

South Side

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Revolver

ASSEMBLY INSTRUCTIONS

Congratulations! You now own the best 1/12th scale car in the world. The Revolver 12 is based on our 1/10th scale IFMAR World Championship Winning Evolution 10. The Revolver 12 is an all new design in 1/12th scale that has features not found on any other car, such as; Reactive Caster™ front suspension, super stiff .094 ADC chassis plates, 6 cell left side battery mounting on the oval model, easily adjustable caster camber, roll center, toe in, and TRC Pro-cut race tires.

Again Jim Dieters superior design, combined with precision molded and machined components, make the Revolver 12 a snap to build. You still need to read and follow the instructions, they will give you tips in the assembly process that will help you when it is time to race your car.

TAKE YOUR TIME! How carefully you assemble your car kit will determine how well it is going to perform on the track. Don't be in a hurry, the race is won on the track, not the work bench.

Assembly tips...

Before you get started, here are some suggestions and tips that will make the assembly of your kit easier.

..... Glance through the instructions and pictorial once before you start. This will help you get familiarized with the assembly Steps and instructions.

..... To help eliminate confusion, only open the part bags when they are called for in the instructions. Otherwise you might mix up some small parts, which could make assembly more difficult.

..... When you empty the part bags, do so on a paper plate or small container. This will keep small parts from rolling off the table, only to be lost forever.

..... When you are putting screws into plastic pieces, be sure not to over tighten them. This could result in the threads in the plastic stripping. Tighten the screws until they are just snug.

..... All molded nylon parts will have a small amount of flashing. This is normal and part of the manufacturing process. Before you assemble these parts it is a good idea to remove any flashing with a hobby knife.

..... In the instructions, certain parts are referred to as left and right. Left and right is determined by sitting in a car.

The drivers' side is referred to as the left side. So no matter what direction you are looking at the car from, the drivers' side will always be left. Please keep this in mind during assembly.

..... The Step numbers in the manual correspond to photos in the pictorial manual. Use both during the assembly process.

..... Due to Trinity's ongoing research and development program, certain parts in the pictorial may appear different than those in the kit. We also only show photos of the road race version, because assembly of the super speedway version is the same.

..... The pictorial has spots to check off each Step so that you can keep track of where you are in the assembly process.

The following items will be needed...

- 1, Two channel radio system
- 1, Novak speed control
- 1, Novak receiver
- 1, 4 or 6 cell Trinity Pushed™ battery pack
- 1, Trinity stock or modified motor
- 1, Zero Gravity pinion gear
- 1, Body
- 1, Servo saver
- 1, Trinity receiver pack

These tools and supplies are needed...

- #2 Philips screw driver
- Hobby knife
- Small pliers
- Needle nose pliers
- Assorted files
- 400 grit wet/dry sandpaper
- Nut driver set
- Servo tape
- 6 big Macs
- A large bucket of fries, greasy
- 2 two liter bottles of Diet Pepsi, on ice
- A gigawatt surround sound stereo system with CD player
- Assorted Hendrix, Stones, Zeppelin and Guns and Roses CD's
- Patience

GETTING STARTED...

..... Step 1, Your new Revolver 12 chassis is made of a proprietary .094 graphite composite material made especially for Trinity by ADC. This material is super stiff that makes the suspension work, plus it is super light weight.

Do not cut up the chassis to reduce weight, as this will decrease its lateral strength, and will spoil the suspension action. With the independent Reactive Caster™ front suspension used on the Revolver 12 series of cars, the stiffer the chassis, the better the front suspension will work!

Some sanding with fine grit wet/dry (400) sand paper may be necessary to remove any sharp edges from the outside of the chassis. A flat file would also be helpful to take the edges off the battery slots so that the graphite does not cut through the battery heat shrink. It is also important to make sure you round the edges of the chassis where the tape that holds the batteries wraps around. If this is not done, a bad wreck will make the chassis cut through the battery tape and make you lose your battery pack.

The best way to sand the chassis and all the graphite parts is in a sink with the water running over the chassis. This gives the best results and is the cleanest way. Once all the graphite has been sanded you may also take some thick CA glue and coat the edges to prevent delamination due to hard crashes.

FRONT END ASSEMBLY...

..... Step 2, Locate the front axle plate and four of the aluminum ball studs in Bag 1. Now insert the four aluminum ball studs into the four outer holes and secure them using four 4-40 aluminum mini-nuts from the opposite side as shown in picture two.

..... Step 3, Snap the delrin pivot balls into the two upper ball supports. You may use a pair of pliers to install the pivot balls but be sure not to squeeze too hard and distort the part. Use a towel between the ball and pliers if possible.

..... Step 4, Take two short turnbuckles and thread each into an upper ball support about 1/4". Use a .050 Allen wrench through the turnbuckle to ease installation. A good tip is to insert the right handed threads into the ball support and clevis. This will make quick adjusting easier.

..... Step 5, On the other end of each turnbuckle thread on a nylon ball cup about 1/4". There should be about a 3/16" gap between the upper ball support and the nylon ball cup.

..... Step 6, Take the other two short turnbuckles and install a plastic clevis on the right hand thread side of each turnbuckle. Now thread a nylon ball cup on the other end of each turnbuckle and leave a 3/16" gap between the clevis and the ball cup.

..... Step 7, Look at the upper ball supports. You will notice that one of the supports will have a number two molded into it. This support will go on the right side of the front end. Install a 3/8" 4-40 cap screw through the clevis and the upper ball support on each side and set this assembly aside for now. The clevis has an over sized hole on one side and this side should face up so the screw will thread into the bottom hole. When finished you should have 2 "A" arm assemblies that are mirror images of each other.

..... Step 8, Take a sharp hobby knife and trim the shoulder off the steering blocks.

..... Step 9, Slide the king pins through the hole in the axle plate to check the fit. Move it in and out several times while moving it side to side and front to back slightly. This should clearance the hole enough so that the kingpin slides easily. If it does not slide freely through the hole, especially at a slight angle inward and or angled back, ream the hole with an 1/8" drill bit. Be careful not to ream the hole too big as it will break-in as the car is run. If you are unsure if you have the kingpin free enough, we suggest the following. Set up your complete car. Adjust the front suspension for the correct caster, and camber and then check to make sure everything is free. Then if there is some bind, it is easy to unhook the upper "A" arm and ream the hole with the drill bit, at exactly the angle that the kingpin moves through the chassis plate.

..... Step 10, Snap the upper A-arm assemblies into place on the front plate making sure the 2 upper support is on the right side.

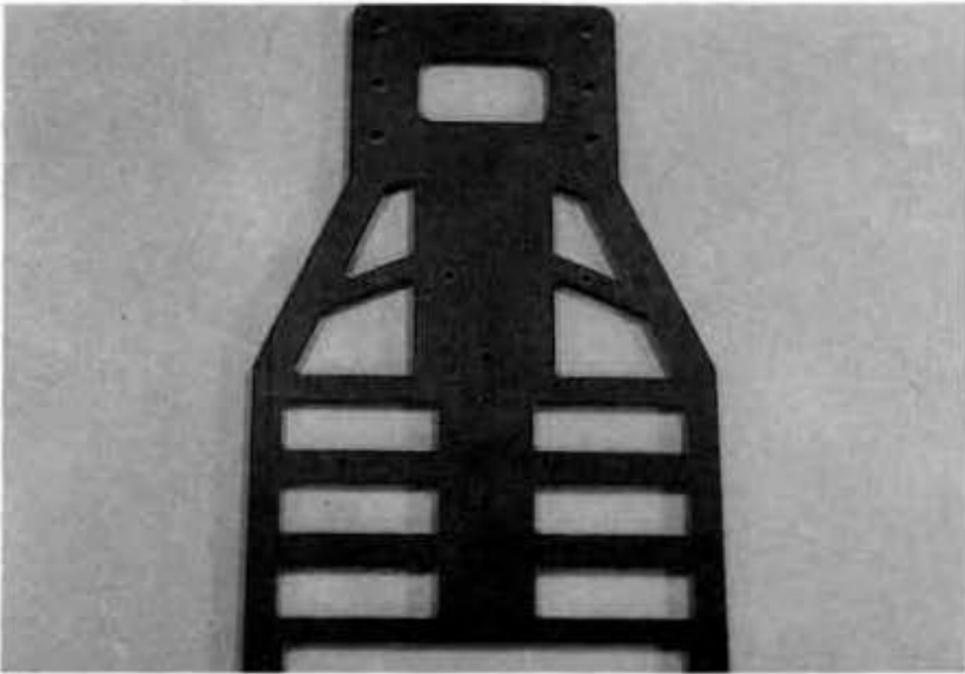
..... Step 11, Install and E-clip on one end of each kingpin. Insert the kingpins through the delrin ball in the upper ball supports and slide the steering blocks onto the kingpins at the same time. Make sure you get the steering blocks on the correct side as they are marked "R" and "L" for right and left underneath the arm.

..... Step 12, Now, insert the king pin all the way through the front plate and slide the A-arm assembly through its travel to make sure there is no binding. If there is binding, relieve the hole now with the 1/8" drill or wait until everything is adjusted. Remember to check the kingpins for binds anytime you make a big camber or castor change.

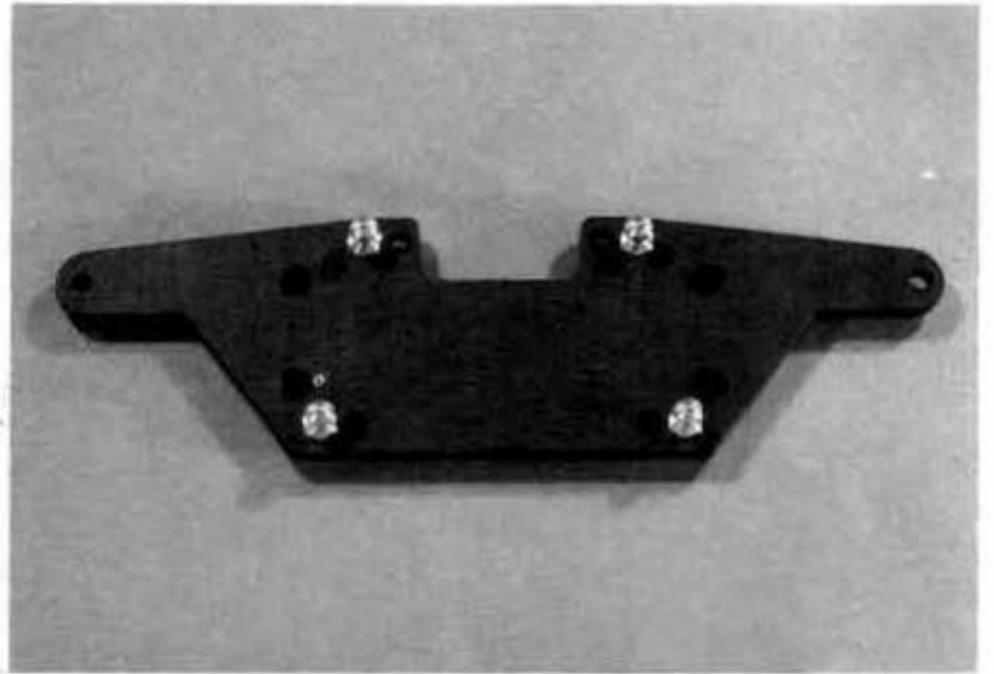
..... Step 13, Install the spring, washer and E-clip on the bottom of each kingpin.

..... Step 14, Put the four 8-32 x 7/8" flat heads through the front holes in the chassis, slide the two thick rectangular spacers over the screws and secure the axle assembly in place using the four 8-32 aluminum nuts. We have supplied you with two thick spacers and four thin spacers. Right now we will only use the thick spacers and most of the time we will only use the thick spacers. The only thing that should be left in bag #1 should be a few ball cups, two

