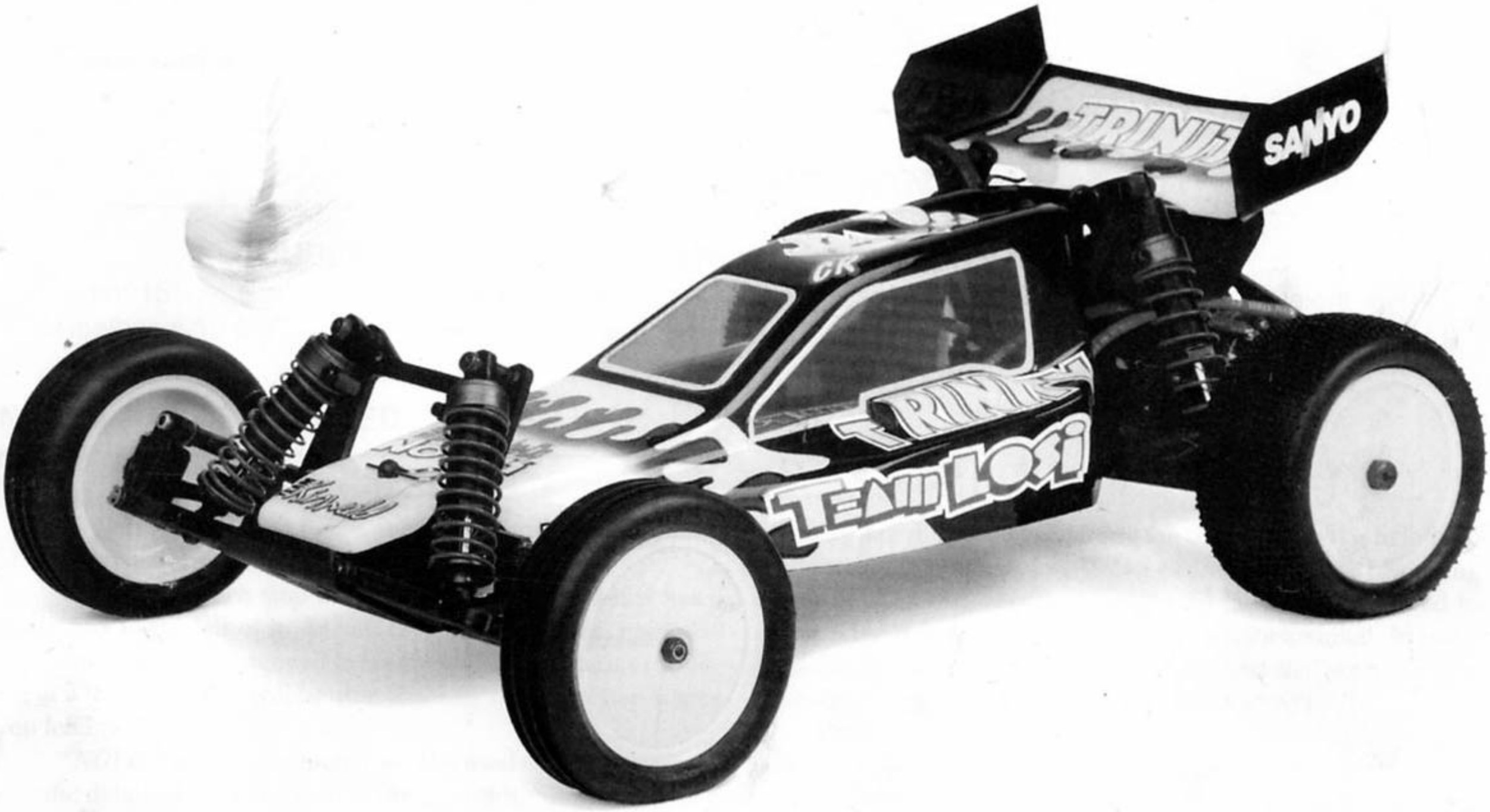
TEAM XX-CR LOSI
Kinwald Edition

OWNER'S MANUAL



- **Carefully read through all instructions to familiarize yourself with the parts, construction techniques, and tuning tips outlined in this manual. Being able to grasp the overall design of your Double-X 'CR' *Kinwald Edition* racing car before construction will ensure a smooth assembly process.**
- **Take your time and pay attention to detail. Keep this manual for future reference.**

