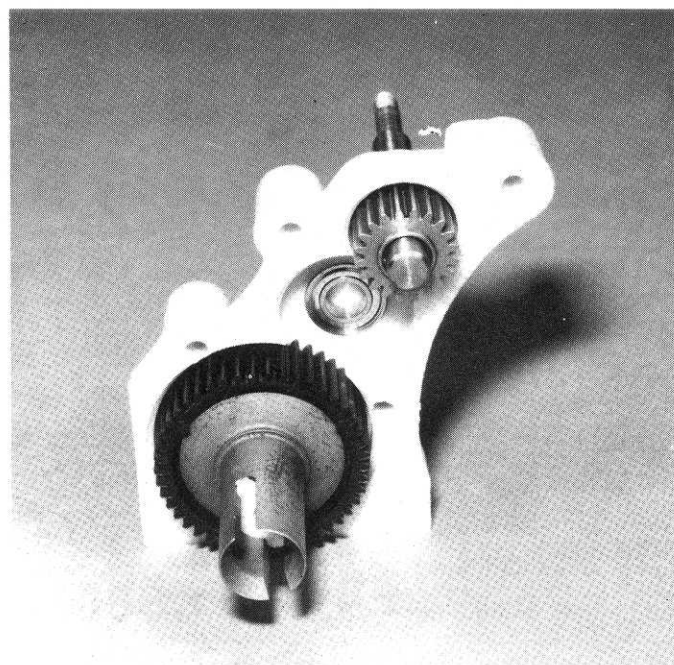


Fig. 53

□ **Fig. 54** Now carefully slip the #6570 idler gear into the center bearing.

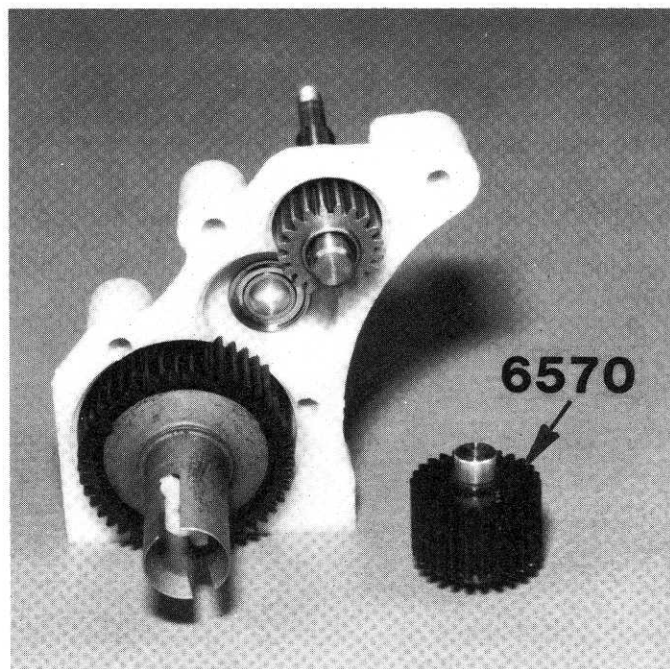


Fig. 54

□ **Fig. 55** The inside of your tranny should look like this. Slip the left hand side of your tranny onto the right hand side.

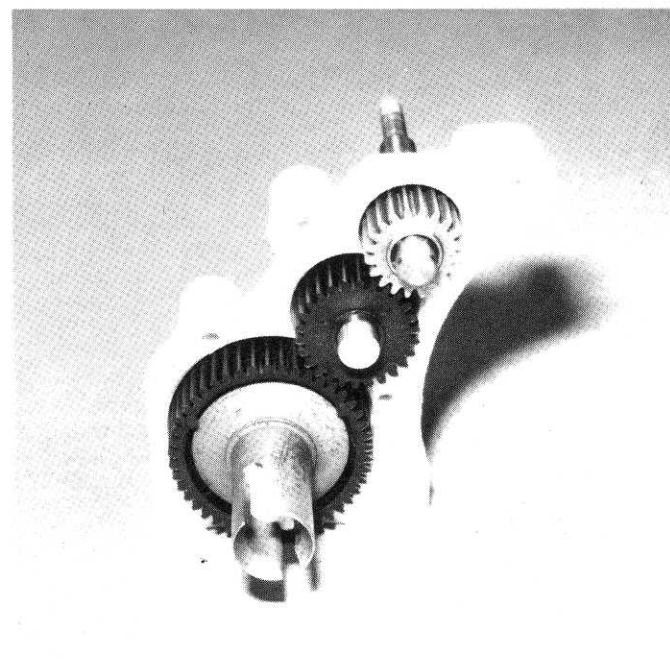


Fig. 55

☐ **Fig. 56** From Bag F put the four 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.

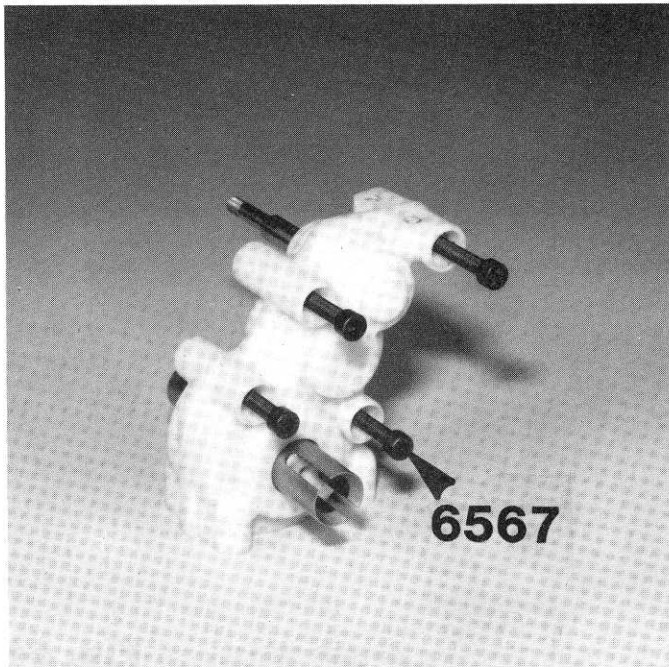


Fig. 56

☐ **Fig. 57** Now take the four #6569 plastic spacers and slip three of them into the #6566 felt dust shield so that the small end of the spacers can go into the case holes.

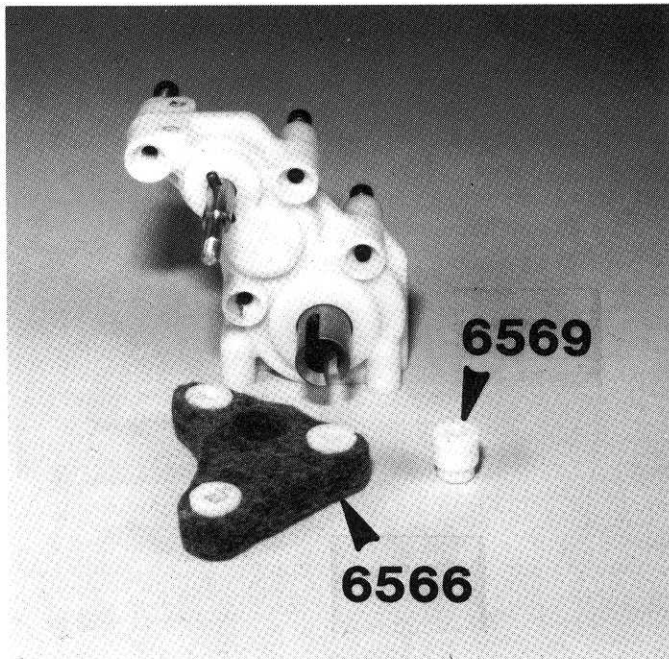


Fig. 57

☐ **Fig. 58** Slip the felt dust shield on the three bolts as shown and slip the fourth plastic spacer on the other bolt.

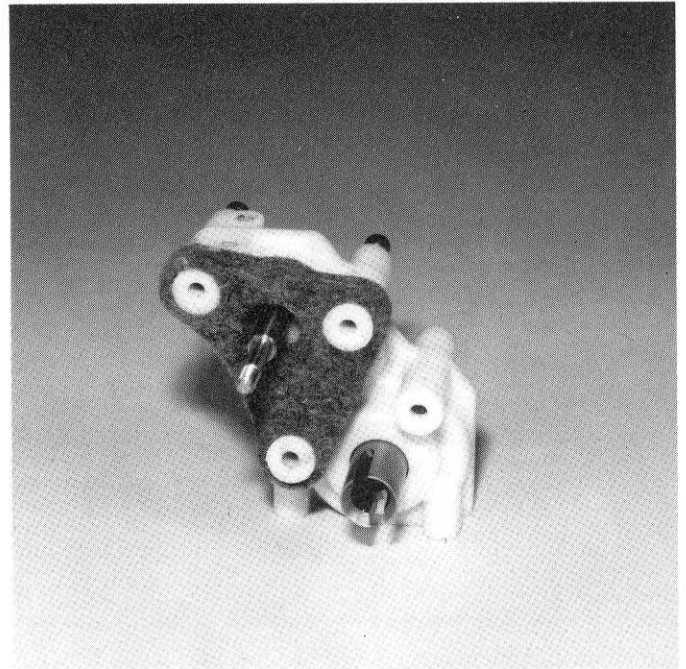


Fig. 58

☐ **Fig. 59** 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.

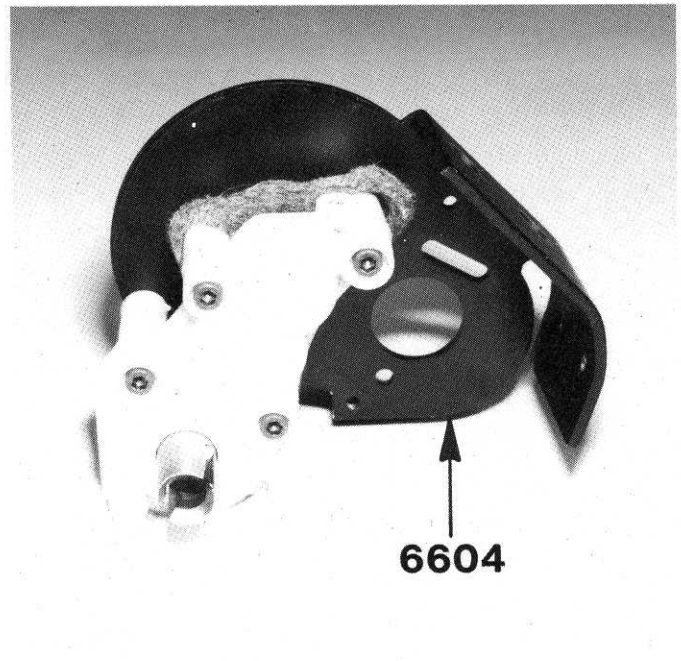


Fig. 59

□ **Figs. 60, 61 & 62** Now we'll assemble the clutch Torque Control assembly. Slip the #6583 clutch hub onto the shaft, making sure the slots align with the pin.