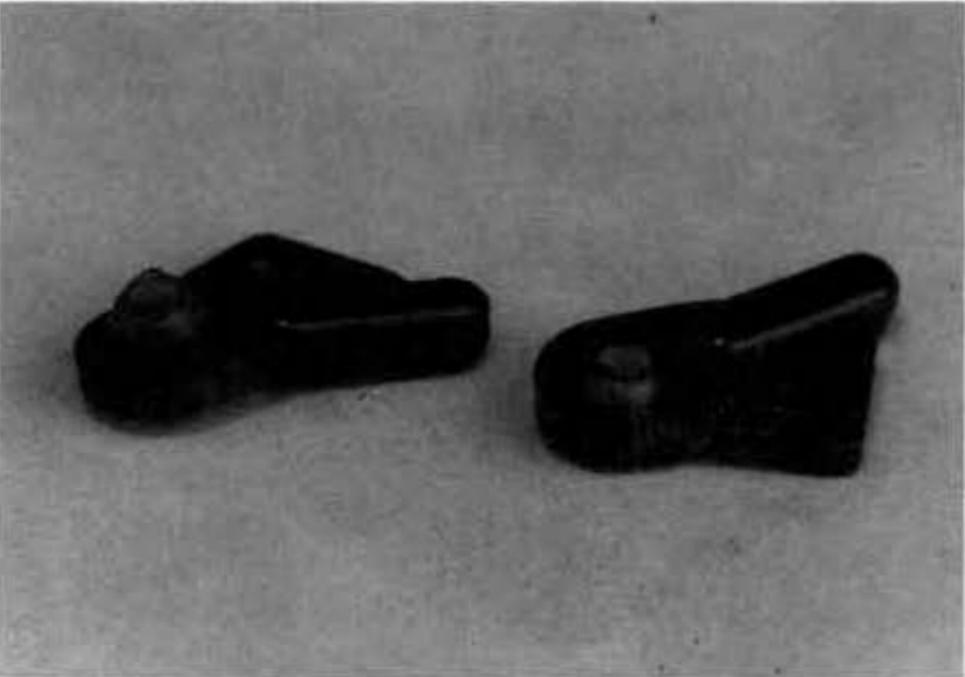
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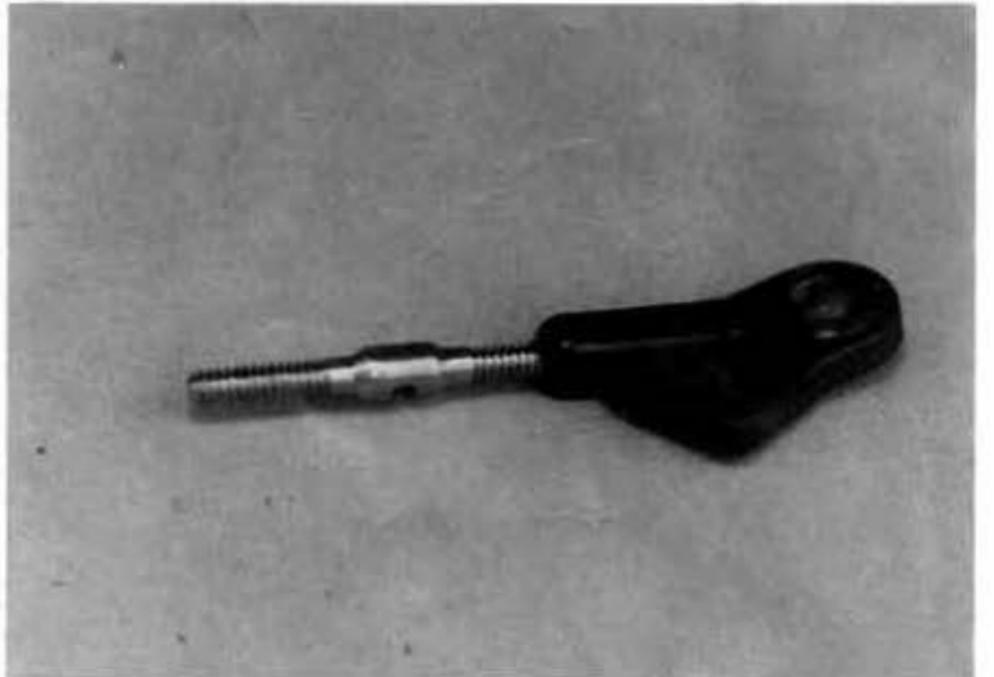
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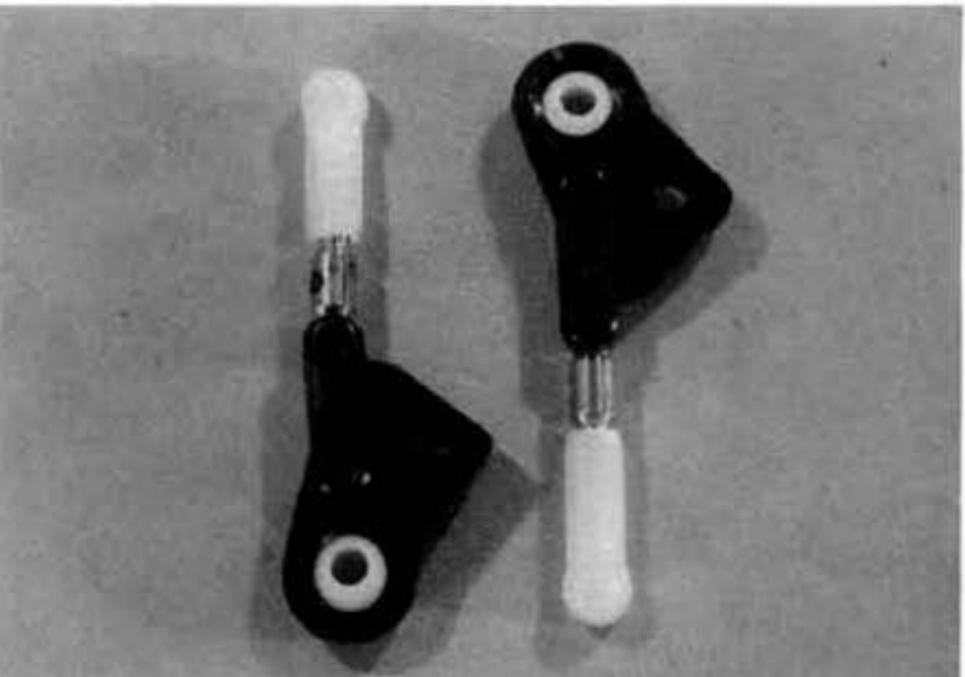
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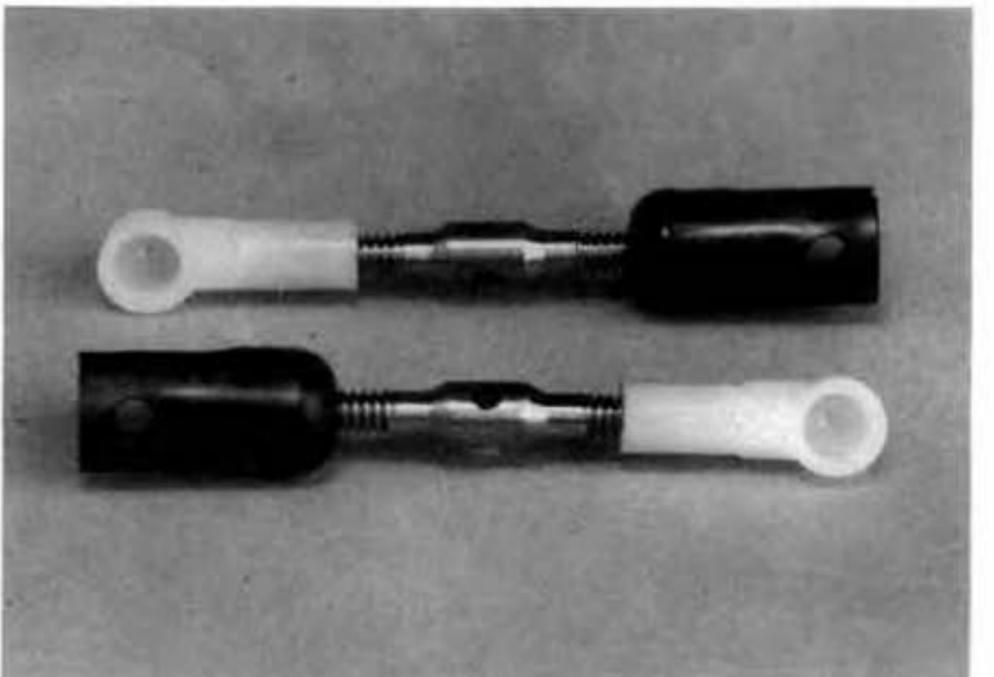
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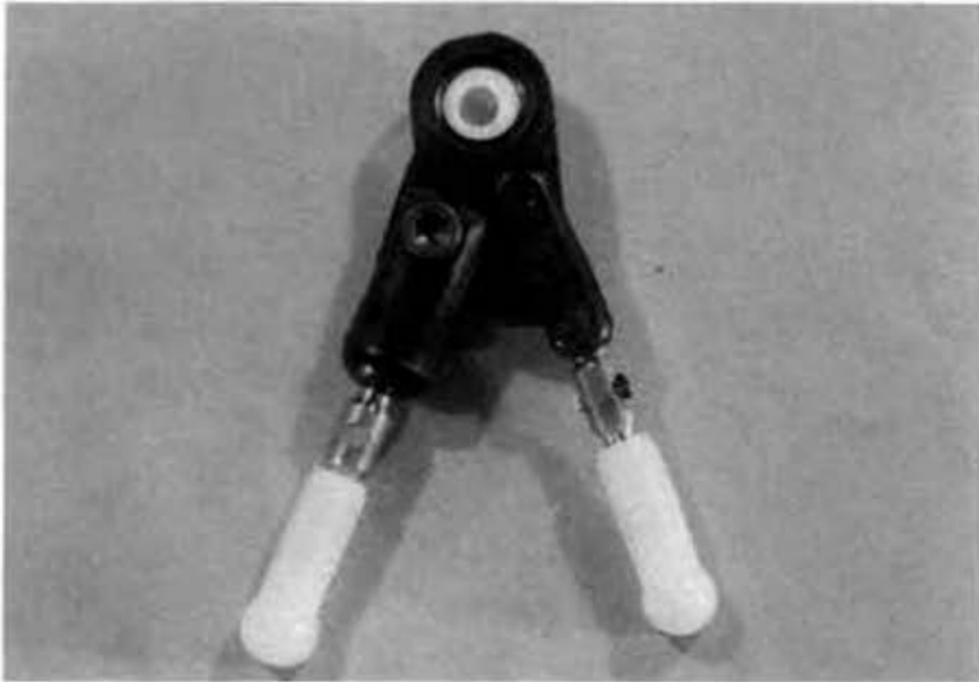
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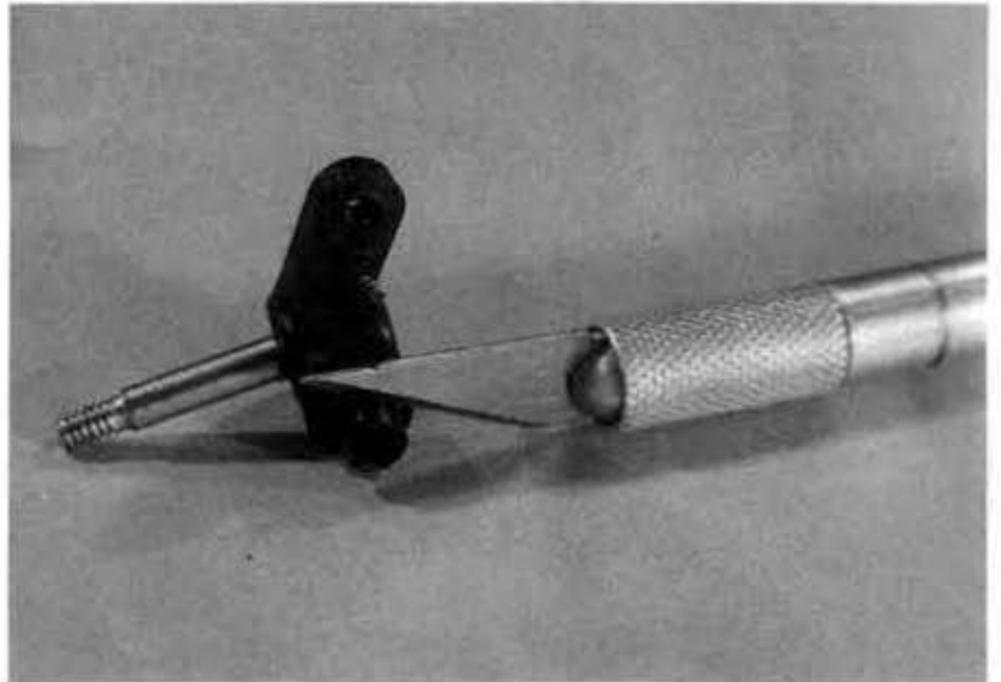
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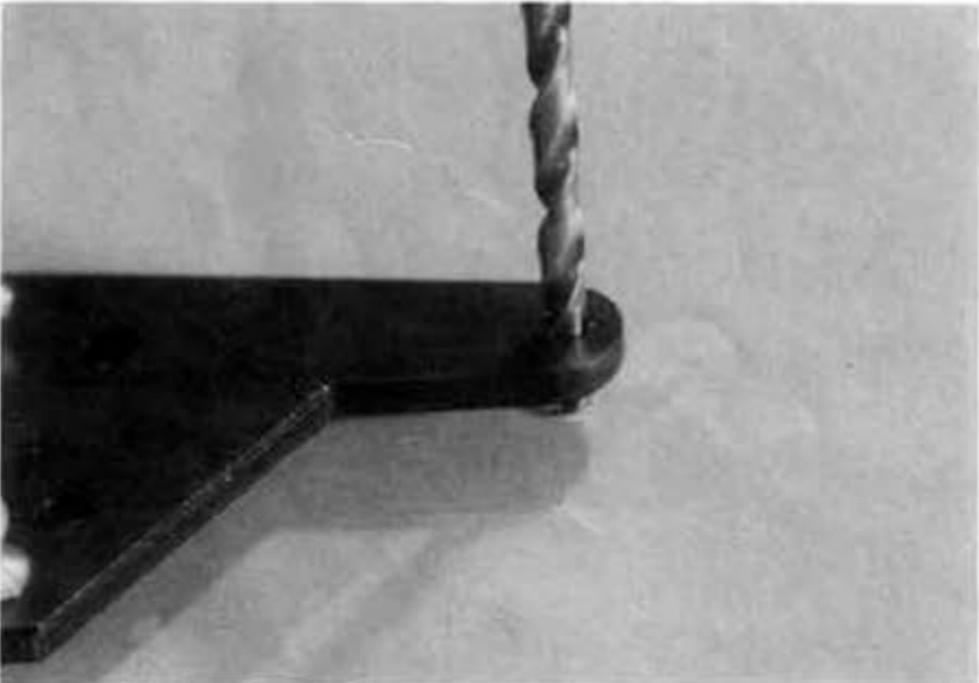
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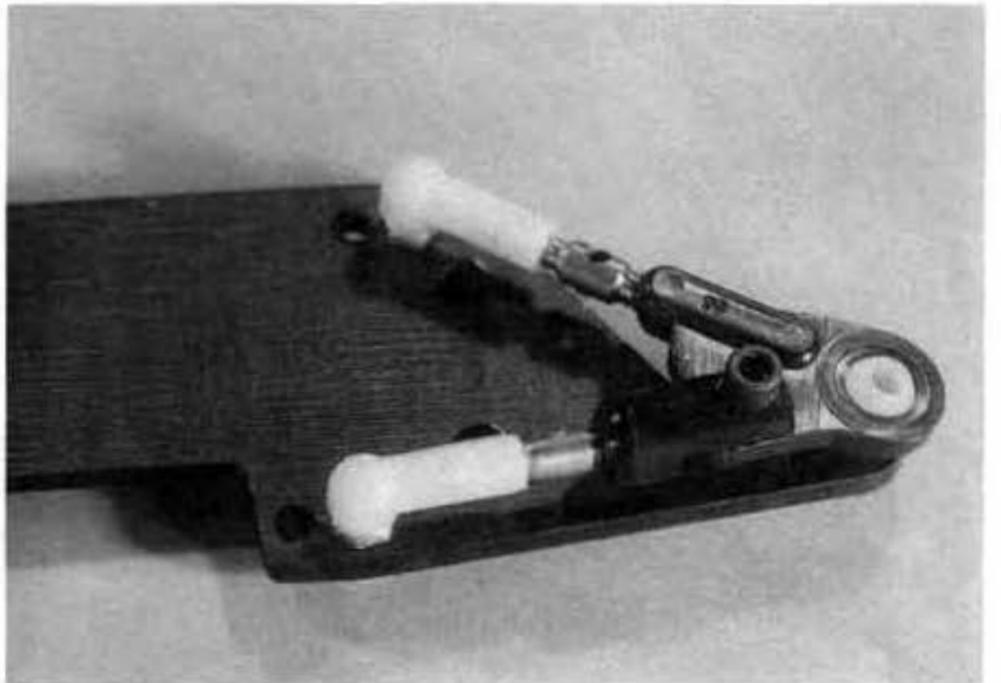
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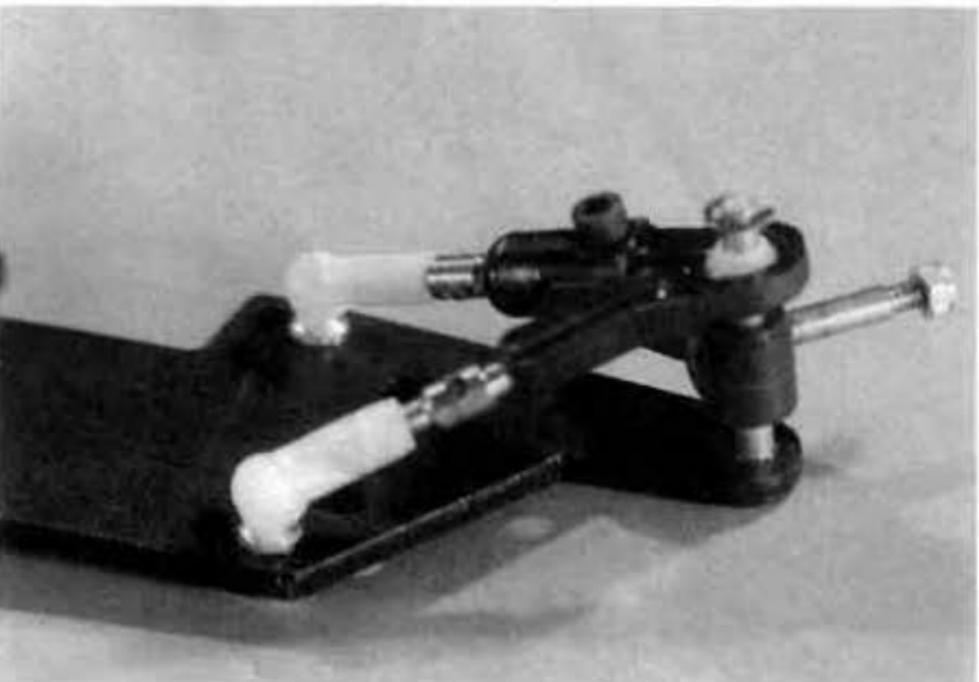
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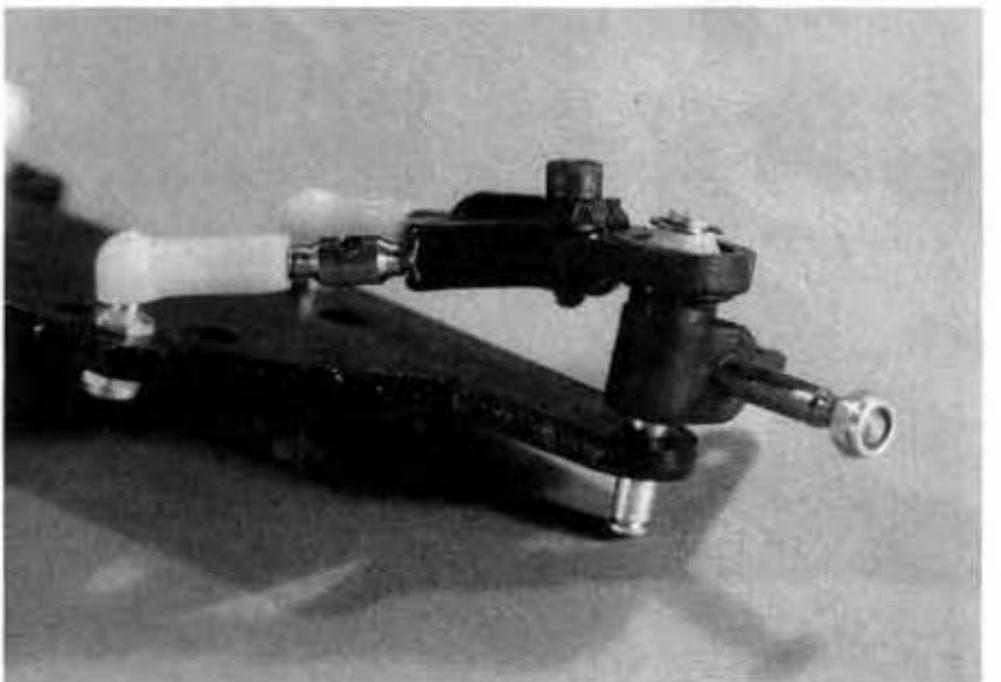
STEP 10