TEAM LOSI Racing

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WELCOME *Kinwald Edition* 'CR' OWNER

Thank you for choosing Team Losi's Double-X 'CR' *Kinwald Edition* kit. You have chosen wisely and are among a select group that has taken the opportunity to buy a piece of history. Never before has a single kit given the racer titanium, graphite, and plated parts at such an unbelievable price. As you know, Team Losi racers, and Brian Kinwald in particular, have now won every Modified National Championship for the last two years! This limited edition kit celebrates Team Losi's and Brian's fantastic win at the '97-98 IFMAR World Championships. This kit is our way of saying "thank you" to all of you racers who have helped make Team Losi the premier R/C car company in the world.

As always, please take a moment to read through the instructions before starting the actual assembly. As Brian says "There are no secrets! Just a good combination of equipment, setup, and practice."

Thank you and good luck,

Team Losi & Brian Kinwald

In memory of David Talarico

1. INTRODUCTION

DOUBLE-X 'CR' *KINWALD EDITION* COMPLETED KIT DIMENSIONS

Length: 15" Front Width: 9-5/8" Rear Width: 9-7/8" Height: 6-1/4"
Wheelbase: 10-5/8" All dimensions at ride height. Weight will vary depending on accessories.

NOTES & SYMBOLS USED

Figure 1

This is a common figure number found at the beginning of each new illustration throughout the manual.

❑ Step 1. - Each step throughout the entire manual has a check box to the left of it. As you complete each step, mark the box with a check. If you need to take a break and return to building at a later time you will be able to locate the exact step where you left off.

**NOTE:* This is a common note. It is used to call attention to specific details of a certain step in the assembly.

⚠ **IMPORTANT NOTE:** Even if you are familiar with Team Losi kits, be sure and pay attention to these notes. They point out very important details during the assembly process. Do not ignore these notes!

This wrench designates a performance tip. These tips are not necessary, but can improve the performance of your *Kinwald Edition* 'CR' car.

In illustrations where it is important to note which direction parts are pointing, a helmet like this one will be included in the illustration. The helmet will always face the front of the car. Any reference to the right or left side will relate to the direction of the helmet.

KIT/MANUAL ORGANIZATION

The kit is composed of different bags marked A through G. Each bag contains all of the parts necessary to complete a particular section of the *Kinwald Edition* 'CR'. Some of these bags have sub-assembly bags within them. It is essential that you open only one bag at a time and follow the correct assembly sequence, otherwise you may face difficulties in finding the correct part. It is helpful to read through the instructions for an entire bag prior to beginning assembly. Key numbers (in parenthesis) have been assigned to each part and remain the same throughout the manual. In some illustrations, parts which have already been installed are not shown so that the current steps can be illustrated more clearly.

For your convenience, an actual-size hardware identification guide is included with each step. To check a part, hold it against the silhouette until the correct part is identified. In some cases extra hardware has been supplied for parts that may be easy to lose.

The molded parts in the *Kinwald Edition* 'CR' are manufactured to demanding tolerances. When screws are tightened to the point of being snug, the parts are held firmly in place. For this reason it is very important that screws not be overtightened in any of the plastic parts.

To insure that parts are not lost during construction, it is recommended that you work over a towel or mat to prevent parts from rolling away.

IMPORTANT SAFETY NOTES

1. Select an area for assembly that is away from the reach of small children. *The parts in the kit are small and can be swallowed by children, causing choking and possible internal injury.*

2. The shock fluid and greases supplied should be kept out of children's reach. *They are not intended for human consumption!*

3. *Exercise care* when using *any* hand tools, sharp instruments, or power tools during construction.