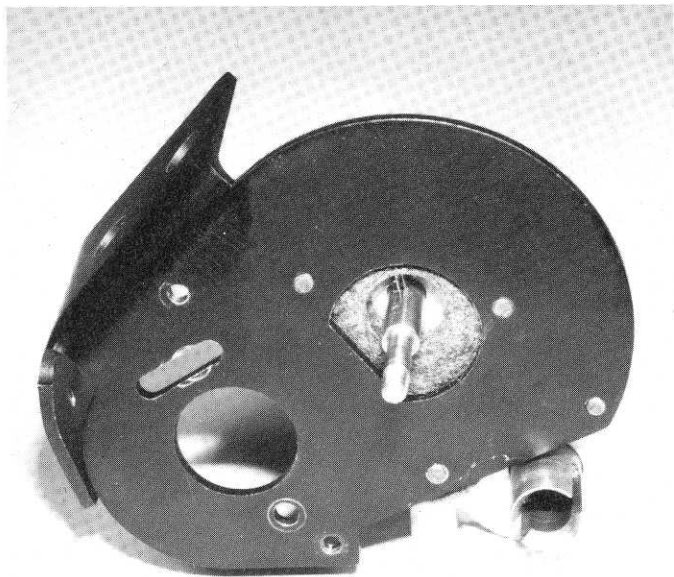


Fig. 60

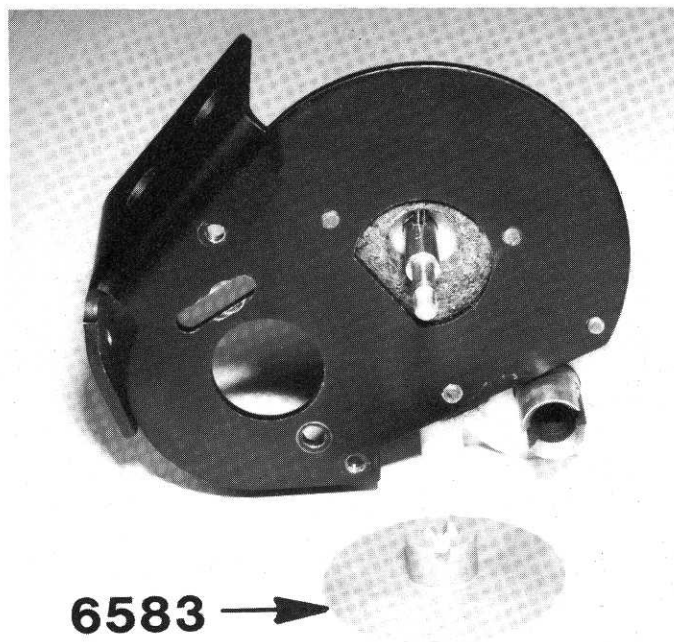


Fig. 61

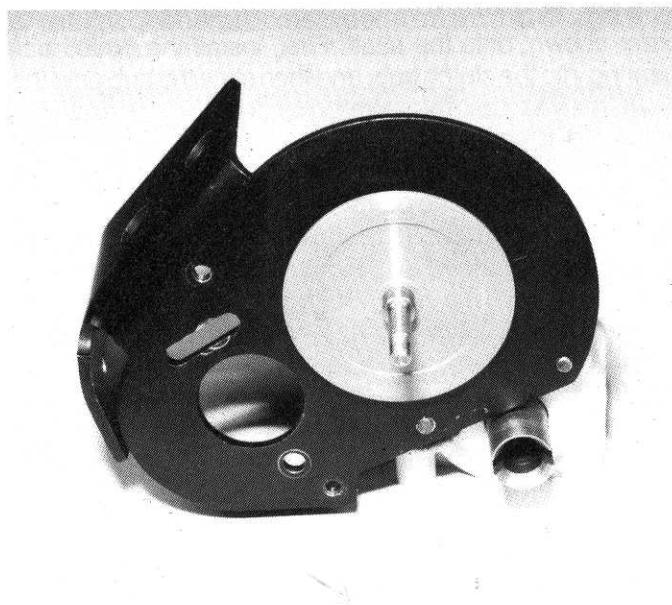


Fig. 62

□ **Figs. 63 & 64** Position the #6585 clutch disk so it's centered onto the #6584 outer hub, as shown.

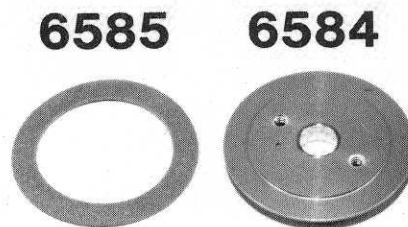


Fig. 63

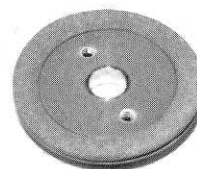


Fig. 64

□ **Fig. 65** Now we'll be assembling these parts, in the order shown, onto the shaft. First, install the #6906 ball bearing into the clutch hub, and then slide the hub onto the shaft, making sure the clutch disk stays centered on the hub.

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 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. 29. Disassemble the diff and install the correct bearing.

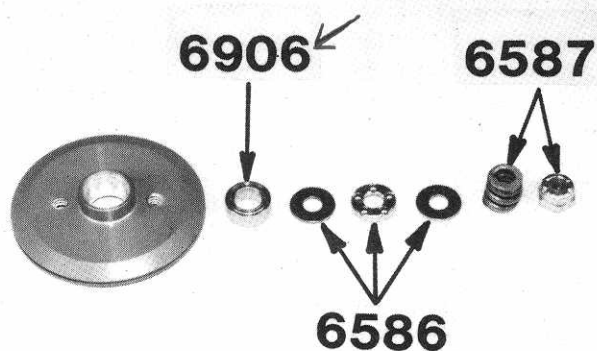


Fig. 65

□ **Figs. 66 & 67** Deburr the hole and mount the # 6693 81 tooth 48 pitch spur gear with the two #6568 mounting screws.

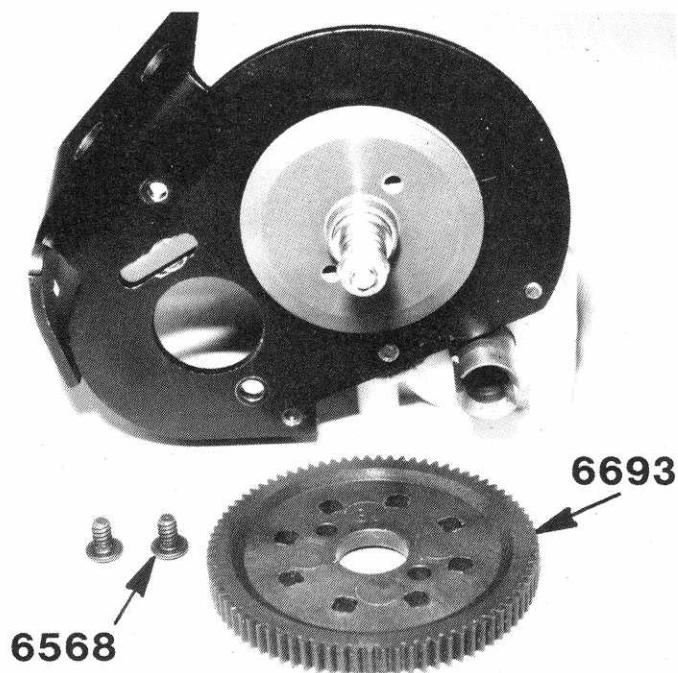


Fig. 66

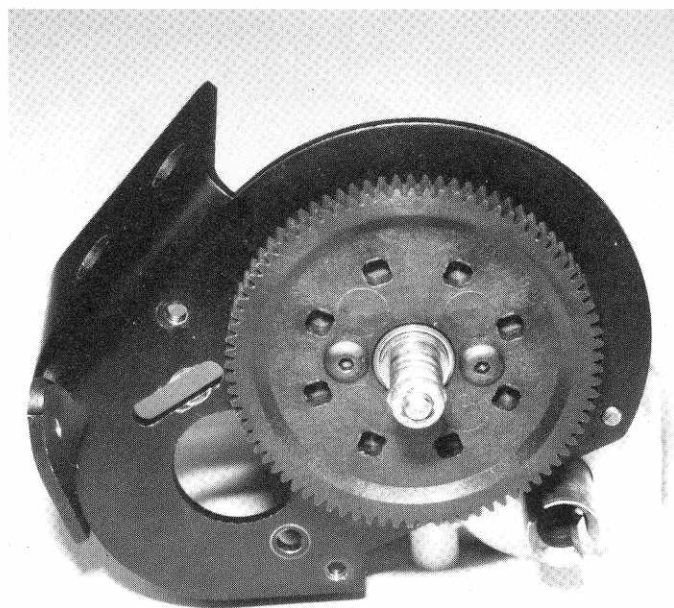


Fig. 67

□ **Fig. 68** Cut out the center button hole and then install the #6608 gear cover with the two Allen screws.