STEP 11



STEP 12



aluminum ball studs and two 1.6" turnbuckles for use later during servo installation.

T-BAR ASSEMBLY...

..... Step 15, Find bag two and open it. Locate the two aluminum pivot balls, T-bar, both halves to each pivot ball socket and eight 2-56 button heads.

If you want you can polish the aluminum pivot balls with aluminum polish. Then assemble the ball sockets and ball as shown.

..... Step 16, Install the pivot ball assemblies into the T-bar by inserting the nylon shoulders into large holes in the T-bar and install the button heads from the bottom. If the pivot ball assemblies fit tight into the T-bar, take a hobby knife and relieve the hole slightly. Make sure that the ball is free when you are finished. If the balls are bound up try loosening the 2-56 mounting screws a 1/4 turn each.

..... Step 17, Carefully thread two 4-40 x 1/4" cap screws into the T-bar. Make sure that you thread them into the hole straight and just get them started for now.

REAR END ASSEMBLY...

..... Step 18, Locate the bottom plate, T-bar spacer, three 4-40 x 3/8" flat heads and three 4-40 nuts. Insert the 4-40 screws through the three holes in the front of the bottom plate and place the T-bar spacer over them.

..... Step 19, Slide the T-bar on top of the T-bar spacer and secure with the three 4-40 nuts.

..... Step 20, Locate the two rear pod plates and 1.390" aluminum stand off. Install pod plates and stand off with 4-40 x 3/8" flat head screws.

..... Step 21, Find the top plate and install a 4-40 aluminum ball stud in the center hole for shock as shown in photo.

..... Step 22, Bolt top plate into place with four 4-40 x 1/4" cap head screws. Now you can open the damper tube bag and put one of the ball studs onto the top plate on that small tab on the left side.

..... Step 23, Bolt pod and T-bar assembly onto chassis with 4-40 x 3/8" flat heads. T-bar pivot balls may rotate while trying to tighten screws into them. Just press your finger firmly on top of the pivot ball to stop them from rotating.

CHASSIS ASSEMBLY...

..... Step 24, Locate the two .850" stand offs and install on the back corners of the chassis with 4-40 x 3/8" flat heads (Make sure they are both the same length). Now install the 3/4" (.750) aluminum center shock mount and thread an aluminum ball stud into the top.

..... Step 25, Install the top brace as shown in photo with

4-40 x 1/4 cap screws. Also put the other ball stud from the damper tube onto the plate at this time.

..... Step 26, Bolt damper tube into place as shown in photo. This tube will control the side to side dampening of your car. The more silicone you use in the tube the more it dampens the car. Start with a few drops of silicone and experiment. You do not want to make the dampening too heavy, as this will cause the car to oversteer, as it does not allow the rear pod to center itself quick enough after going through a corner. Once you get the side to side dampening set for a particular track, it will stay the same all day.

..... Step 27, Select the middle ride height adjuster for the rear axle and snap into place on the rear end. Now install the body posts. Two mount in the front holes of the chassis and the two rear posts are mounted on top of the rear cross bar as shown in the photo.

SHOCK ASSEMBLY...

..... Step 28, Open bag 4 and empty contents into a small container because there are many small parts in this bag. Find the shock shaft and put a drop of oil on the silicone o-ring and slide it onto the shock shaft next to the piston. Locate the small flat washer. Slide it onto the piston shaft next to the silicone o-ring, making sure that it slides freely.

..... Step 29, Now slide the small spring and cylinder nut on to the piston as shown. Remove any flashing from the cylinder nut and make sure it to slides freely on the shaft.

..... Step 30, Before doing the next Steps it would be a good idea to have a rag ready to clean up any mess. Hold the shock body at a slight angle, drip oil down the side of the cylinder and fill the shock body up to the bottom of the threads. This lets the oil fill the cylinder, making sure there is no air trapped in the bottom.

..... Step 31, Holding the shock body upright, slowly push the piston assembly into the shock cylinder as shown until the nut comes in contact with the shock body. Thread the cylinder nut one or two turns in the shock body and with your fingers slowly push the piston rod into the shock body until it stops. Oil will come out at this point but don't worry. If you can't press the piston rod in, loosen the cylinder nut until you can. With the piston rod still depressed in the shock body, tighten the cylinder nut with your fingers only, until it is tight.

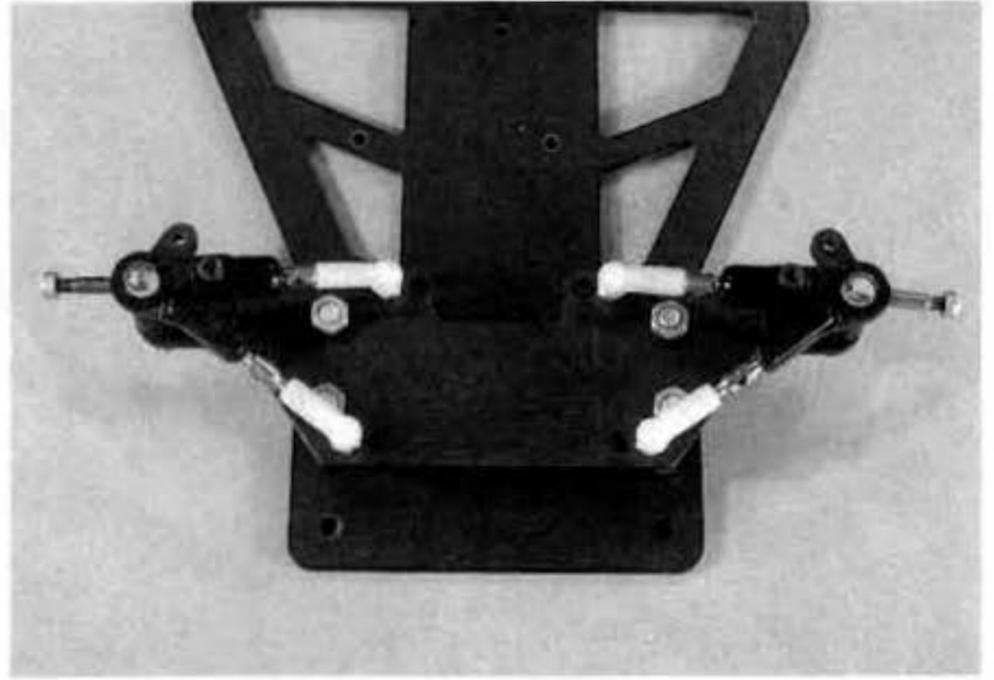
..... Step 32, When the nut is tight, release the piston rod and the piston should pop up. Check the shock action with your fingers. It should feel smooth. If it feels slushy or bumpy, you have air bubbles in the oil and you will have to start over from Step 30.

..... Step 33, Thread the spring adjustment nut on the shock body a couple of turns, and holding the shock body firmly, thread a nylon ball cup all the way on the threaded end of the shock body.