4. *Carefully read all manufacturer's warnings and cautions* for any glues, chemicals, or paints that may be used for assembly and operating purposes.

TOOLS REQUIRED

Team Losi has supplied all necessary Allen wrenches and a special wrenches that are needed for assembly and adjustments. The following common tools will also be required: Needle-nose pliers, regular pliers, hobby knife, scissors or other body cutting/trimming tools, and a soldering iron may be necessary for radio installation. 3/16", 1/4", and 3/8" nut drivers are optional.

RADIO/ELECTRICAL

A suggested radio layout is provided in this manual. Your high-performance R/C center should be consulted regarding specifics on radio/electrical equipment.

HARDWARE IDENTIFICATION

When in question, use the hardware identification guide in each step. For screws, the prefix number designates the screw size and number of threads per inch (i.e., 4-40 is #4 screw with 40 threads per inch). The second number or fraction designates the length of the screw. For cap-head screws, this number refers to the length of the threaded portion of the screw. For flat-head screws, this number refers to the overall length of the screw. Bearings and bushings are referenced by the inside diameter **x** outside diameter. Shafts and pins are diameter **x** length. Washers are described by inside diameter or the screw size that will pass through the inside diameter. E-clips are sized by the shaft diameter that they attach to.

MOTORS AND GEARING

The Double-X 'CR' *Kinwald Edition* includes an 84-tooth, 48-pitch spur gear. The overall internal drive ratio of the *Kinwald Edition* 'CR' is 2.19:1. The pinion gear that is used will determine the final drive ratio. To calculate the final drive ratio, first divide the spur gear size by the pinion gear size. For example, if you are using a 20-tooth pinion gear, you would divide 84 (spur gear size) by 20 (pinion gear size). ***84/20 =4.2***. This tells you that *4.2* is the external drive ratio. Next, multiply the internal drive ratio (2.19) by the external drive ratio (in this case 4.2). ***2.19 x 4.2 = 9.198***. This means that by using a 20-tooth pinion gear with the standard 84-tooth spur gear, the final drive ratio is 9.198:1.

Consult your high-performance shop for recommendations to suit your racing style and class. The chart below lists some of the more common motor types and a recommended initial gearing for that motor. Ratios can be adjusted depending on various track layouts, tire sizes, and battery types.

RECOMMENDED INITIAL GEARING FOR COMMON MOTORS

TYPE OF MOTOR	PINION	SPUR
24° Stock	26	84
36° Stock	24	84
11-Turn Modified	17	84
12-Turn Modified	18	84
13-Turn Modified	19	84
14-Turn Modified	20	84
15-Turn Modified	21	84
16-Turn Modified	22	84
17-Turn Modified	23	84

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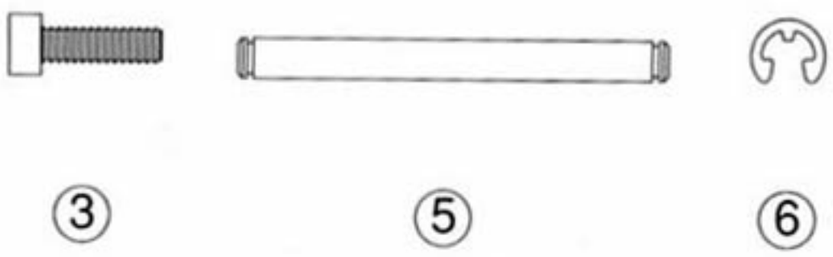
Team Losi is continually changing and improving designs; therefore, the actual part may appear slightly different than the illustrated part. Illustrations of parts and assemblies may be slightly distorted to enhance pertinent details.

BAG A

Figure 1



❑ Step 1. Attach the front shock tower (1) to the rear of the front bulkhead (2) with four 4-40 x 3/8" cap-head screws (3).

❑ Step 2. Place the chassis stiffener (4) through the front shock tower (1), as shown, and attach the chassis stiffener (4) to the top of the front bulkhead (2) by aligning the holes in the hinge on the stiffener (4) with the holes in the top hinge of the bulkhead (2).