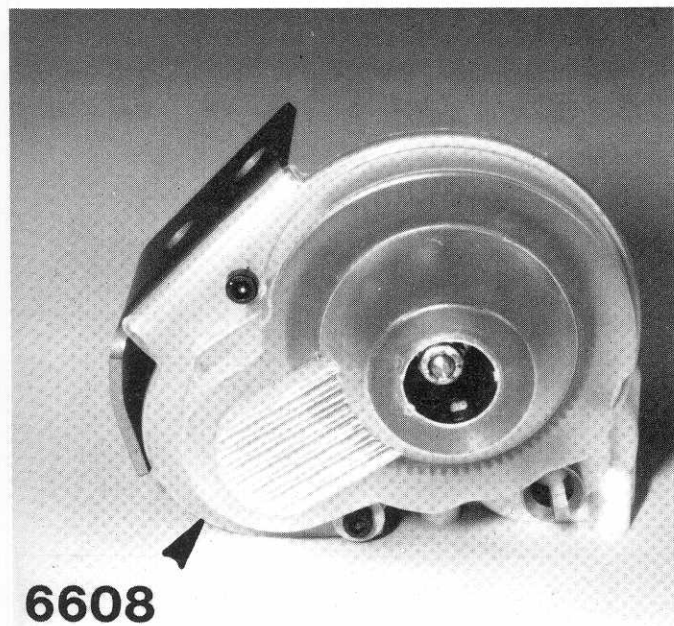


Fig. 68

□ **Fig. 69** You'll be able to make clutch adjustments quite easily right before the start of the race with a hex driver.

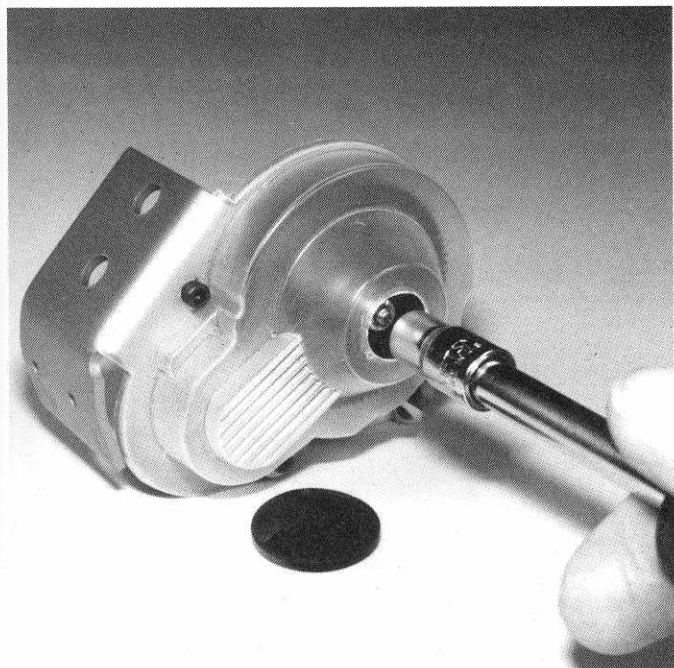


Fig. 69

□ **Fig. 70** Make sure you put the button back in to keep dirt out.

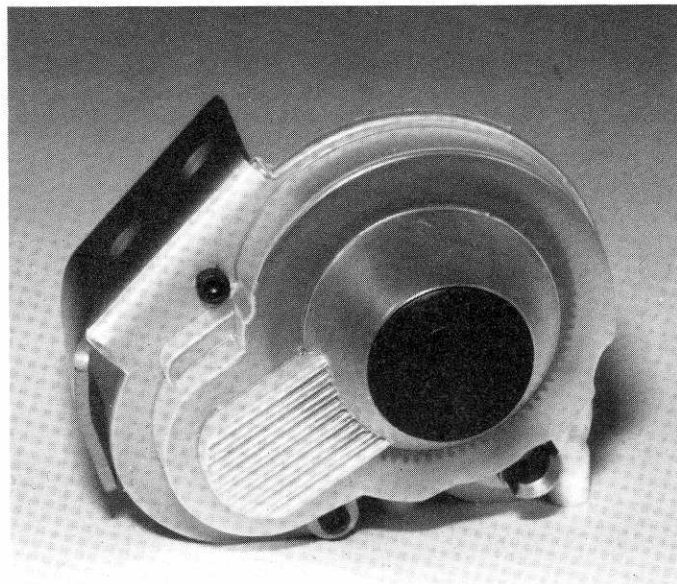


Fig. 70

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. 71** From bag #6-4 take the #6323 rear bulkhead out, and the 2 #6327 wing tubes. The wing tubes are the short tubes. Take the tubes, round off the square cut corners on the ends with a file, and tap the wing tubes into the bulkhead.

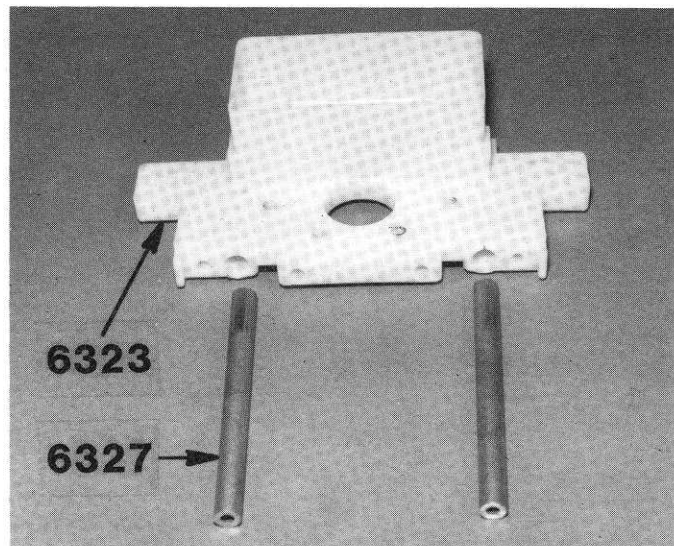


Fig. 71

□ **Fig. 72** Install two of the long ball ends in the bulkhead where shown.

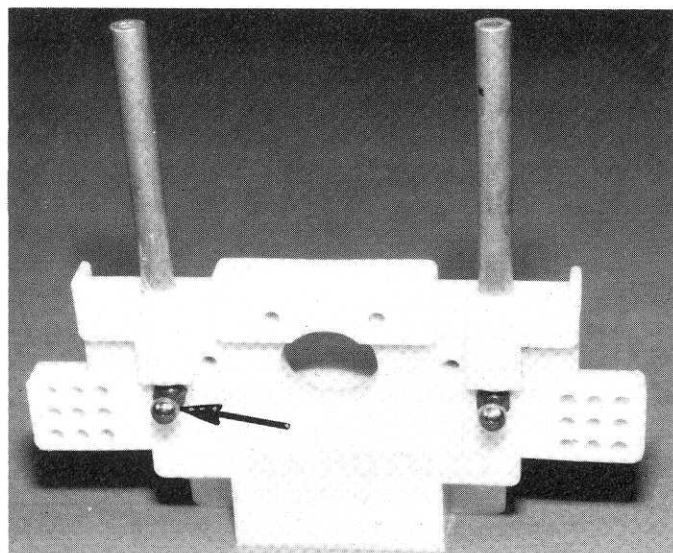


Fig. 72

□ **Fig. 73** Take the 2 Phillips screws and attach the bulkhead to the chassis, but DO NOT tighten the screws all the way down yet, but almost tight. Then install the two 4/40 Allen screws, as shown, but do not tighten these down yet. We'll be tightening these four screws down later.

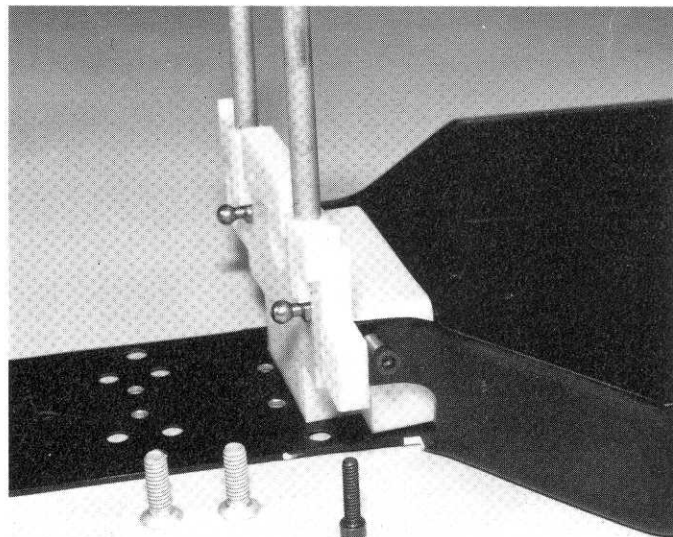


Fig. 73

□ **Fig. 74** Bulkhead installed.

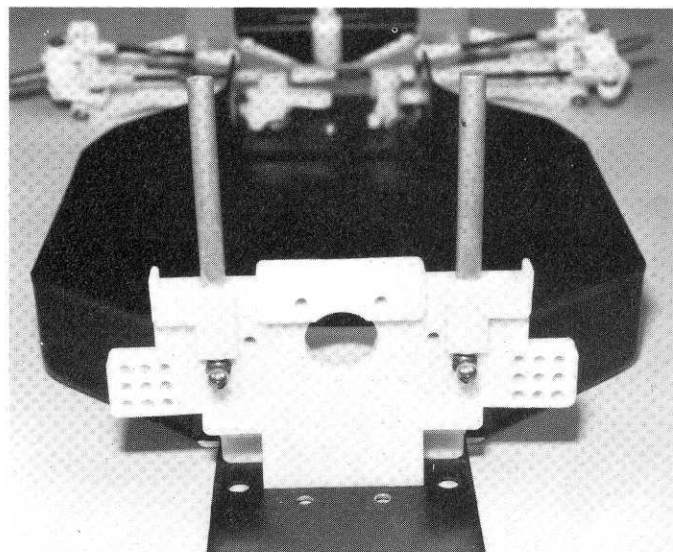


Fig. 74

☐ **Fig. 75** Take the transmission housing and install it with four 4-40 x 3/8 flathead socket screws. Do not tighten the screws all the way yet. Be sure the motor mount plate is INSIDE of the chassis at the back, as shown.