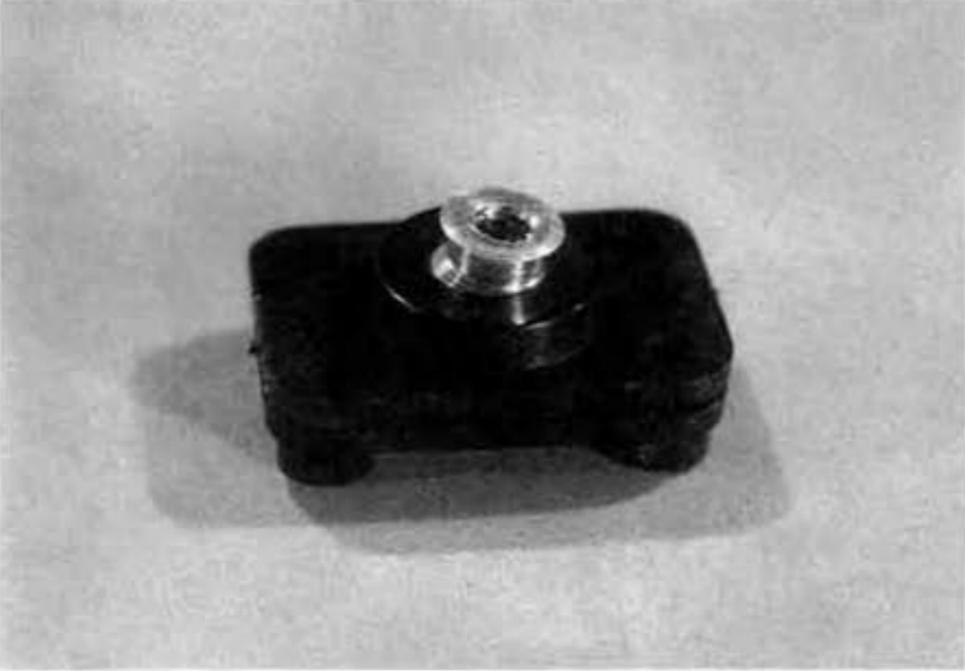
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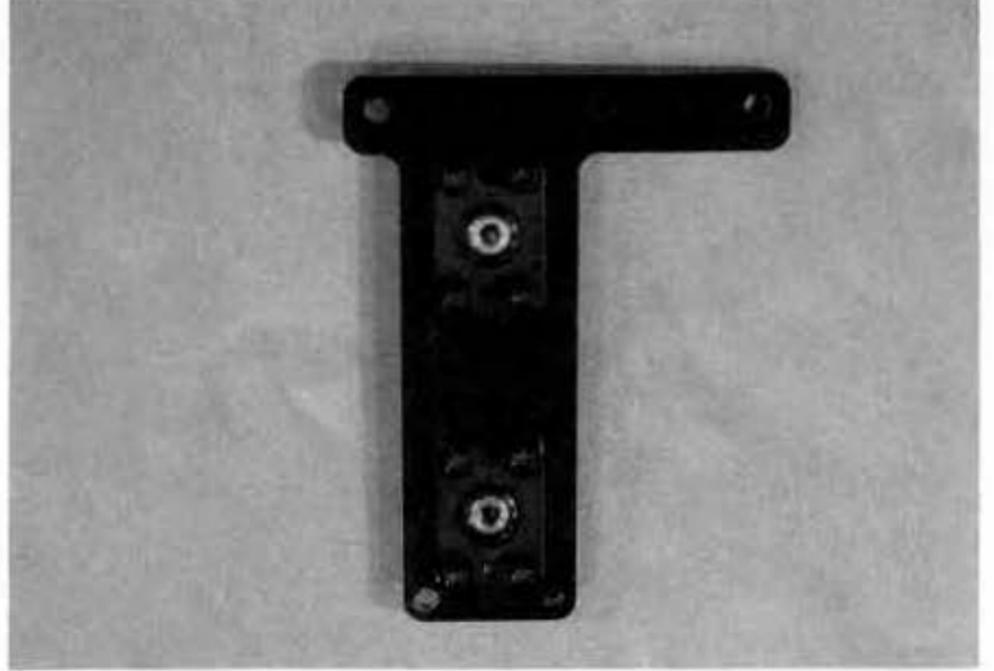
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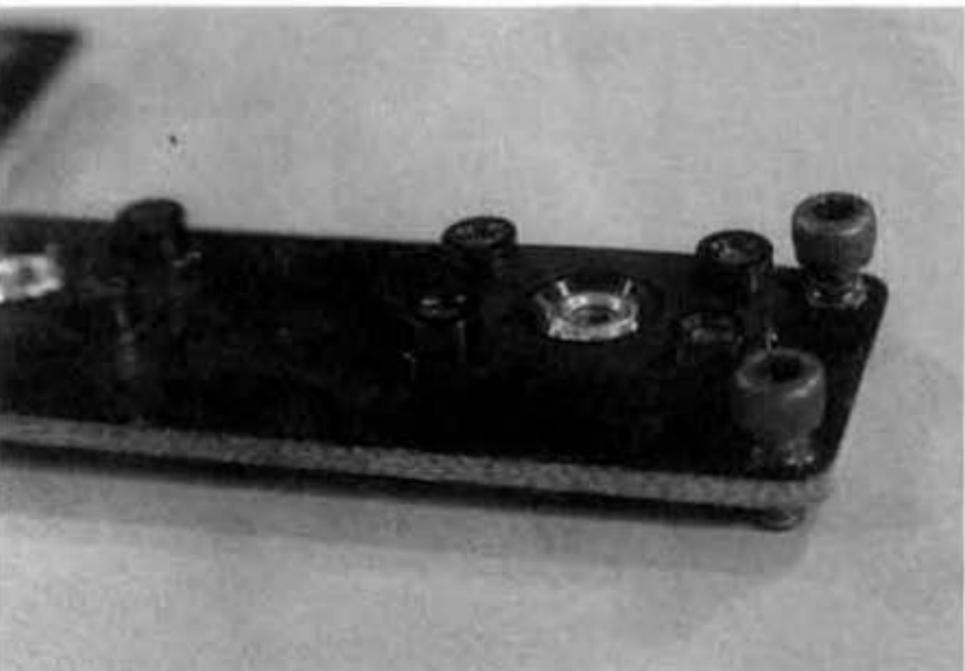
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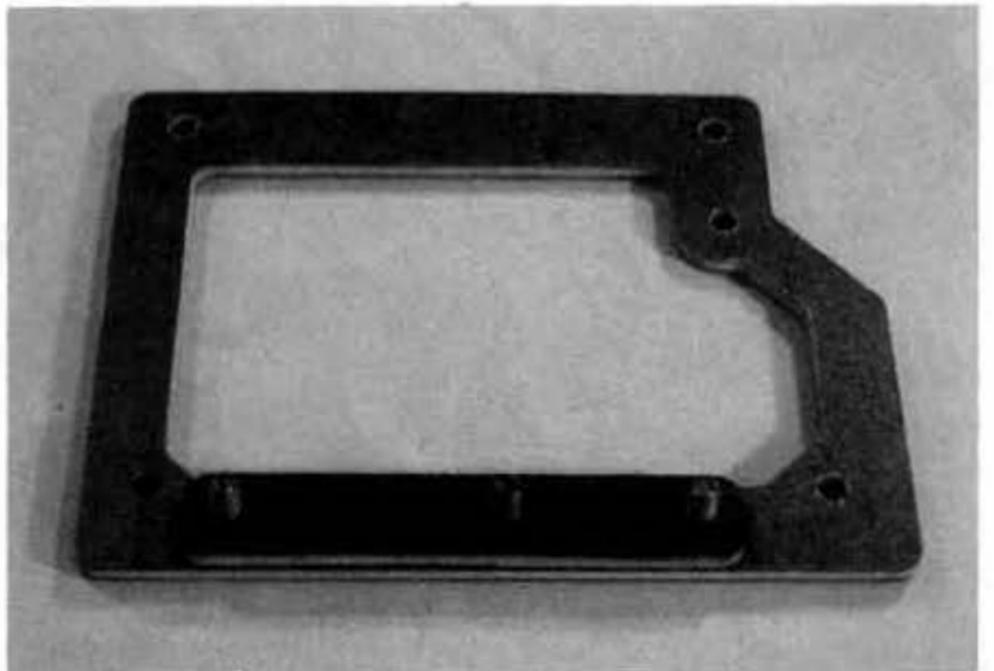
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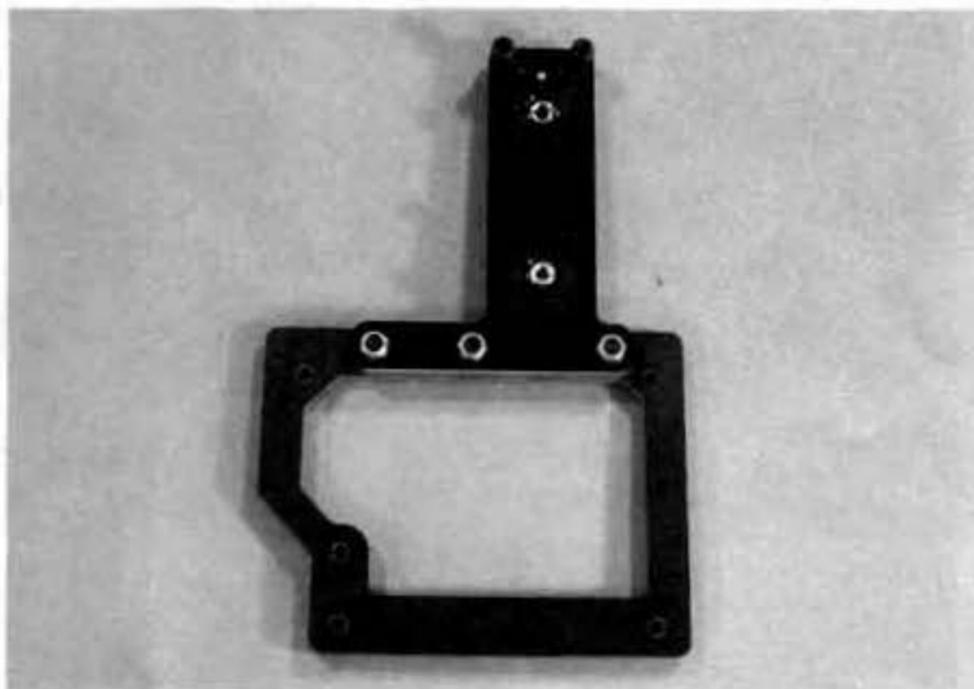
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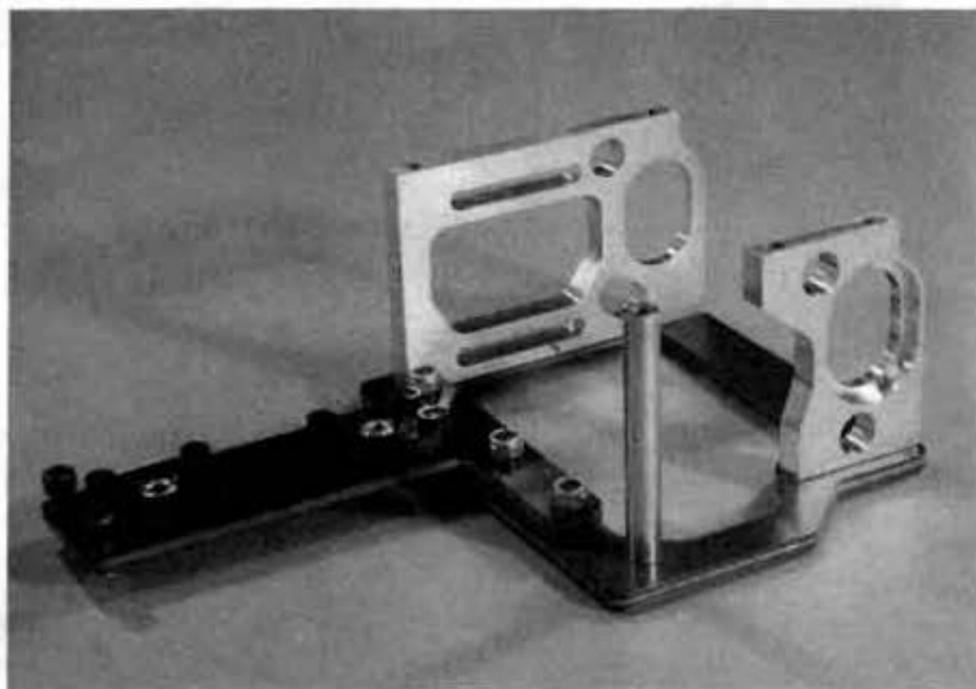
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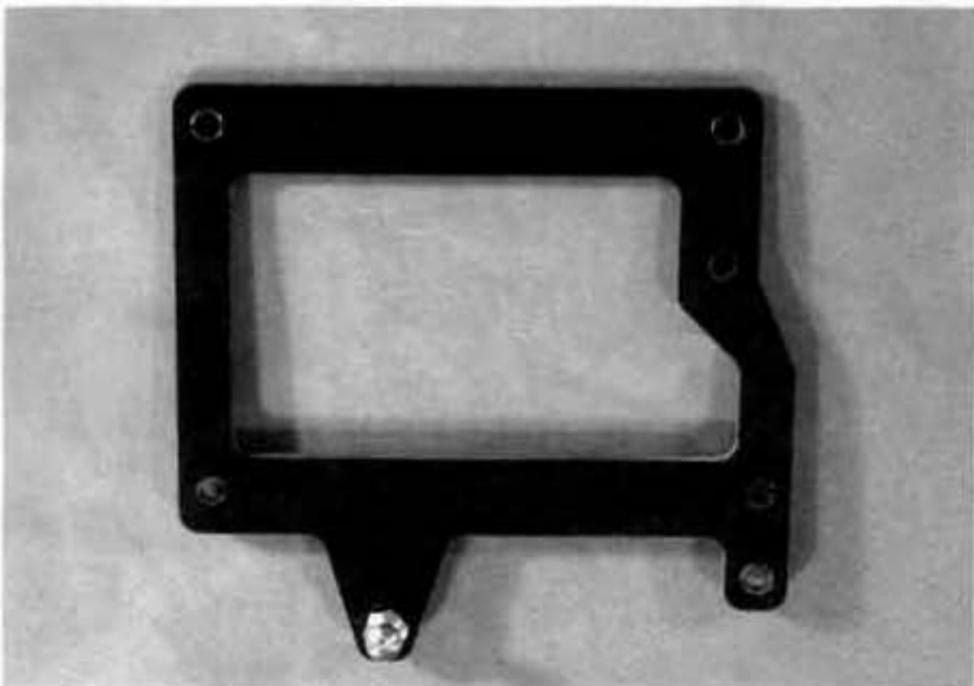
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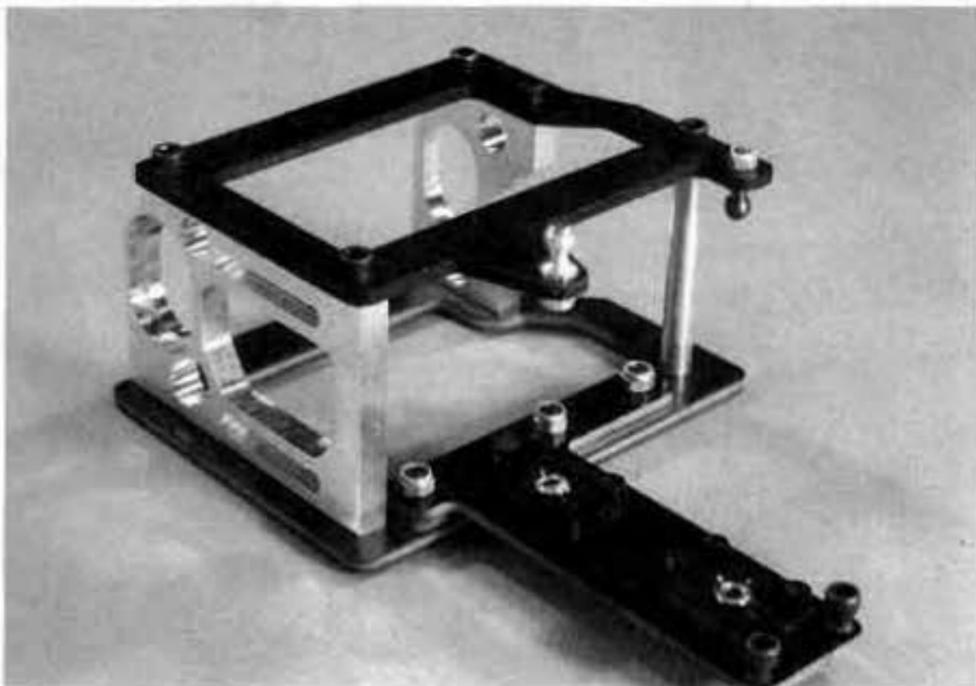
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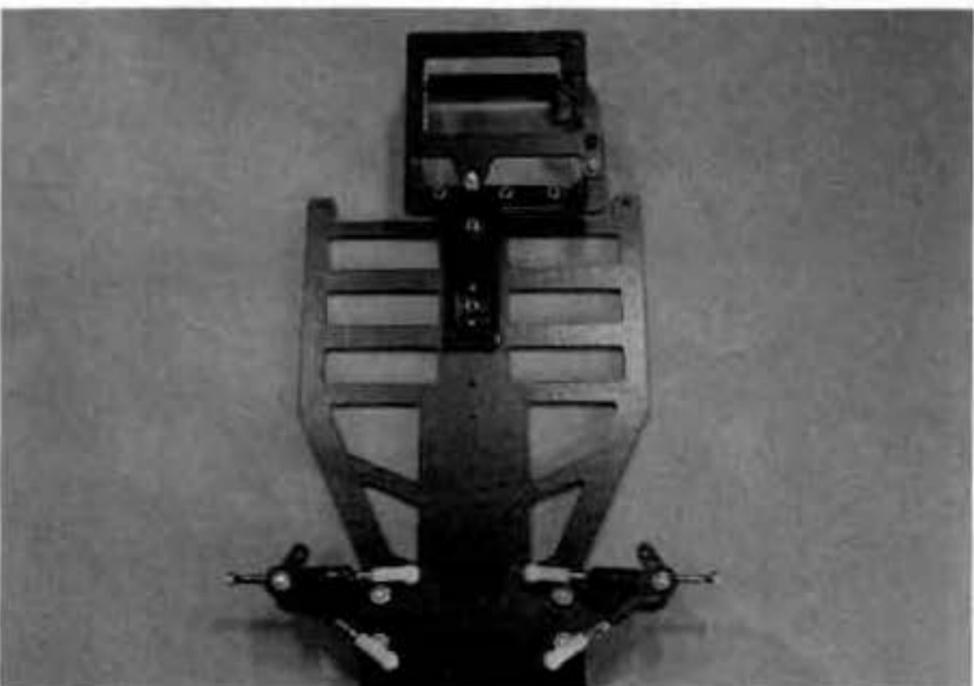
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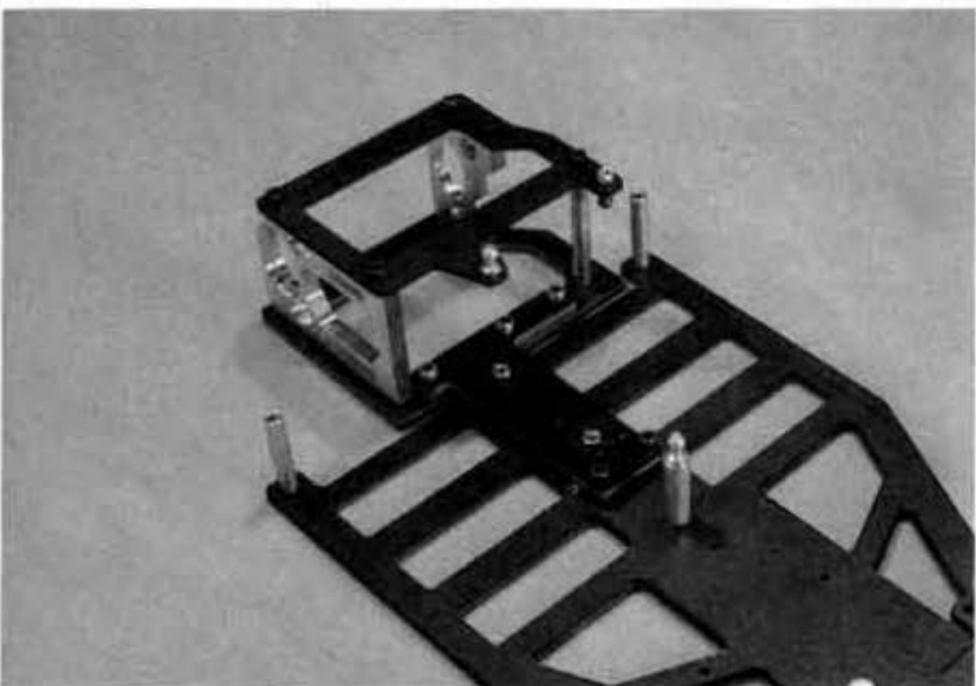
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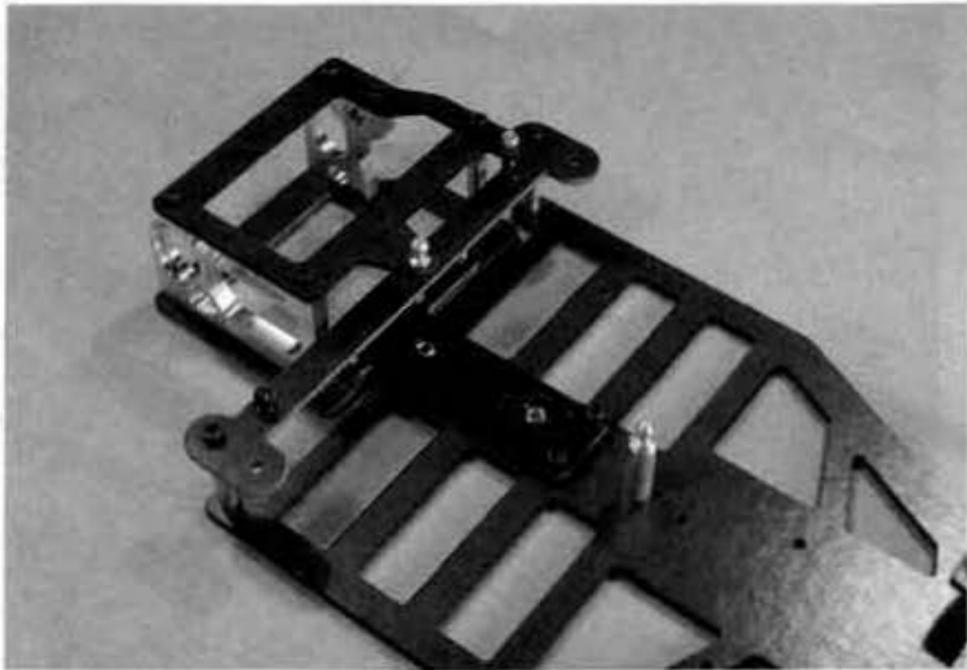
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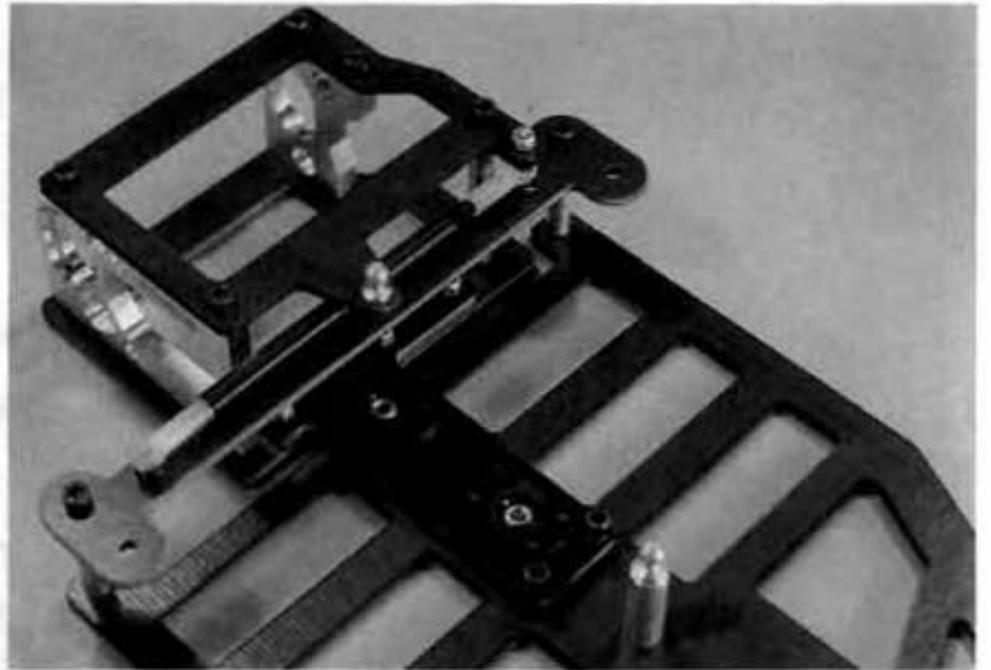
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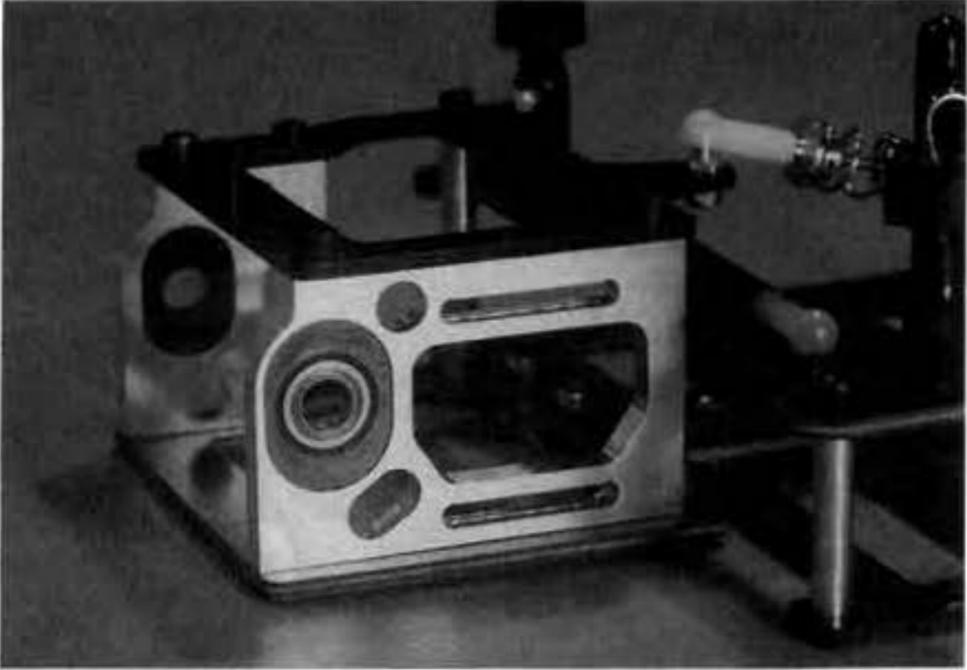
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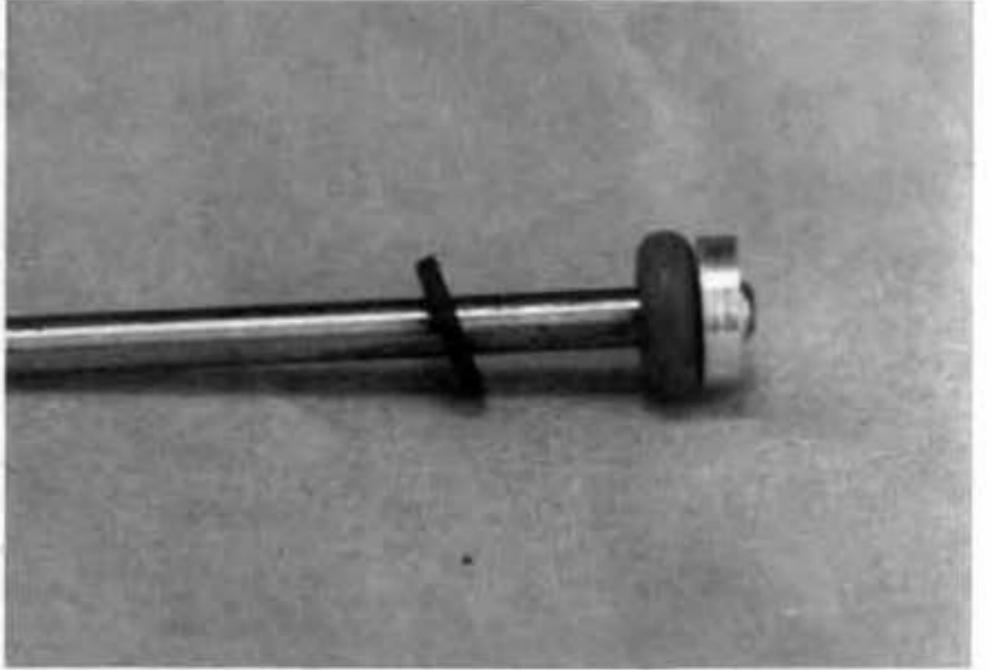
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STEP 27