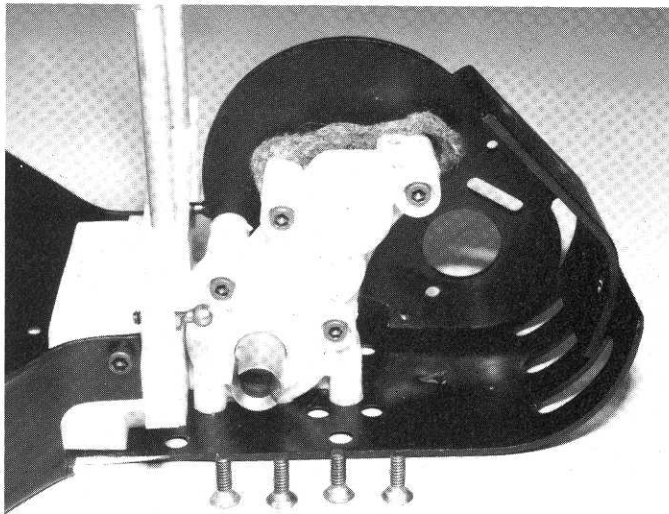


Fig. 75

☐ **Fig. 77** Take the #6325 transmission brace and install the rear body mount.

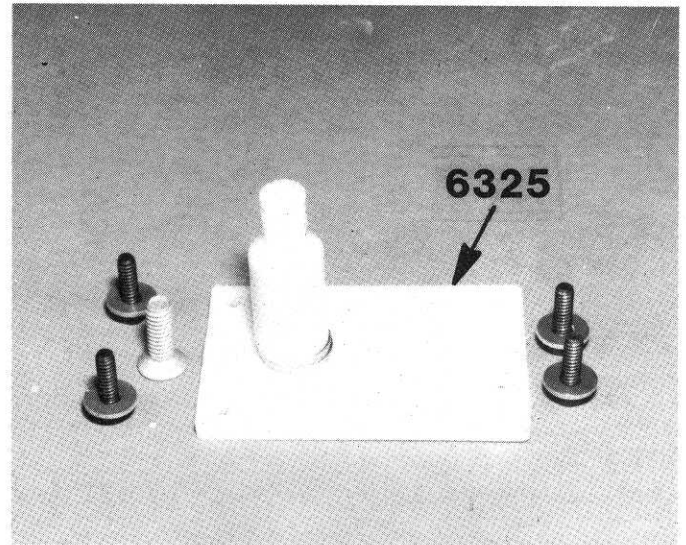


Fig. 77

☐ **Fig. 76** These 6 screws should be loose yet.

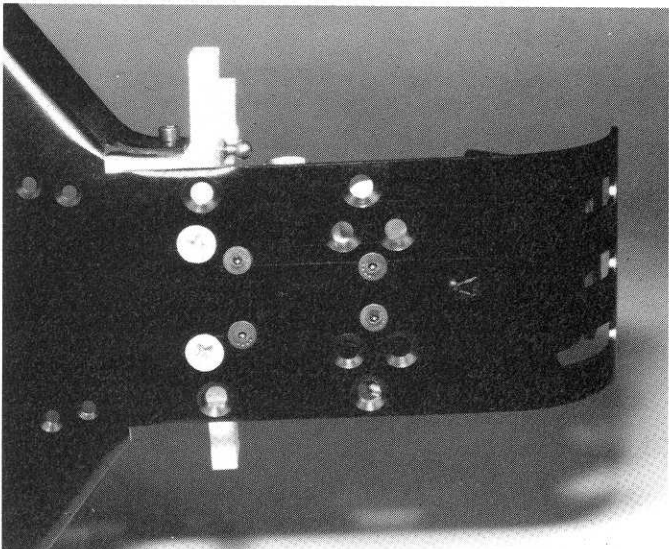


Fig. 76

☐ **Fig. 78** Install the transmission brace with 4 Allen screws and washers, as shown, but do not tighten all the way down yet.

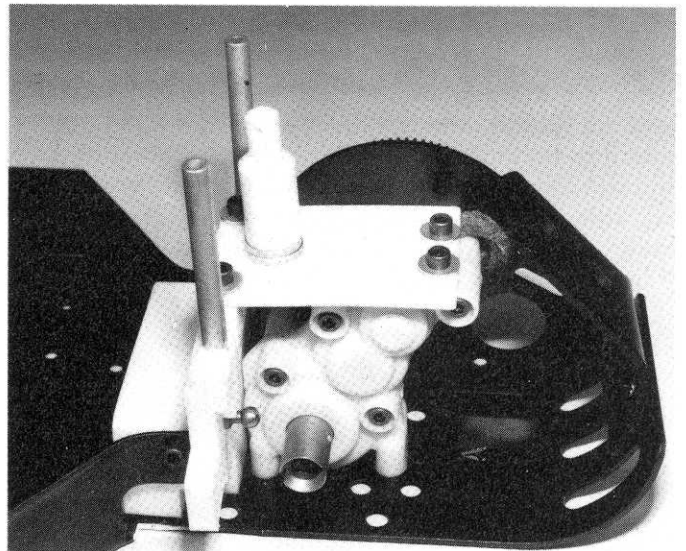


Fig. 78

□ **Fig. 79** Attach the rear of the chassis plate to the motor mount with 2 short Allen screws and tighten down. Now go back and tighten down all the screws in figs. #75-79. Be careful when tightening screws into plastic. As soon as they feel like they're starting to tighten up - stop - so you don't strip out the plastic.

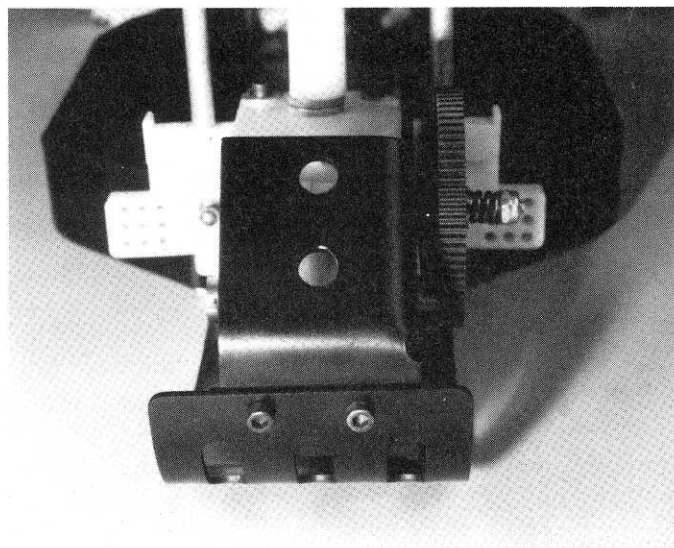


Fig. 79

□ **Figs. 80 & 81** Take the #6360 rear suspension mount, out of bag #6-8, with the letter "L" on the bottom, the #6355 L.H. rear "A" arm and the #6380 inner hinge pin. Line up the holes in the arm and mount and install the pin. Install the two "E" clips.

NOTE: The left and right rear mounts are attached together by a thin "runner" that should be removed with scissors.

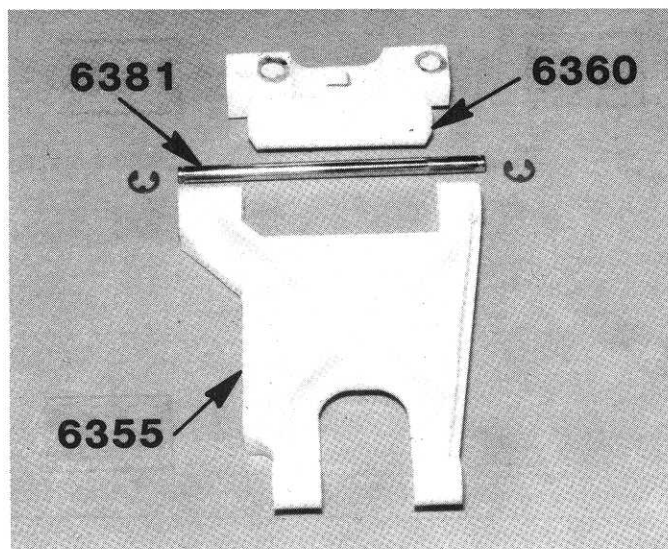


Fig. 80

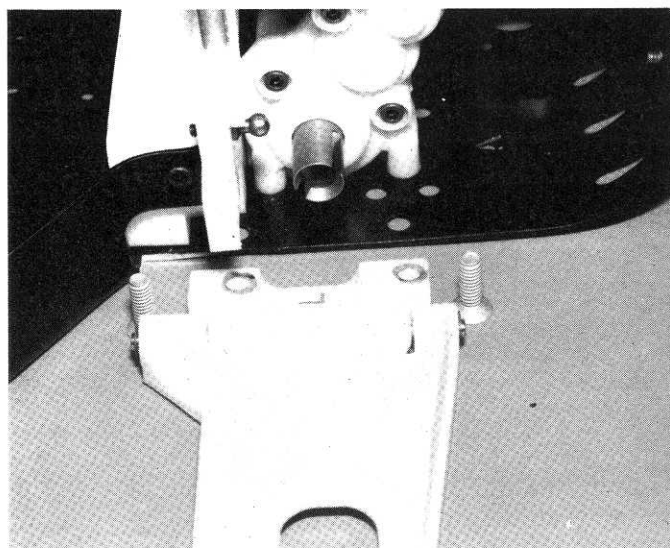


Fig. 81

□ **Fig. 82** Install the L.H. mount to the chassis with 2 Phillips screws as shown. Now, install the R.H. arm.

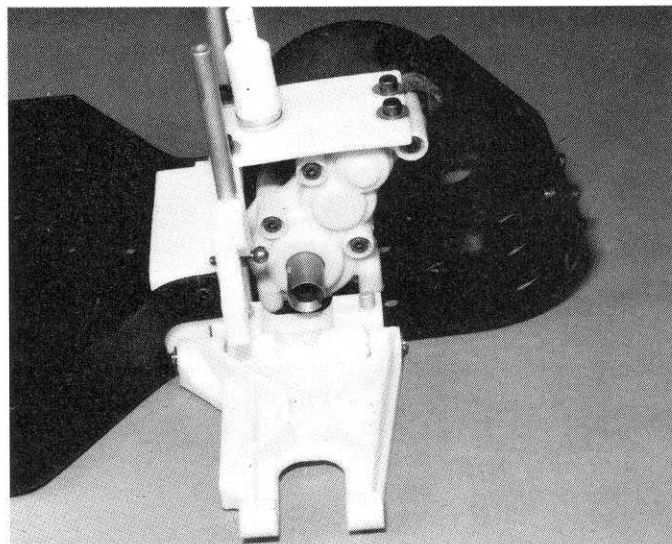


Fig. 82

□ **Figs. 83 & 84** Take the left hand hub carrier #6366, the one that has the letter "L" on it, and push the two ball bearings #897 in it.

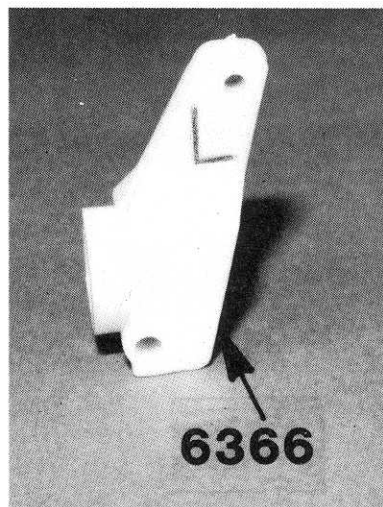


Fig. 83

□ **Fig. 84** Take the #6371 universal dogbone drive-shaft and slip three of the thin washers on it and then slip it into the hub carrier ball bearings. Add two more of the thin washers and then install the roll pin as shown in Fig. 85. If the washers make the fit too tight, remove one of the outside washers.

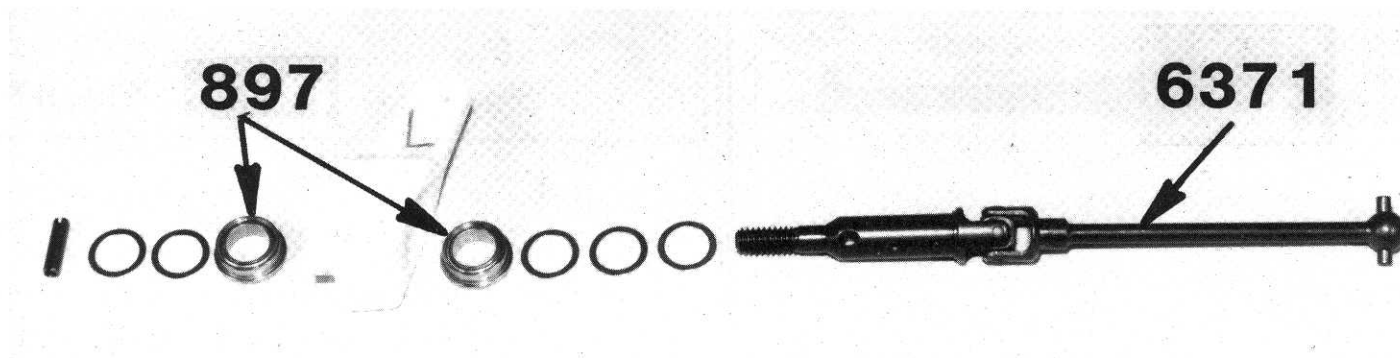


Fig. 84

□ **Figs. 85 & 85a** For this step you may need 3 hands, so get a friend to help you. Set the axle on a vise

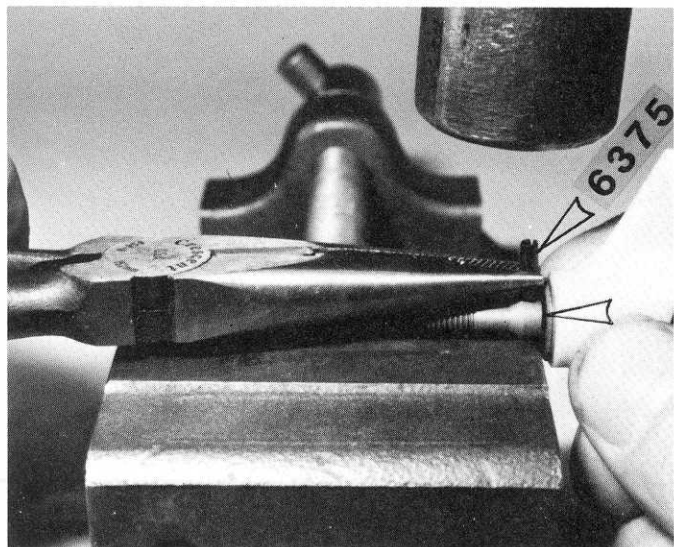


Fig. 85

or a flat surface. Hold the roll pin or slotted pin with a needle nose pliers and align the pin with the hole in the axle. Lightly tap the pin in the axle so it's evenly spaced.

An alternate method of installing the pin is shown in fig. 85a, using a pair of water pump pliers. Start the pin by holding with small pliers and pushing into the hole with a twisting motion. Finish with large pliers as shown. Angle the pliers slightly to allow the pin to come through the other side.

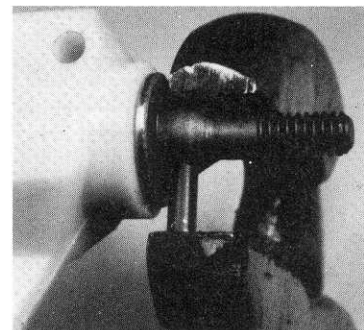


Fig. 85a

□ **Figs. 86, 86a & 86b** Install a ball end and nut as shown. Install the LH hub carrier in the LH "A" arm with the #6381 outer hinge pin. Install 2 "E" clips. Install a long ball end in the forward side of the hub carrier, as shown, and install the nut. Install the R.H. hub carrier.

NOTE: The pin is intentionally a tight fit in the hub carrier; do not ream the hole. The pin will turn in the A-arm.

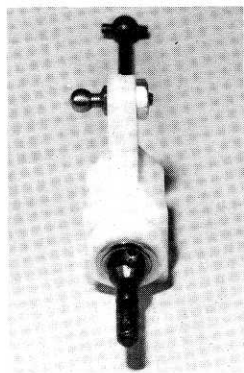


Fig. 86

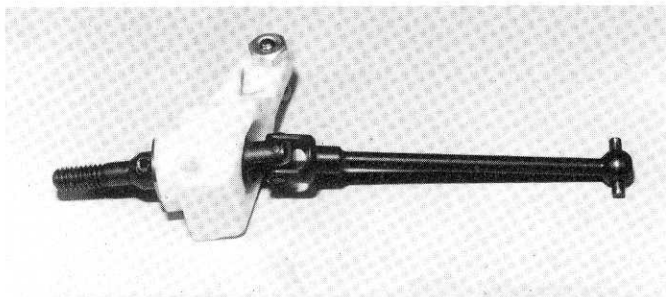


Fig. 86a

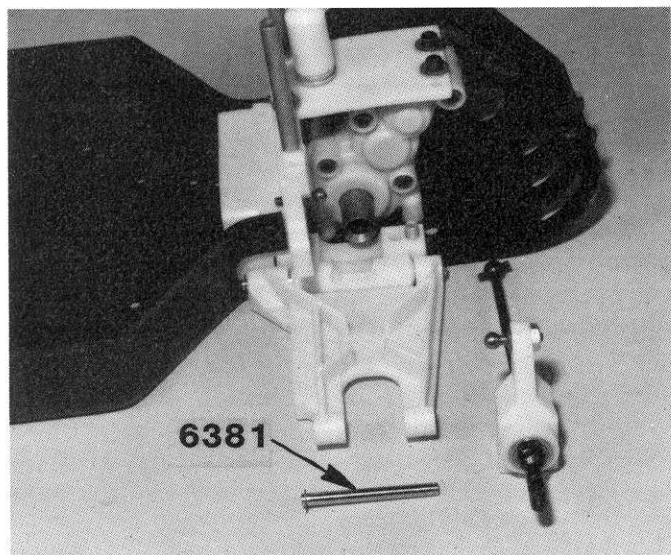


Fig. 86b

□ **Fig. 87** Your L.H. rear end should look like this now.

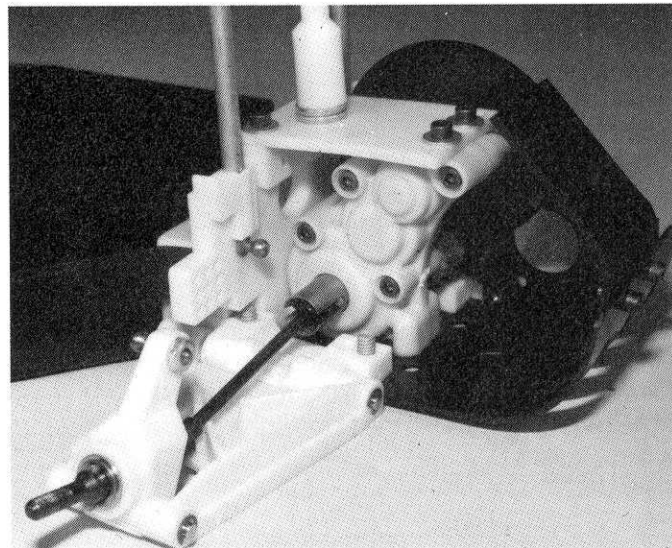


Fig. 87

□ **Fig. 88** Take the two #6262 threaded rods and screw two plastic rod ends on each to the dimension shown. Note that on this strut one ball faces forward and one faces to the rear.

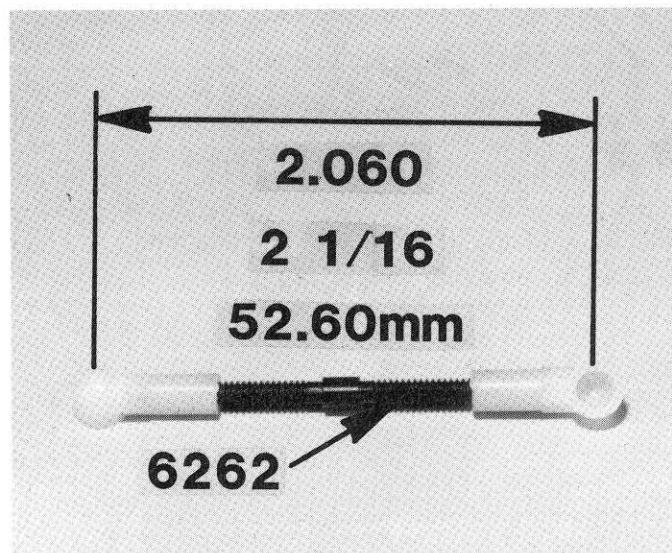


Fig. 88

□ **Fig. 89** Put the strut (A) onto the ball on the bulkhead. Put the half-shaft into the slot. Put the strut (B) on the ball in the hub carrier. It should look like fig. 89 now.