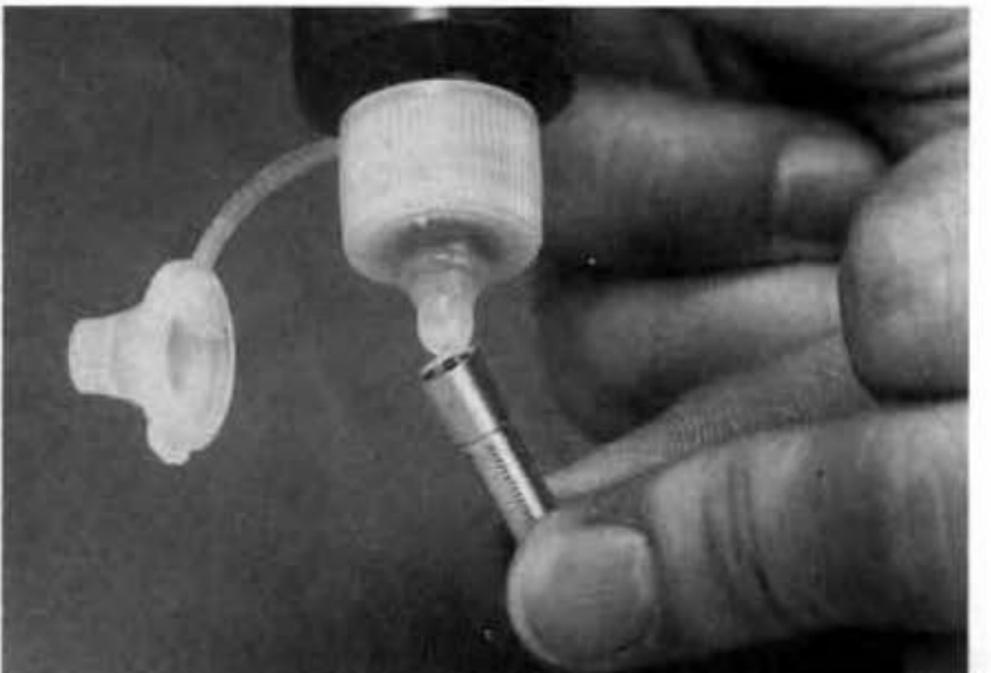
STEP 28



STEP 29



STEP 30



..... Step 34, Install the shock spring over the shock body, against the adjusting nut, and attach the aluminum rod end cap on the piston as shown using the 4-40 x 1/8" set screw to hold it in place. Next, thread a nylon ball cup on the end cap all the way until the threads seat. Snap the shock in place on the chassis. The shock should be adjusted so that the rear pod when view from the side can flex both up and down without bottoming the shock. This is easily adjusted by changing the shock length, by turning the ball cups in or out on the shock ends. This is an important adjustment most people miss. It is really important the shock works in both directions.

DIFFERENTIAL ASSEMBLY...

..... Step 35, Locate bag 3 and empty into a container. There are many small parts that will roll off the table in this bag. Locate the Magic! spur gear and two polished steel diff rings. Put a small amount of diff grease onto one ring and snap into gear, greased side facing in. Now put a 1/8" diff ball in each hole.

..... Step 36, Take the other diff ring and lightly grease and snap into the other side of the spur gear, greased side towards the balls.

..... Step 37, Find the 1/4 x 3/8 non-flanged bearing, the other four bearings are flanged. Press bearing into center hole of spur gear. If the bearing is a tight fit, take a hobby knife and relieve the hole slightly.

..... Step 38, Now slide the spur gear onto the diff axle. Make sure the drive ring seats properly on the lip of the diff hub on the axle.

..... Step 39, Next press a flanged bearing into the diff ring side of the aluminum diff hub and into the front of one rear wheel. Now slide the diff hub onto the axle, then slide the wheel onto the axle and press onto the diff hub. Make sure that the diff ring seats properly onto the diff hub.

..... Step 40, Now put the aluminum cone washer on the axle inside the wheel. The convex (pointed) side should ride on the race of the ball bearing.

..... Step 41, Add two belleville washers to the axle making sure the convex side faces out on both washers

..... Step 42, Now thread the 8-32 nylon nut onto the axle just tight enough to hold everything in place. We will adjust the diff later.

..... Step 43, Next place the two remaining 1/4 x 3/8 bearings into the rear ride height adjusters located in the rear pod. They should be a tight fit. Locate one of the two thin 1/4" bearing shims and slide it over the axle so it rests against the diff hub on the axle. Now slide the diff assembly through the motor pod from the right side.

Find the other thin 1/4" bearing shim and slide it over the axle so it rests against the left rear bearing. Now locate the left side hub and the 8-32 set screw. Thread the set screw into the hub, slide the hub onto the axle and secure leaving some end play in the rear axle. Try to get the hub as close to the bearing as possible without binding it. It is also a good idea to file a flat spot where the set screw hits the axle. Once you have set the end play in the rear axle, remove the hub and look for the burr left by the set screw. Now take a small flat file and file a flat that is a little bigger than the burr, usually about 1/4" long down the long axis of the axle but about 1/8" across. Don't file the axle down too far as it is hollow and it will weaken!

..... Step 44, Next lets install the left rear tire with the two remaining 4-40 x 3/4" cap screws. Make sure that the screws are tightened equally to ensure the tire will run true.

..... Step 45, Okay, lets install the front tires. Press one 1/8 x 5/16 bearing into each side of each front wheel. All the contents of bag 5 should be used up. Now place a wheel on each spindle and secure each with a 4-40 aluminum mini nut from bag 1. On some very tight 4 cell tracks it might help to slightly trim the front of the upper ball supports to get a little more steering throw.

..... Step 46, Now it is time to adjust the differential. Turn the car so that the rear end is facing towards you. Take the left rear tire in your left hand and the right rear tire in your right hand. Now with your right thumb try to rotate the spur gear pushing forward from the top of the spur gear. If you did not over tighten the differential nut the gear should spin freely. Tighten the nut on the axle 1/4 turn at a time, checking the spur each time, until the spur gear is no longer able to be turned. It is important to adjust the diff so the spur gear is just locked up when you try to move it. If you over tighten the diff, you will flatten the balls and the diff will not work well. If you hold the spur and turn one wheel the other should rotate in an opposite direction. The smoother you can get your diff to work, the better your car will handle.

MOUNTING THE STEERING SERVO...

..... Step 47, The steering servo can be mounted either on the front axle or behind it. The linkage and mounting balls are left over from parts bag 1. We like to mount the servo on the chassis but have it done both ways in the photos to show how it should look.