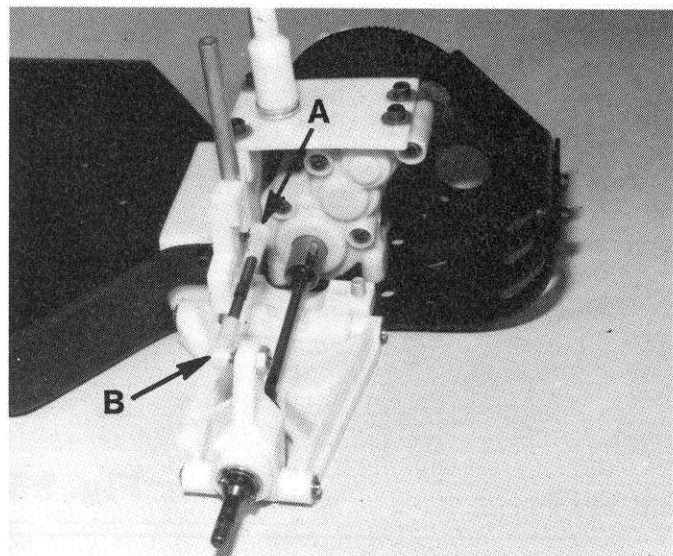


Fig. 89

SHOCK ASSEMBLY

□ **Figs. 90 & 90a** It's easier to build all four shocks at the same time, so take all four of the #6460 and #6458 shafts and install one of the E-clips on each shaft, as shown.

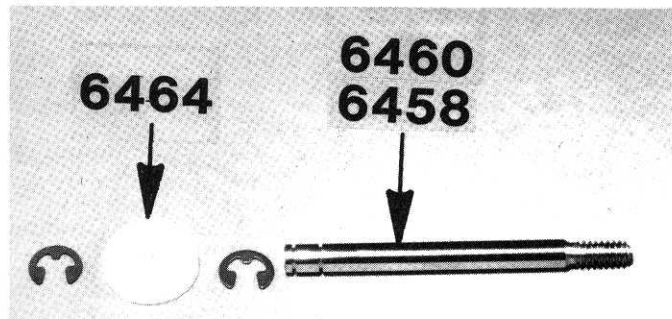


Fig. 90



Fig. 90a

□ **Fig. 91** Now slip the #6464 piston on each shaft, and then install the 2nd E-clip. Make sure both E-clips are fully seated in the groove.

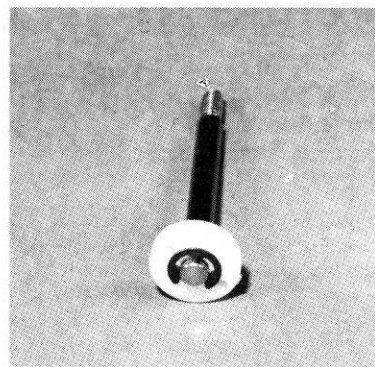


Fig. 91

□ **Figs. 92 & 92a** The #6429 assembly tool 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.

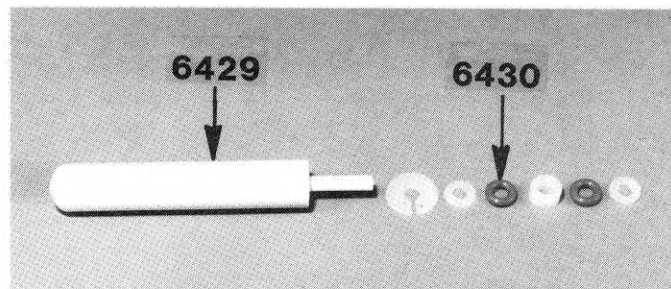


Fig. 92

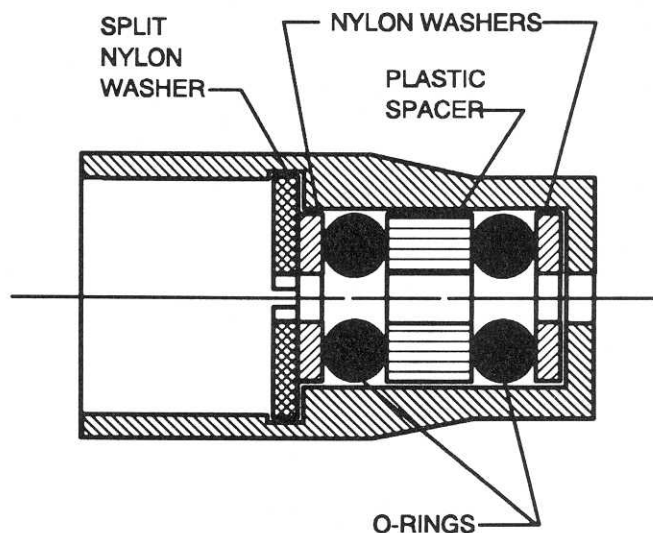


Fig. 92a

☐ **Fig. 93** 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.



Fig. 93

☐ **Fig. 94** Apply a liberal amount of oil to the parts on the installation tool.

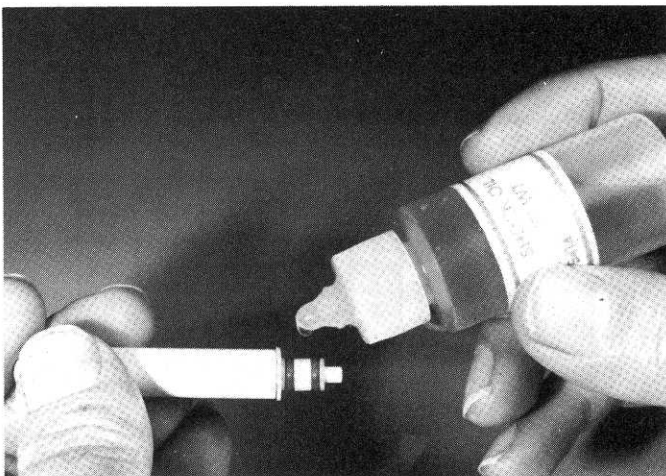


Fig. 94

☐ **Fig. 95** Put a few drops of oil into the #6437 front and #6435 rear shock bodies to make assembly easier also. We don't want to cut the red O-rings on assembly.

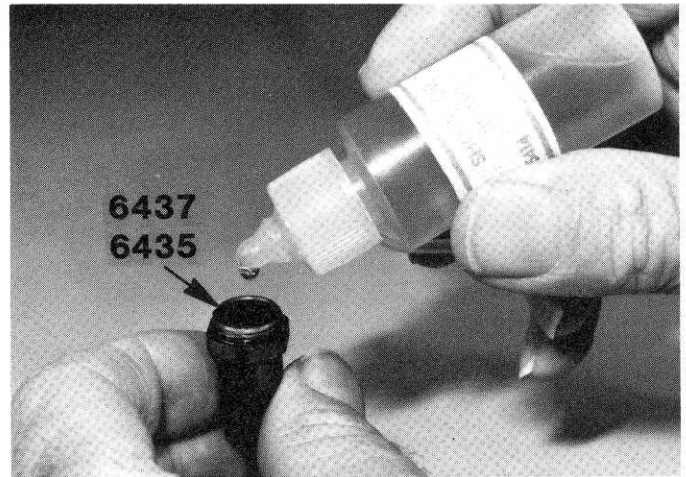


Fig. 95

☐ **Figs. 96, 97 & 98** 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. 97. If it looks like fig. 98, 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.)

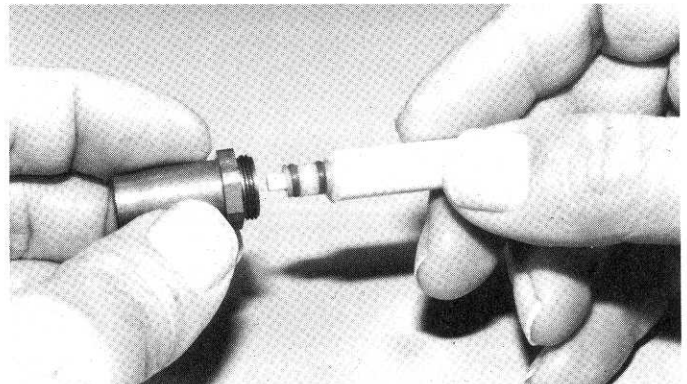


Fig. 96

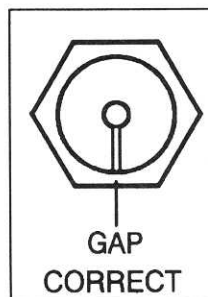


Fig. 97

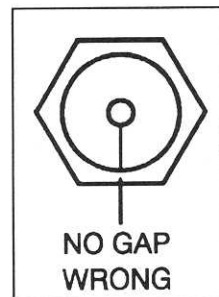


Fig. 98

☐ **Fig. 99** 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.

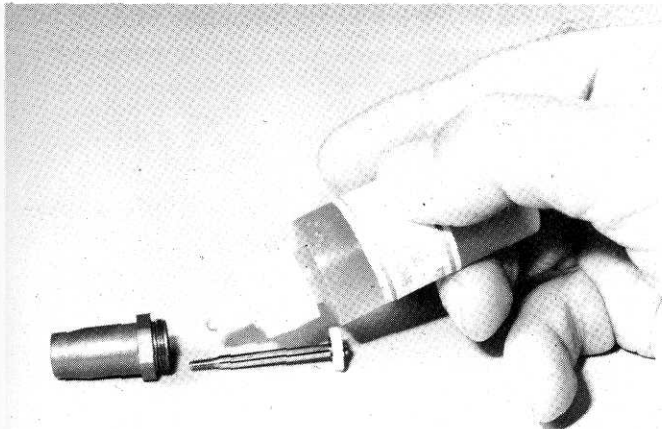


Fig. 99

☐ **Fig. 100** In a separate bag will be six #6466 nylon spacers. Slip three of these onto each of the long shafts, all the way up to the piston. These spacers are not used on the front shocks.

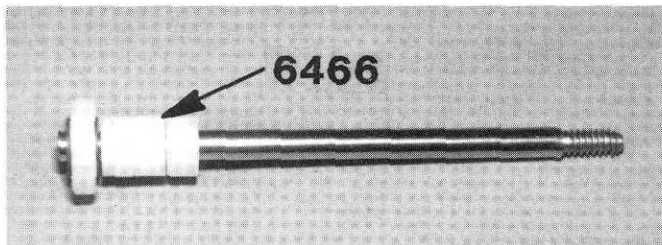


Fig. 100

☐ **Fig. 101** Slip the #6469 black O-ring over the threads and seat it flush against the pocket at the bottom of the threads.

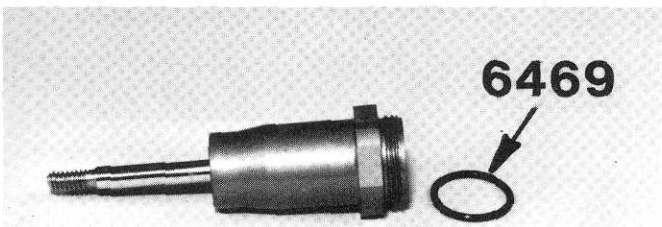


Fig. 101

☐ **Fig. 102** IMPORTANT: Thoroughly lubricate the threads in the cap BEFORE installing. IT MUST BE LUBRICATED FOR PROPER INSTALLATION. We'll install it in a minute.

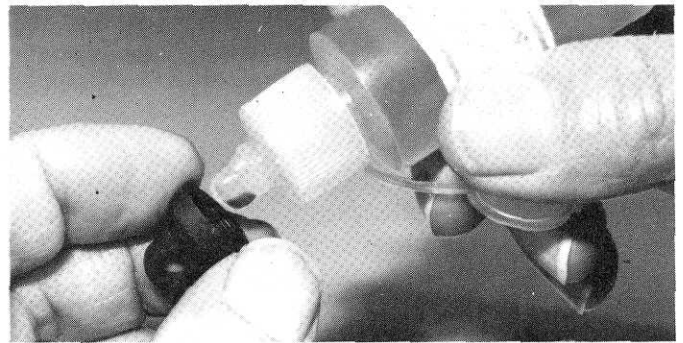


Fig. 102

☐ **Fig. 103** Fill the front shocks all the way to the top, but fill the rear shocks only to within 1/16" of the top.

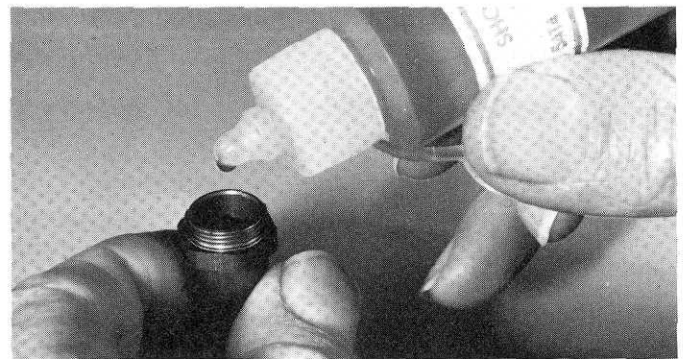


Fig. 103

☐ **Fig. 104** 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 crosstread 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.

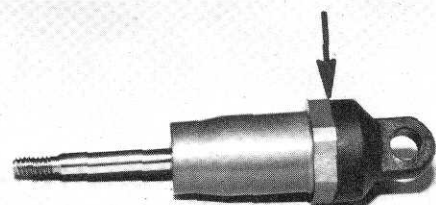


Fig. 104

❑ **Fig. 105** From Bag #6-11, install the 2 #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. There should be a 3/8" (9.45 mm) space between the collar and the body hex nut. Tighten the screws just enough to lock the collars. DO NOT overtighten. Slip on the long silver spring. There is also a long gold spring, which is stiffer than the silver spring. The silver spring will work best on most slippery tracks, but you can experiment with the gold spring also, on your track. Take the #6471 plastic rod end and push it onto the metal ball. The easiest way to do this, 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. Then thread the plastic ball end on the shaft. You'll have to keep the shaft from rotating with a needlenose 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 split spring collar.

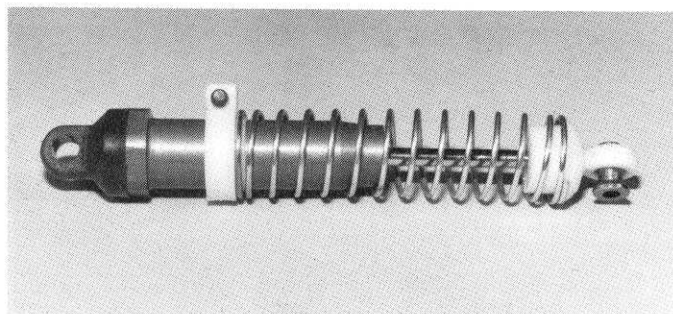


Fig. 105

❑ **Fig. 106** On the front shocks, install the spring collars, as shown. Use the short green spring, which is softer than the short gold spring. Again, you can experiment with springs, but start with the green spring. Install the spring cups that go inside the springs, as shown, and then install the plastic ball end. Your shocks are now complete.

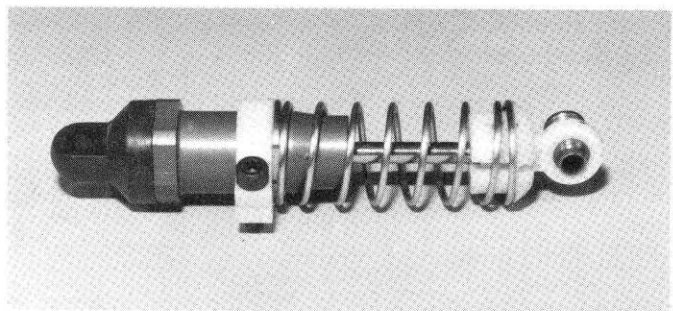


Fig. 106

❑ **Fig. 107** Now we'll install the front shocks on the car. The arrow in the photo is pointing to the upper mount. Now slip on an aluminum washer and then screw down and tighten one of the 4/40 plain nuts. Now slip the flanged nylon shock bushing on next, with the flanged end on first.

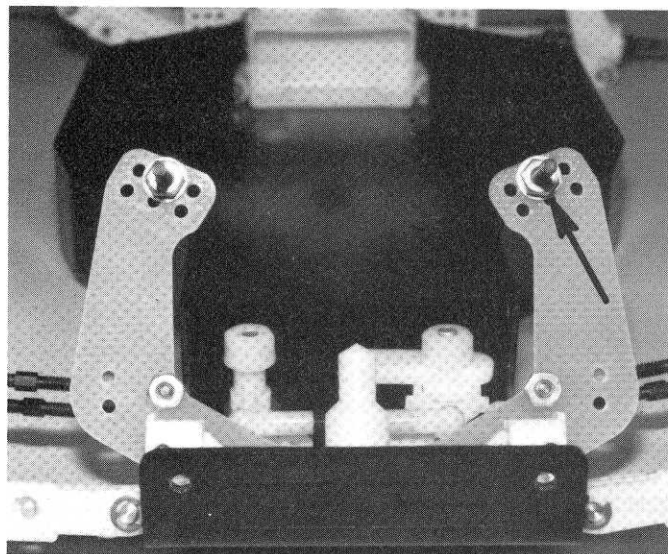


Fig. 107

❑ **Fig. 108** Slip the shock on the upper mount and install a locking nut. DO NOT tighten down too tight on this nut or you'll bind up the shock. Squeeze the bottom end of the shock up and then slip the end down into the lower "A" arm slot, with the flat side of the ball to the rear.

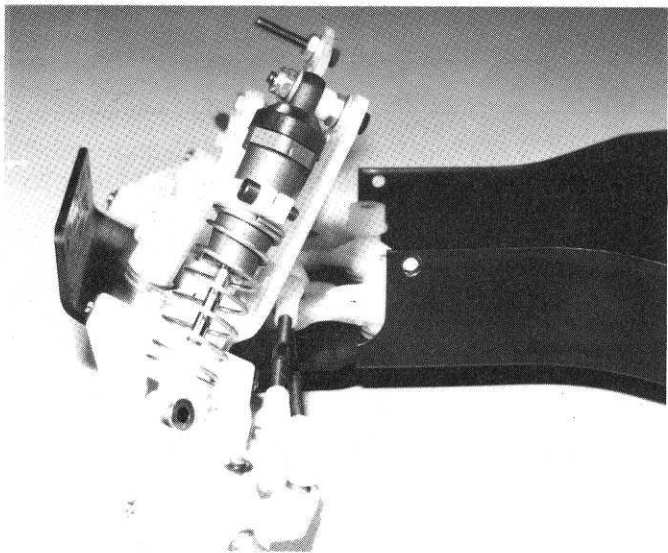


Fig. 108

□ **Fig. 109** The flat side of the ball should be towards the rear as the upper arrow shows. Now, back in Bag #6-1 you have 2 3/4" long screws that only have 1/4" of threads. Use these screws to mount the lower shock balls to the "A" arm, as shown.

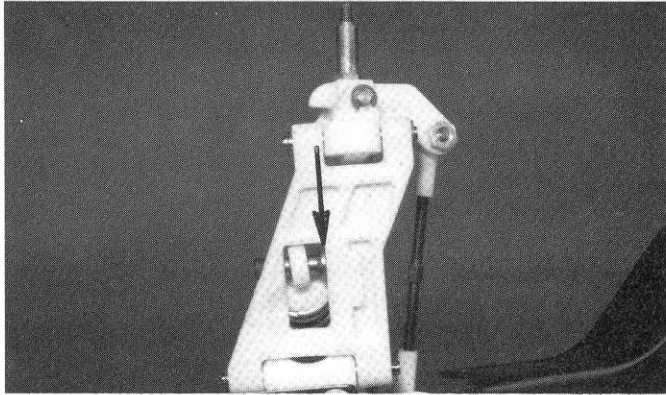


Fig. 109

□ **Fig. 110** Install the R.H. shock.