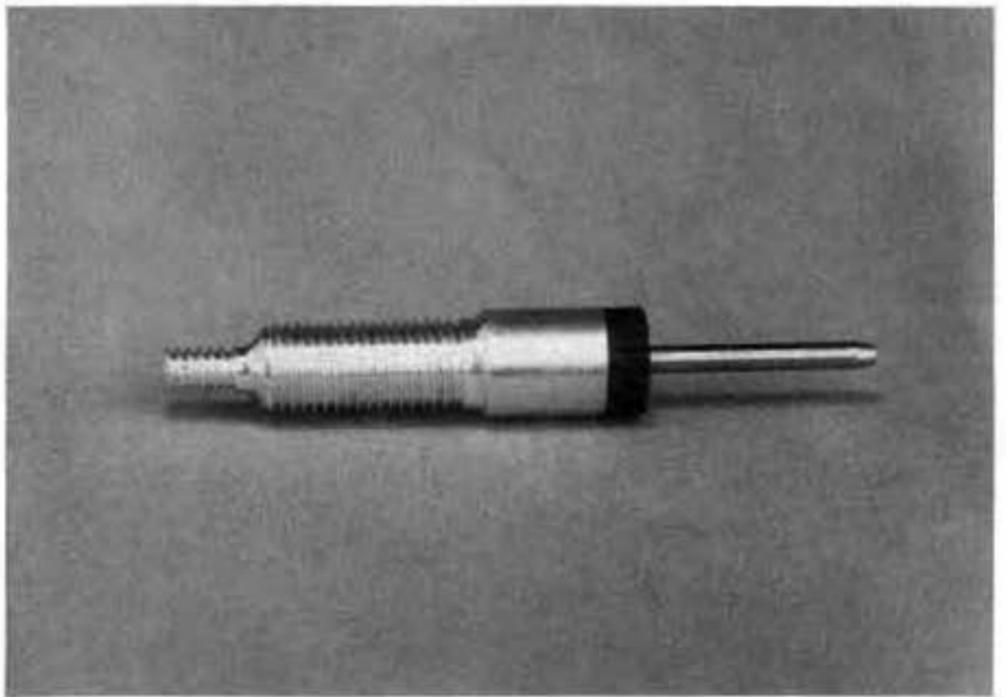
..... A When mounting the servo to the axle plate mount it with servo tape making sure that the linkage points toward the front slightly and mounts to the servo saver as close to the chassis plate as possible. When using this setup mount the steering linkage ball studs to the bottoms of the front spindles. The idea is to try to make the steering linkage as parallel with the "A" arms as possible when viewing the car from the front or the rear.

..... B. If you mount the servo to the chassis there is several

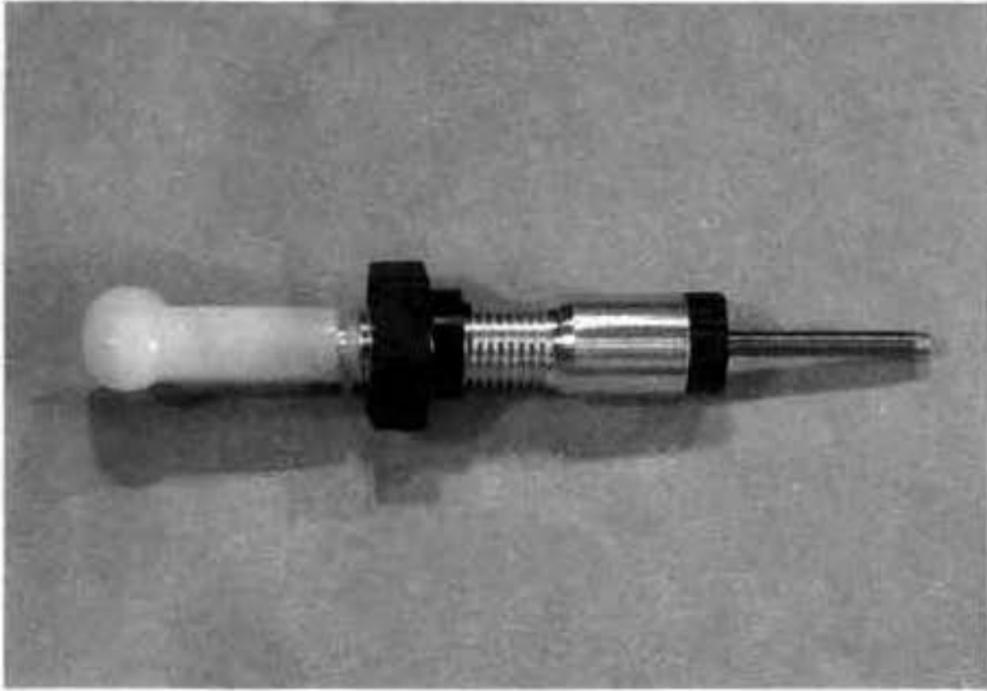
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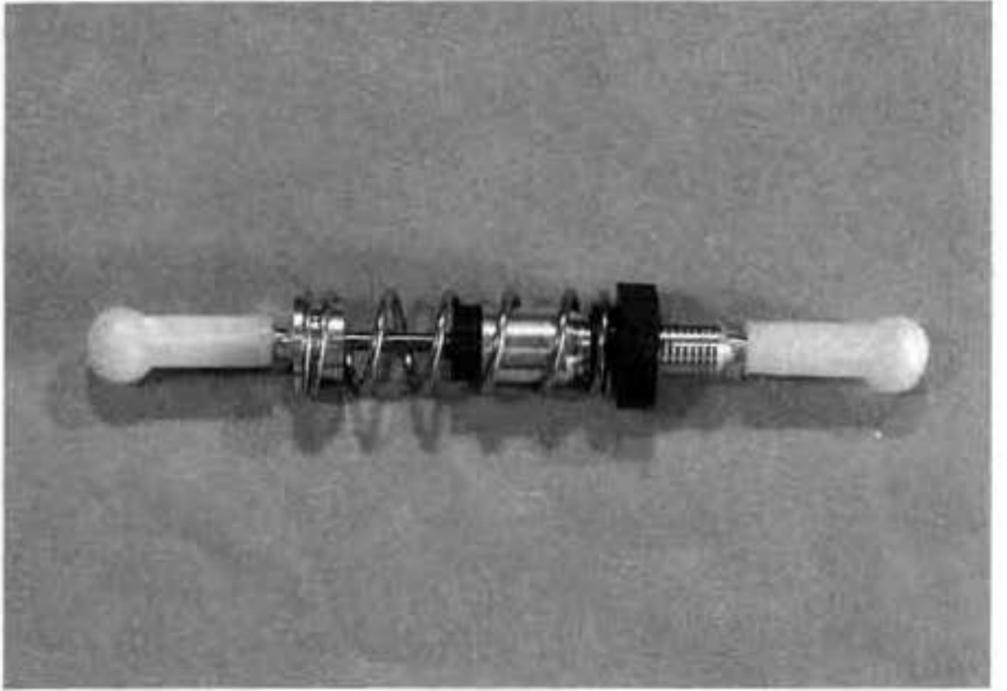
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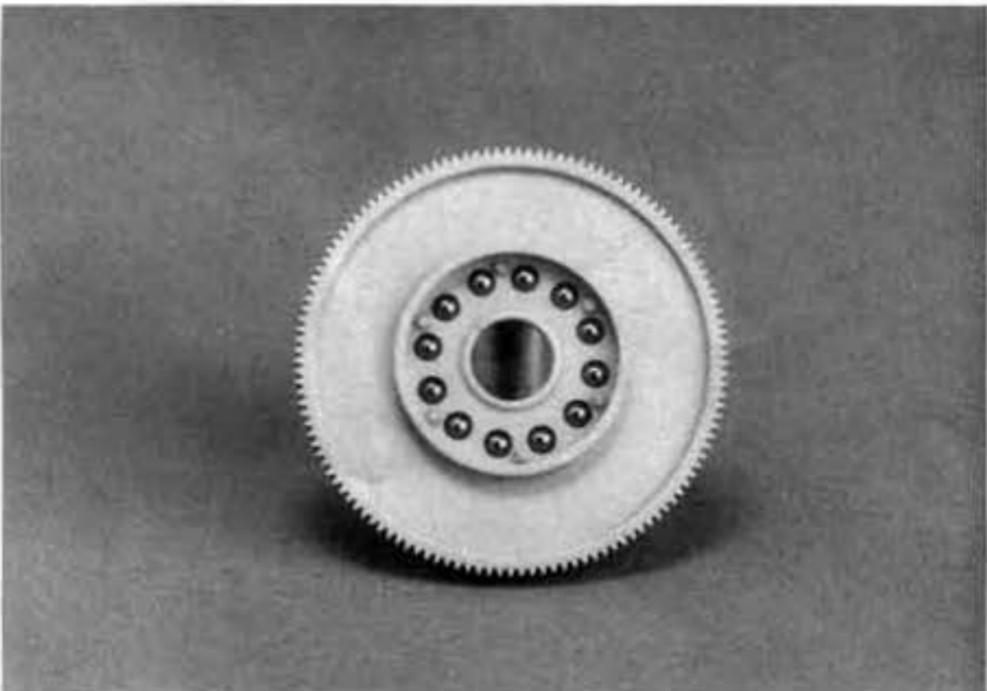
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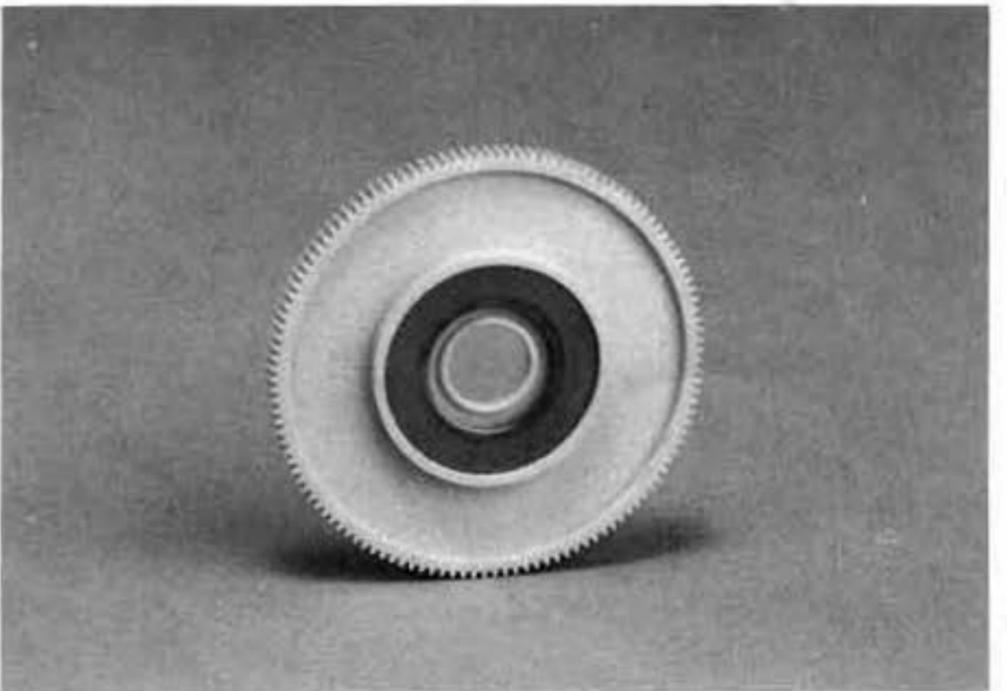
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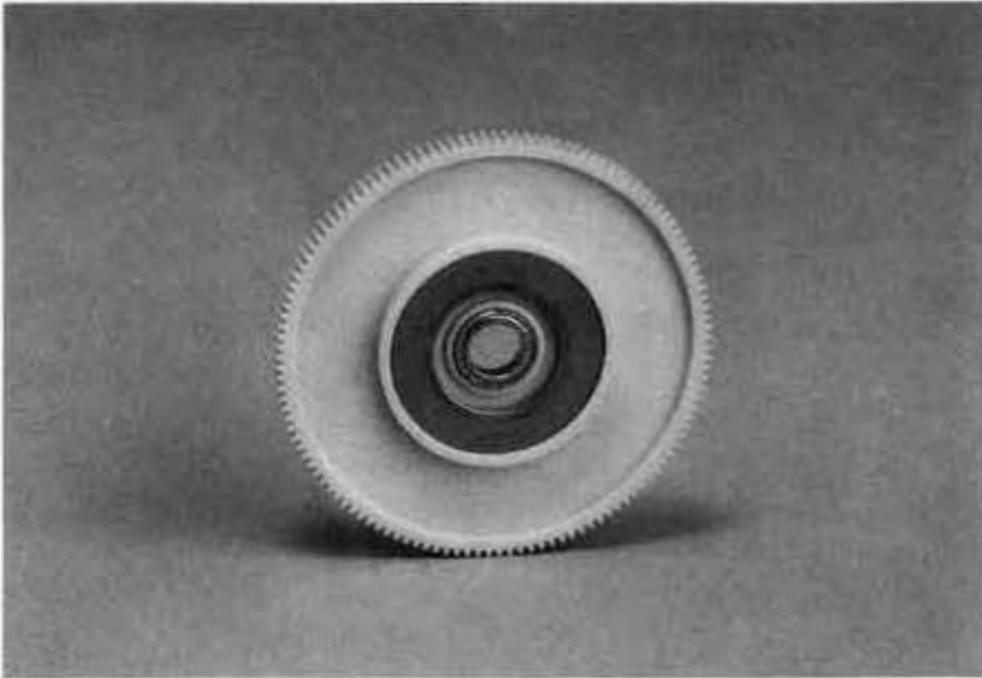
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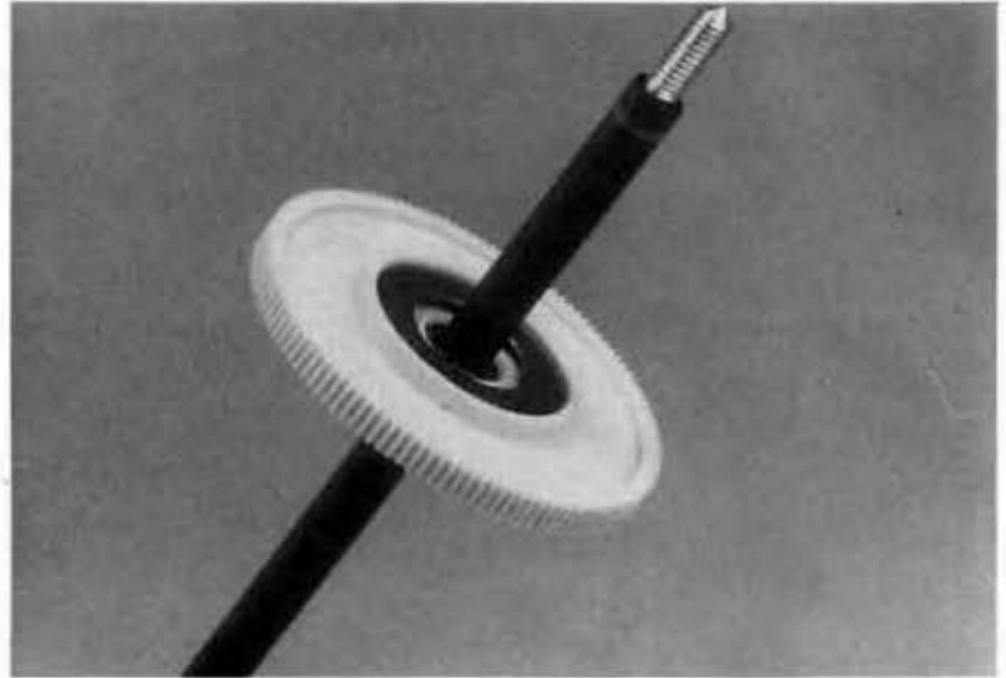
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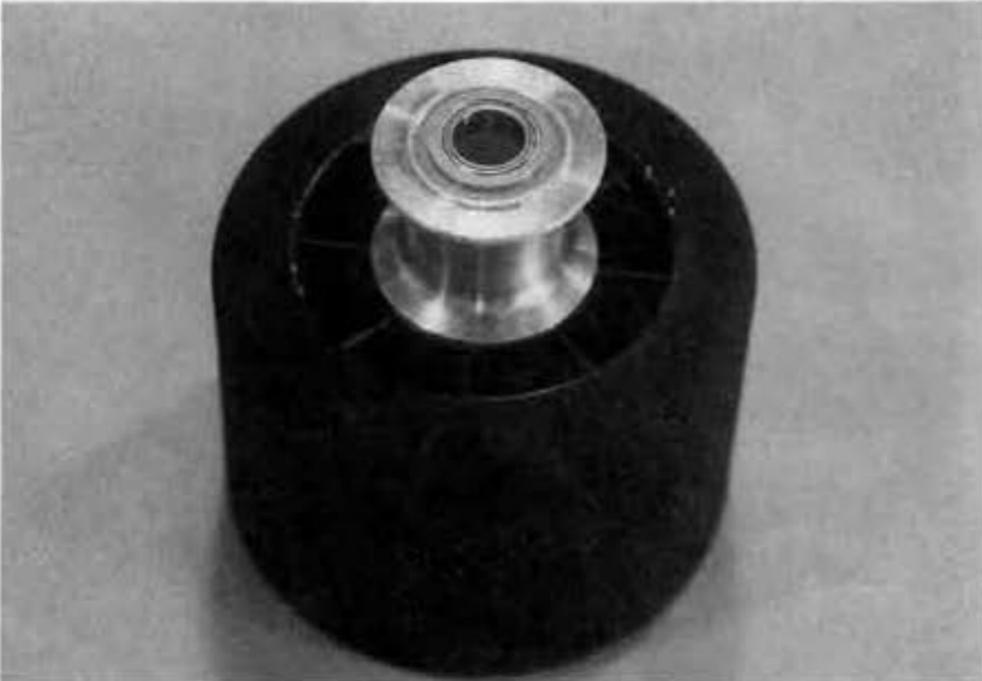
STEP 37



STEP 38



STEP 39



STEP 40



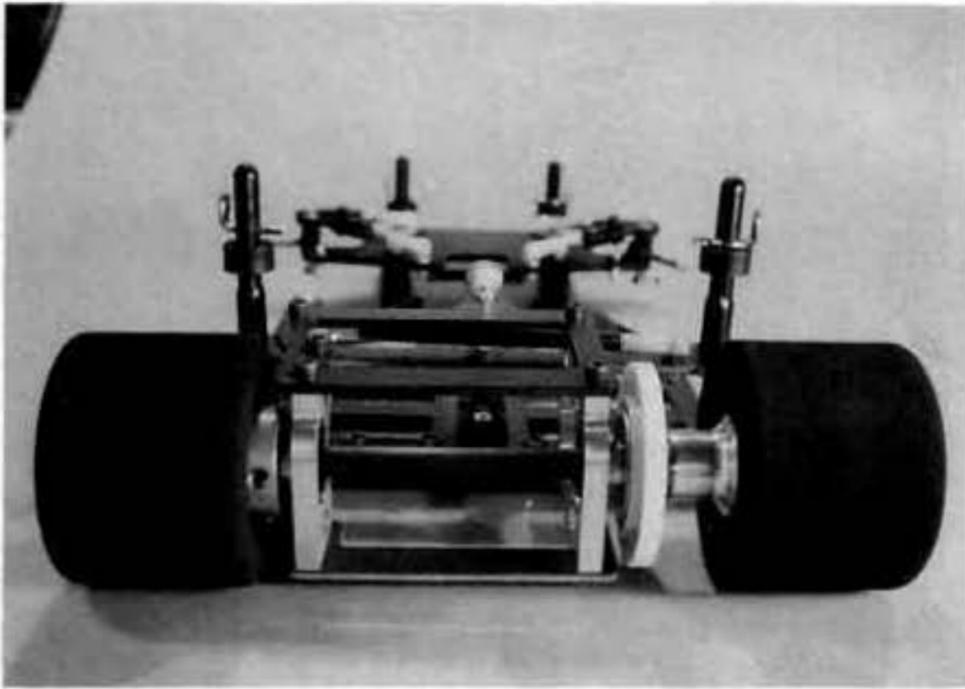
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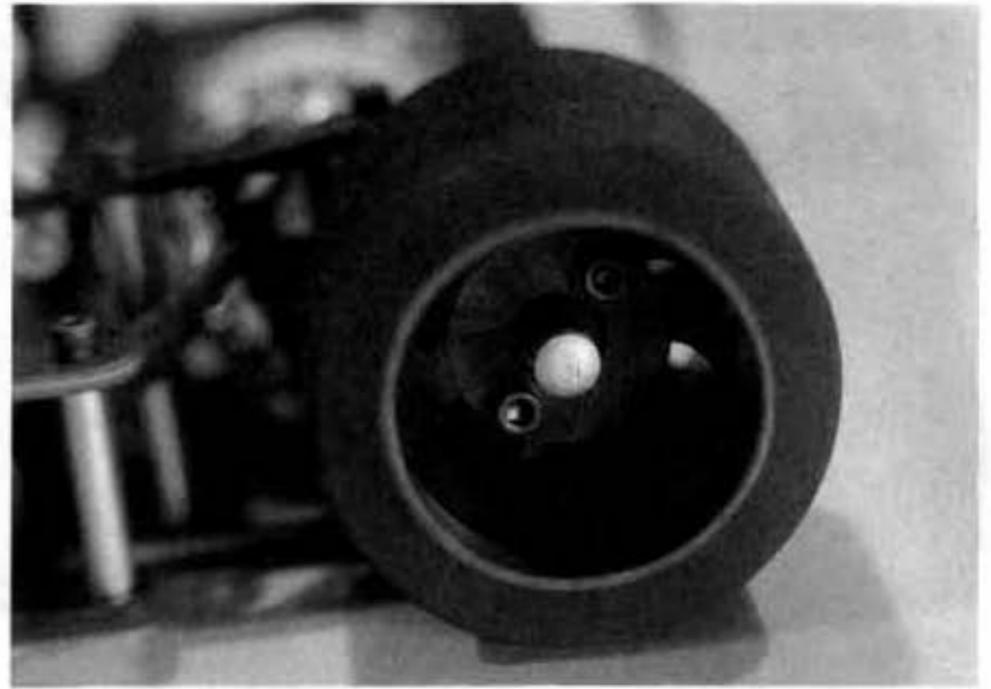
STEP 42



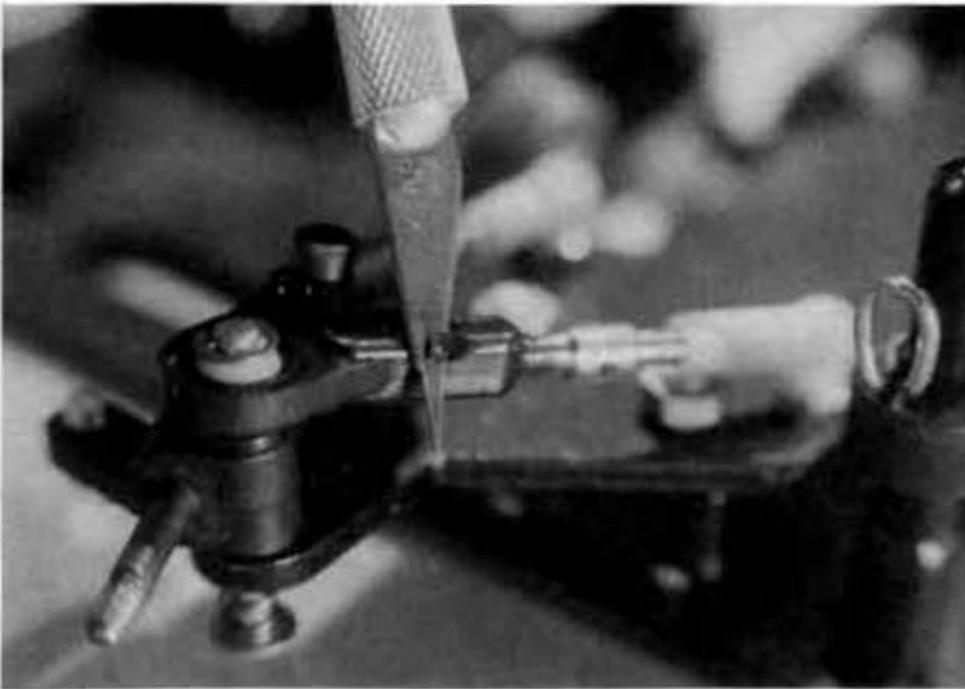
STEP 43



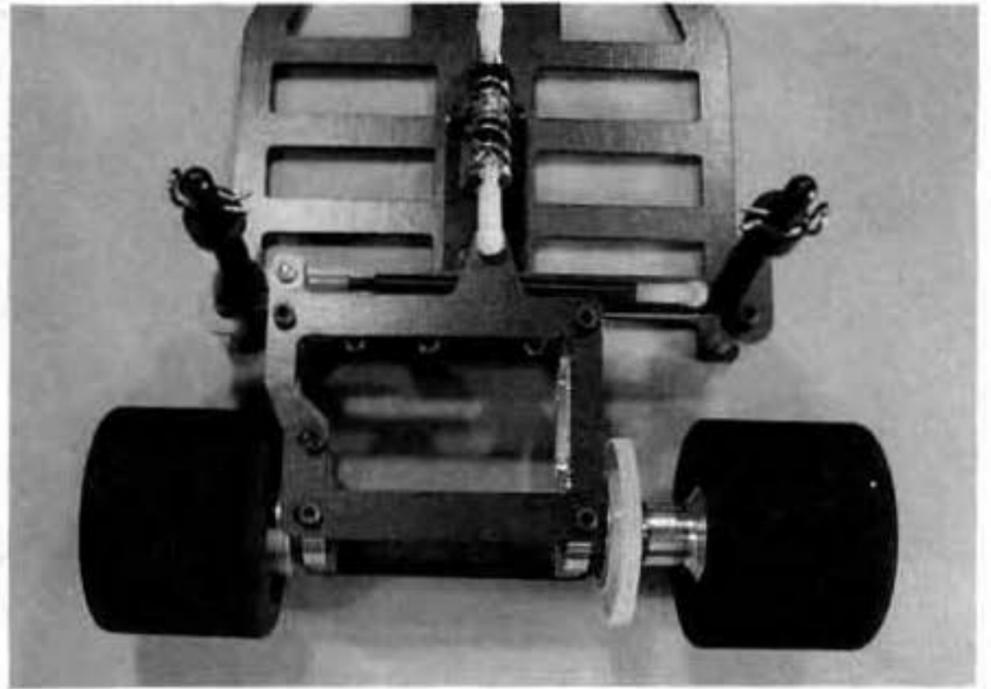
STEP 44



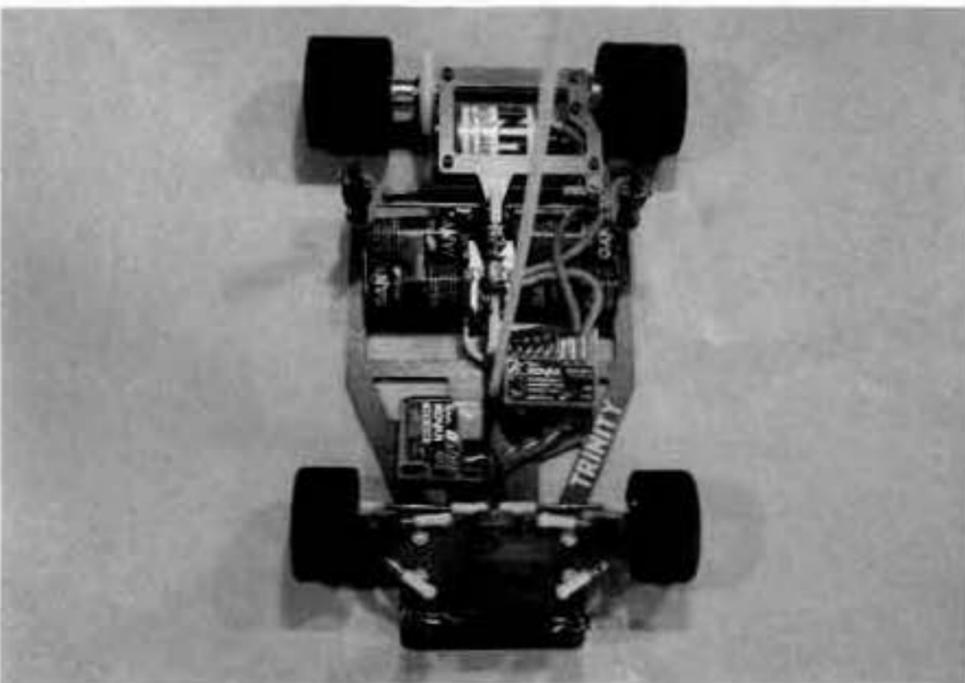
STEP 45



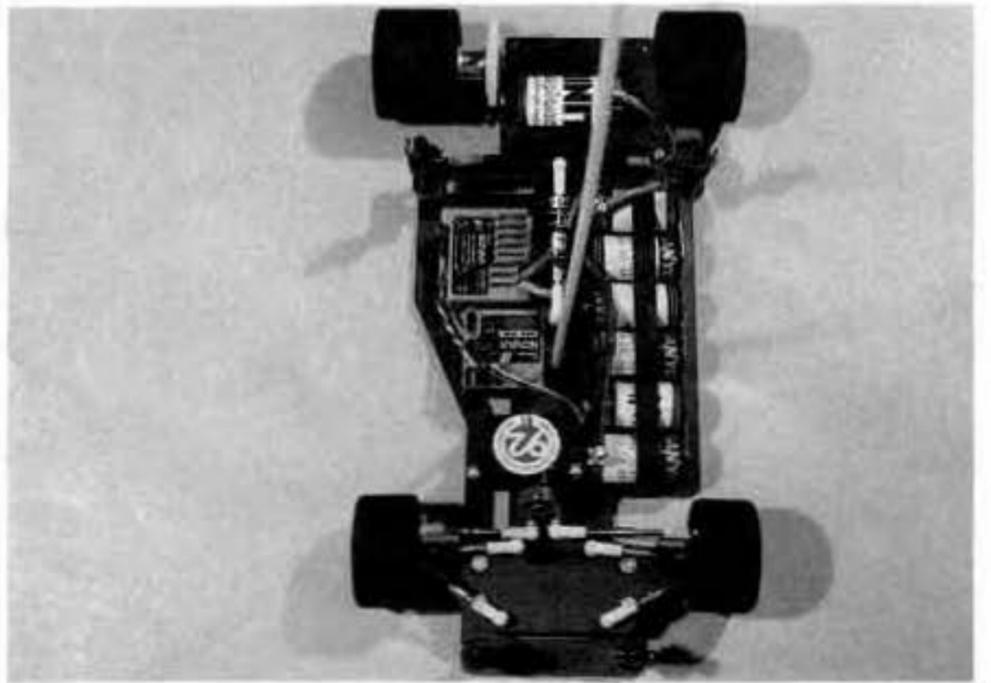
STEP 46



STEP 47



STEP 47



ways to go. The easiest is to use Associated 8435 servo mounts. These raise up the front of the servo so the servo saver can point down. A spacer of kydex or graphite can also be used to raise up the servo. And everything else is set up like method A

.....C. The easiest way is to mount the linkage ball studs to the top of the spindles and tape the servo to the chassis. Have the servo saver point up, but mount the linkage to the servo saver as low as possible. This way gives a little bump steer, but is only a problem on bumpy tracks. Any of the three methods will work fine.

Parts Bags...