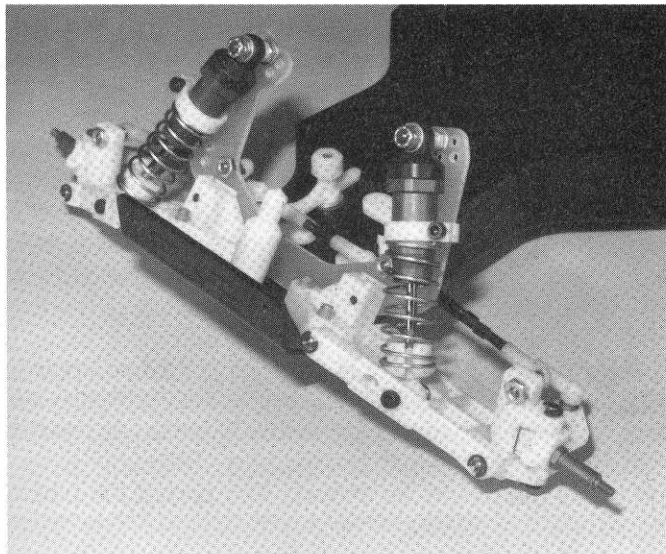


Fig. 110

□ **Fig. 111** In Bag #6-4 are the two #6321 nose brace tubes and 4 Allen button head screws, as shown.

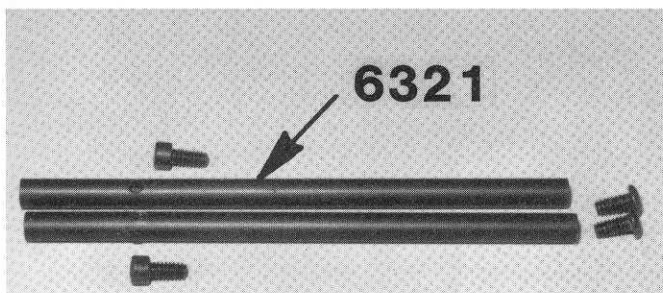


Fig. 111

□ **Fig. 112** These tubes tie in the nose piece very solidly to the chassis. Start by installing the rear screw through the side of the chassis, but do not tighten yet. Install the forward screw through the front of the nose piece into the end of the rod and tighten down. Now tighten the rear screw. Install the 2nd brace.

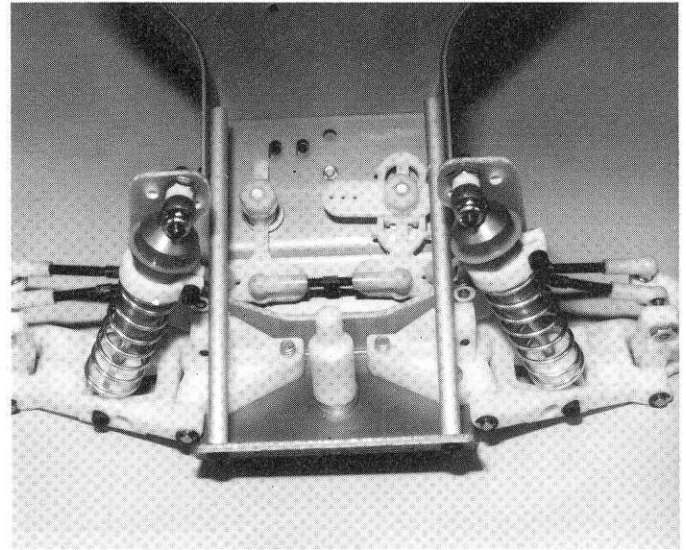


Fig. 112

□ **Fig. 113** Also in Bag #6-4 is the #6378 rear shock strut. Assemble this to the rear bulkhead with the 4 Allen screws, as shown.

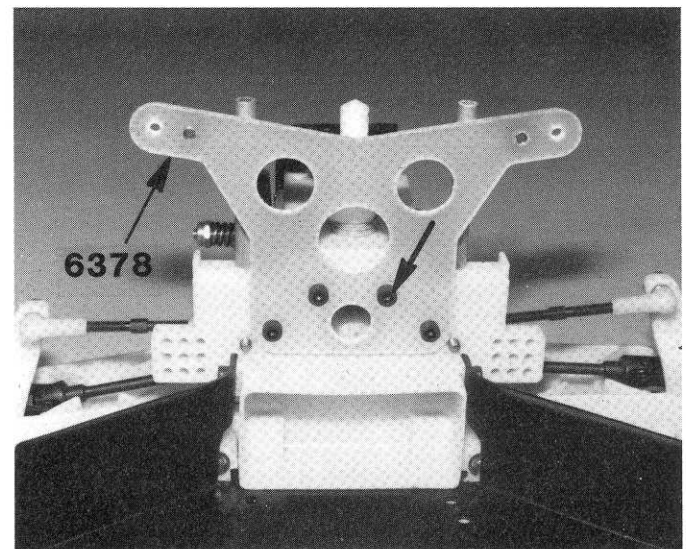


Fig. 113

□ **Fig. 114** It's time to install the rear shocks. From Bag #6-9, install one of the Allen screws through the fiberglass strut from the rear. Then, install a plain nut and an aluminum washer next. Slip a bushing in the shock, with the flange to rear, and slip the shock on the screw.

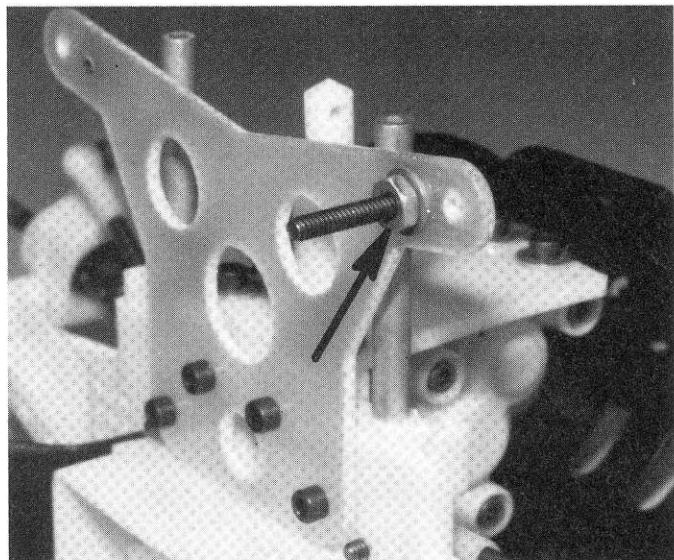


Fig. 114

□ **Fig. 115** Install a locking nut next. Do not overtighten the nut, it is only necessary for the nut to take up the end play.

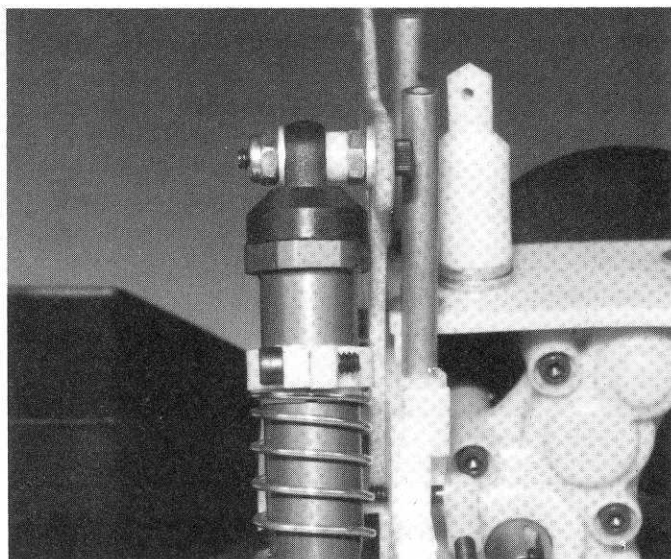


Fig. 115

□ **Fig. 116** For the shock bottom installation we want the flat part of the metal ball end to be against the "A" arm, as shown. In the "A" arm, there are 4 holes. Install it in the outside hole. Slip a washer on the screw, and install the screw.

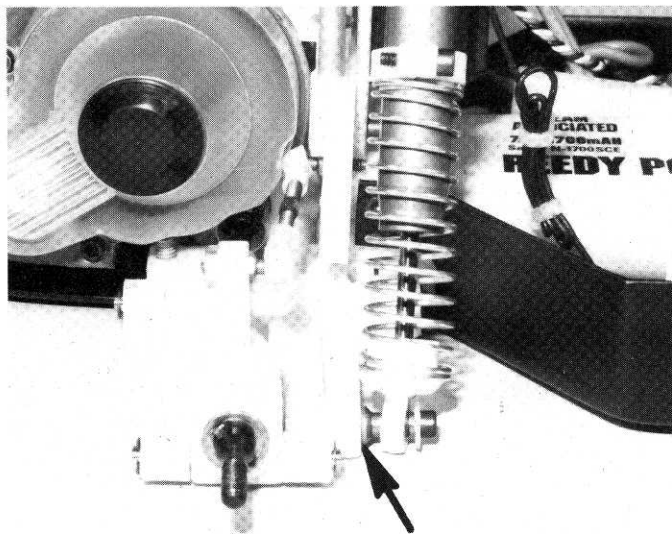


Fig. 116

□ **Figs. 117 & 118** Time to put the horsepower in the car. Using ROSIN core solder, solder the motor lead wires and filter capacitors to the #6500 motor, as per the instructions included in the motor bag. Take your pinion and install the pinion, as shown. The end of the pinion should be even with the end of the shaft. NOTE: The motor and pinion do not come with the kit.

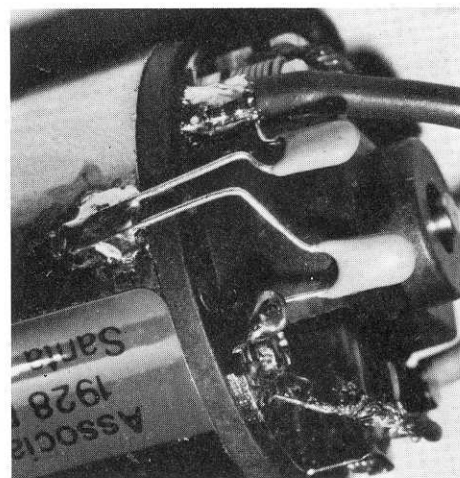


Fig. 117