BAG 1

- 1 - Front Axle
- 2 - Front Upper Mounts
- 2 - Delrin Balls
- 2 - Kingpins
- 2 - Steering Blocks
- 4 - .9 Turnbuckles
- 2 - 1.6 Turnbuckles
- 2 - Clevis
- 2 - Springs
- 4 - E-Clips
- 8 - Aluminum Ball Studs
- 6 - Aluminum Mini Nuts
- 8 - Ball Cups
- 2 - Large Spacers
- 4 - Small Spacers
- 4 - 8-32 x 7/8 Aluminum Flat Heads
- 4 - 8-32 Aluminum Nuts
- 4 - 1/8 x 1/4 Steel Washers
- 2 - 4-40 x 3/8 Cap Screws

BAG 2

- 1 - T-Bar
- 1 - Spacer
- 1 - Lower Pod Plate
- 1 - Upper Pod Plate
- 1 - Left Side Aluminum Plate
- 1 - Right Side Aluminum Plate
- 2 - Aluminum Pivot Balls
- 2 - Nylon Upper Pivot Ball Sockets
- 2 - Nylon Lower Pivot Ball Sockets
- 8 - 2-56 x 1/4
- 2 - .850 Stand Off For The Rear Chassis Brace
- 1 - 1.390 Stand Off For The Rear Pod
- 1 - Rear Brace
- 1 - Damper Tube
- 9 - 4-40 x 1/4 Cap
- 13 - 4-40 x 3/8 Flat Heads
- 1 - 4-40 Aluminum nut
- 1 - Ride Height Adjuster Tree
- 1-.750 Stand Off For The Front Shock Mount
- 2-4/40 Ball Studs

BAG 3 Revolver 12p, On-road

- 1 - Chassis
- 4 - 2" Body Posts
- 4 - Body Post Collars
- 4 - 4-40 Set Screws
- 2 - 4-40 x 3/8 Cap Screws
- 2 - 4-40 x 3/8 Flat Head Screws
- 4 - Body Clips

BAG 3 Revolver 12ss, Super Speedway

- 1 - Oval Chassis
- 1 - Nerf Wing
- 4 - 3" Body Posts
- 4 - Body Post Collars
- 2 - 4-40 x 3/8 Cap Screws
- 6 - 4-40 x 3/8 Flat Head Screws
- 2 - 4-40 Mini-Nuts
- 4 - Body Clips

BAG 4

- 1 - Aluminum Shock Body
- 1 - Shock Piston & Shaft
- 1 - O - Ring
- 1 - Brass Washer
- 1 - Pressurization Spring
- 1 - Shock Cap
- 1 - Aluminum Spring Adjusting Nut
- 1 - Aluminum Rod End End Cap
- 2 - Nylon Ball Cups
- 1- 4-40 x 1/8 Set Screw

BAG 5

- 1 - Rear Axle
- 1 - Spur Gear
- 2 - Differential Rings
- 8 - Differential Balls
- 1 - Right Differential Hub
- 1 - Left Hub
- 2 - Belleville Washers
- 1 - 8-32 Nut
- 1 - Thrust Cone
- 4 - 1/4 x 3/8 Flanged Bearings
- 1 - 1/4 x 3/8 Non - Flanged
- 4 - 1/8 x 5/16 Flanged Bearings
- 1 - 8-32 set screws
- 2 - 1/4 ID Bearing Shims
- 2 - 4-40 x 3/4 Cap Screws

On-road chassis setup and tuning...

..... Now that you have your chassis assembled, we can start on the setup. Always setup your chassis with the motor and batteries installed. This is important, because the chassis will sit differently without the extra weight, and all your adjustments will be worthless when the motor and batteries go in.

You always want to setup your car on a level smooth surface. If you happen to have a tweak board this will come

in handy for adjusting the final tweak of the car.

The first place to start is to adjust the rear shock and spring that controls the front to rear movement. Back the spring all the way off so that it does not touch the retainers. Holding the car in your hands and viewing the chassis from the side you should be able to move the pod forward and backwards past the point where the lower pod plate is parallel with the chassis. It is important when flexing the pod to the rear, that you are not pulling the shock against the internal pressurization spring. If this happens lengthen the shock by unscrewing the ball cups a turn or two. This is an important Step that most people do not do. When the shock is adjusted correctly it works in both directions and makes the chassis work over bumps. On very bumpy tracks, use the rearward ball mounting hole for the shock on the top plate. This will give more travel to the front and back.

Now place the car on a flat surface and adjust the spring so that the chassis sits level. Set the two tweak screws on the T bar so they just touch the chassis and stay in contact with it when you move the rear pod from side to side.

Now on to the front end. The Revolver 12 front end is the most adjustable on the market. Camber, caster and toe in are adjusted by turning the tie-rods that make up the upper "A" arm. These items can all be changed independently from side to side, to really fine tune your car to any possible track conditions.

The best place to start is to set the caster to 1 or 2 degrees. This will change to 0 degrees as the car corners, giving more steering during high speed cornering. By increasing this to 4 or 5 degrees you will get more steering coming out of the turns and less going in, but more stability down the straight. Neither setup is the rule, it all depends on your driving style and the track. Remember for more cornering going into a turn, use less caster, for less steering going in to a turn use more caster. Adjust this to suit your driving style and horsepower.

Looking at the car from the front we usually set the car up with some camber. Tilt the front tires so that the tops of the front tires point inward toward the center of the car (negative camber) about 1/16th of an inch on each side. The best item to use to set this is a draftsman's triangle. Place one side of the triangle flat on the working surface and the other against the outside of the tire. Check the space between the triangle and tire at the top. This space should be about 1/16th of an inch. This will keep the front tires flatter on the track surface during cornering, for more traction and even tire wear. After running a few laps check tire wear and increase the camber if the outside of the tire is wearing more then the inside.

Always try to run 1 or 2 degrees toe in. Toe in will make the car run in a straight line, and be more consistent in the turns. Too much toe in will hurt the cars' entrance speed into a turn. Always check toe in by slightly pulling the front tires from the rear. This takes out any play in the suspen-

sion and bearings, and is the position the wheels will assume as the car moves forward.

In most cases the supplied grease is all the dampening you will need in the front suspension. To increase the dampening, a light silicone lube will work, like Trinity RC 6009. The more dampening you use the slower the suspension works and the less steering you get. This is the setup to use on high speed tracks, with fast sweepers.

Once you get the front end set the way you want, it is time to adjust the tweak. If you have a tweak board set the car on the board and adjust the T Bar tweak screws until the weight is even on both front wheels. Remember if you loosen one you must tighten the other. The screws must touch the chassis plate at all times.

For those who do not have a tweak board use this method. With the car sitting on a smooth flat surface, put a hobby knife blade directly under the center of the rear of the car and lift up the rear pod. Both rear tires should lift up off the surface at the same time. Do this while looking at the car from the rear. Adjust the tweak screws until both rear tires lift at the same time. It should never take more then 1 turn either way to adjust the chassis so there is no tweak in it.

RIDE HEIGHT

Now that your chassis is all adjusted it is time to start tuning it. Always try to run the chassis as low to the track surface as possible without it dragging. Run it parallel to the track surface. For more steering lower the front, and for more rear bite raise the front, but for starters keep it level.

MORE STEERING

To get more steering in your Revolver 12, try these things.

- Lower the front of the chassis.
- Add More camber.
- Raise the rear upper "A" arm mounting ball so there is more reactive caster.
- Use softer front springs.
- Use less front dampening.
- Decrease rear dampening by using a lighter oil in rear shocks
- Use stiffer side to side springs in the rear.

LESS STEERING

- Remove camber
- Raise front chassis ride height
- Use stiffer front springs
- Use more front dampening
- Raise front and rear "A" arm mounting balls so upper "A" arm is closer to parallel with the lower graphite plate.
- Use heavier rear dampening

MORE REAR TRACTION

- Use softer rear springs and light oil in rear shocks
- Raise front of chassis
- Make rear track narrower

Your Revolver 12 is more adjustable than any car you may have owned before. Because of its advanced design, any small changes you make in the suspensions' setup will show a change on the track. Remember to always make small changes, and to make one at a time. Write down everything you do, so that if you totally mess up the setup, you have a basic setup to go back to.

As with any car designed with a "T" bar, there is one thing you must remember to keep your car always handling the best. Change the "T" bar often. The rear pod flexes the "T" bar as the car runs, which in turn slowly breaks up the material in the "T" bar. When this happens the "T" bar loses its memory and when it is flexed, it no longer goes back to its original shape, it stays bent, not good for the handling.

This usually takes a race day or so. And when it does it makes your car tweak easily and handle lazy through the turns. It's a slow process which makes the car a few hundreds slower each time and is hardly noticed, until you change the "T" bar. A fresh "T" bar makes the cars handling precise and crisp. It will turn in better and get more bite coming off the corners. The difference is not to be believed.

We change "T" bars after every race day, just to be safe, and of course after any major wrecks. At a race like the nats, we would make the change after each days qualifying. This is one handling secret a lot of good racers really do not know about.

Another item to change is the front end springs. These springs are under a lot of load, especially while oval racing and they can collapse, and lose their tension. They should be changed every time you rebuild your car. Its the same type of senario as the "T" bar, the problem slowly creeps up on you until you are scratching your head, trying to figure out why your car does not work like it use to. Or why no matter how you adjust your car it does not seem to make a difference. Sure signs of a bad "T" bar, or collapsed springs.

Super Speedway chassis set up and tuning

The set up suggestions for the on-road car are also good for the oval car except for the following changes.

When you set up the front end the outside (right) tire should have 2 degrees negative camber. That means the top of the tire should be angled in towards the center line of the car. If you have a draftsman's triangle there should be about 1/16" between the top of the right tire and the edge of the triangle.

The inside (left) tire should have 1/32" or 1 degree of positive camber. That means that the top edge of the tire should angle out away from the center line of the car. Check this tire the same way as the inside tire except that the space between the tire and the edge of the triangle will

be at the bottom of the tire. When this is done both tires should be leaning towards the left. Once you run the car keep adjusting the camber until both tires wear flat. Some tracks will need more camber and some tracks will need less.

For the caster settings start with a degree or two on each side. This will make the car very stable. On some tracks we use about 3 degrees negative caster (leaned back) on the right side and about one degree negative caster on the left side. It is different on most tracks. The more caster the more the car steers coming out of a turn. Less caster will make a car steer more entering a turn. A degree or two on each side will always be safe. Remember when adjusting the castor always go back and check the camber setting and toe-in, as it will move at the same time.

Once you have the motor and batteries installed in the car you must check the amount of weight on the rear tires. All adjustments will be done using the tweak screws on the "T" bar, and of course must be done with all the batteries, radio gear and motor in the car, just like you are going to run it on the track.

The way to check this is to place the car on a flat level surface with the rear of the car facing you. Next grab a screw driver or hobby knife and place the blade under the rear pod top plate in line with the center shock. Gently lift up the car with the knife and see which rear wheel comes off the table first. The proper initial set up should be that the right rear lifts up about 1/8" before the left wheel leaves the table. Now the car is set up left rear heavy. This set up will make the car neutral under most conditions.

Althought it seems to be tweaked to the left set up like this, when the car is running on the track, with all the offset left weight it will be neutral handling. If the car is loose coming off the corners put more weight on the left rear tire by adjusting the tweak screws, so that the right rear tire lifts off the block even more before the left tire.

Now the opposite should be done if you need more steering. The closer you get the rear tires to lift off the block together the more steering you will get. If the left tire lifts before the right, you will have tons of steering. There should never be anytime that you would run this type of setup.

Well thats it for now. Good luck with your new Revolver car kit, and remember to not beat the competition too badly at the next race!!, yeah right!

Until the next car kit!
Joel "Magic" Johnson™

Revolver

Replacement Parts List

[Click part number
to search eBay](#)

Kits

RE0001	Revolver 12p On-road Kit	1	\$250.00
RE0002	Revolver 12ss Speedway Kit	1	\$275.00

Front End Parts

RE1000	Front Axle	1	\$25.00
RE0024	Front Upper Mounts	2	\$3.99
RE0031	Delrin Balls	2	\$1.99
RE1001	Kingpins	2	\$2.99
RE1002	Steering Blocks	2	\$6.99
RE4014	.9 Turnbuckles	2	\$5.50
RE1003	1.6 Turnbuckles	2	\$6.50
RE0052	Clevis	2	\$2.99
RE1004	Front Suspension Springs	2	\$2.99
RE0059	1/8" E-Clips	12	\$0.99
RE0028	4/40 Aluminum Ball Studs	4	\$4.99
RE0048	4/40 Aluminum Mini Nuts	8	\$4.99
RE0030	Nylon Ball Cups	4	\$2.99
RE1005	Large Front Axle Spacers	2	\$0.99
RE1006	Small Front Axle Spacers	4	\$0.99
RE1007	8-32 x 5/8 Alum Flat Heads	4	\$1.99
EV4018	8-32 Aluminum Nuts	4	\$1.99
RE0058	1/8 x 1/4 Steel Washers	4	\$1.99
RE0065	4-40 x 3/8 Cap Screws	8	\$2.99

Chassis Parts

[Click part number
to search eBay](#)

RE1008	T-Bar	1	\$5.99
RE1009	T Bar Spacer	1	\$2.99
RE1010	Graphite Lower Pod Plate	1	\$12.99
RE1011	Graphite Upper Pod Plate	1	\$12.99
RE1012	Left Side Aluminum Plate	1	\$22.50
RE1013	Right Side Aluminum Plate	1	\$24.50
RE1014	Aluminum Pivot Balls	2	\$5.99
RE0072	Nylon Pivot Ball Socket Set	1	\$2.99
RE0071	2-56 x 1/4 Screws	8	\$2.99
RE1015	.850 Stand Off	1	\$1.99
RE1016	1.390 Stand Off For Pod	1	\$2.59
RE1017	Graphite Rear Chassis Brace	1	\$9.50
RE1018	Damper Tube Kit	1	\$12.99
RE7741	4-40 x 1/4 Cap Screw	9	\$2.00
RE7746	4-40 x 3/8 Flat Head Screws	4	\$2.00
RE0091	Ride Height Adjuster Tree	1	\$2.99

RE7751	.750 Stand off	2	\$5.00
RE1019	Graphite On-Road Chassis	1	\$52.50
RE0085	2" Body Posts	4	\$4.99
RE0086	Body Post Collars	4	\$2.99
RE0087	4-40 x 1/8 Set Screws	8	\$1.99
RE1020	Graphite Oval Chassis	1	\$55.50
RE1021	Graphite Nerf Wing	1	\$3.99
RE1022	3" Body Posts	2	\$2.99
RE0090	Body Clips	6	\$1.79

Shock Parts

RE0032	Complete Shock	1	\$14.99
RE0033	Aluminum Shock Body	1	\$9.99
RE0039	Shock Piston & Shaft	2	\$4.99
RE0035	Silicone O - Ring	4	\$1.99
RE0040	Brass Shock Shaft Washer	4	\$1.99
RE0037	Shock Pressurization Spring	4	\$1.99
RE0034	Shock Cap	2	\$1.99
RE0036	Spring Adjusting Nut	2	\$1.99
RE0038	Aluminum Rod End Cap	2	\$4.99

Differential Parts

RE4012	Graphite Rear Axle	1	\$29.99
RE0093	Differential Rings	2	\$1.99
RE0092	Differential Balls	12	\$2.99
RE1023	Right Differential Hub	1	\$6.99
RE1024	Left Hub	1	\$6.99
RE0081	Belleville Washers	4	\$1.99
RE0080	Thrust Cone	1	\$1.99
RE0057	1/4 x 3/8 Flanged Bearings	2	\$14.00
RE0056	1/4 x 3/8 Non - Flanged	1	\$7.50
RE4011	1/8 x 5/16 Flanged Bearings	2	\$14.00

[Click part number
to search eBay](#)

All part numbers in the RE1000 series are unique to the Revolver 12 series of cars. All other part numbers like RE0093 or RE4012 are common with the EV10 and EV10ss. They are the same parts as EV0093 and EV4012.

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