❑ Step 3. Secure the stiffener (4) to the bulkhead (2) by inserting the 1/8" upper bulkhead hinge pin (5) through both the bulkhead (2) and stiffener (4)

**NOTE: Use the shortest 1/8" hinge pin without a groove in the center. The hinge pin fit is tight! Lightly tap the hinge pin through both parts until it is centered.*

❑ Step 4. Center the hinge pin (5) and attach an 1/8" E-clip (6) to each end of the hinge pin (5).

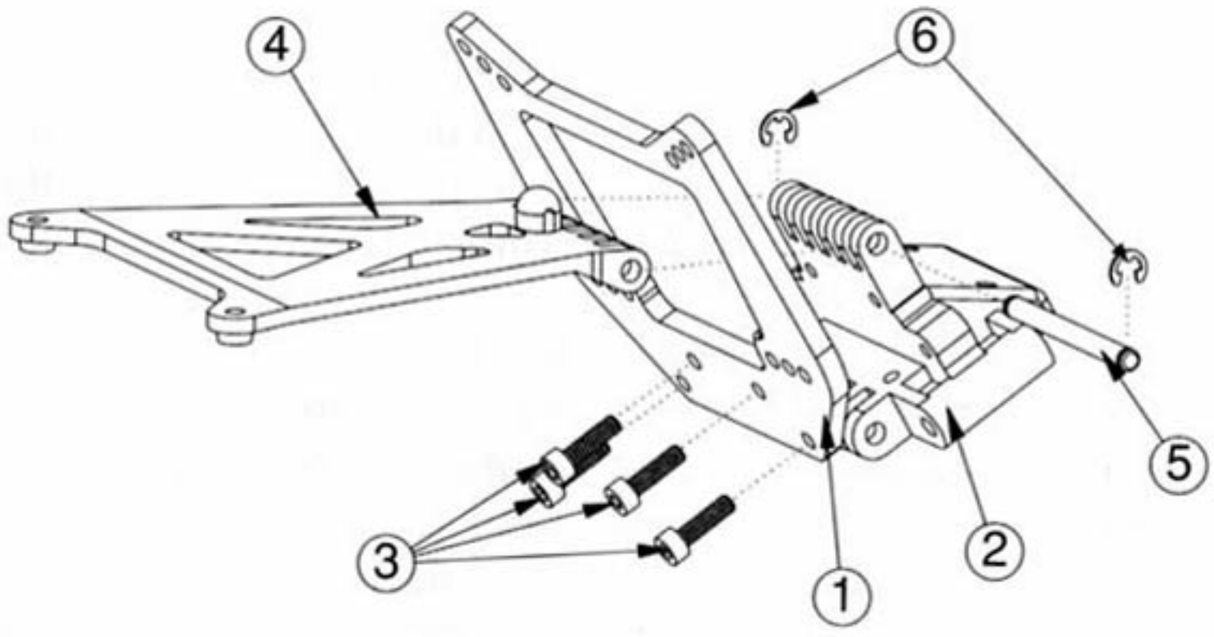
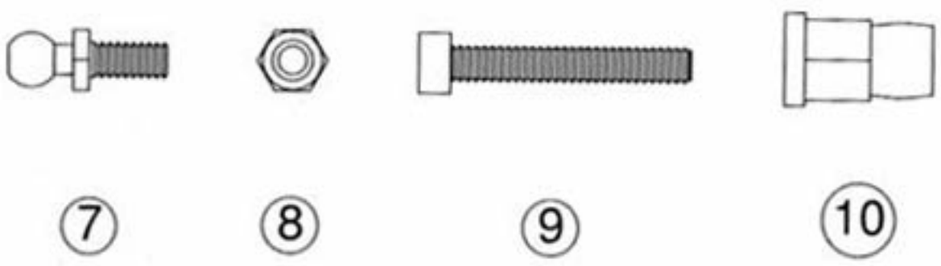


Figure 1

Figure 2



❑ Step 5. Insert a 1/4" ball stud (7) into the outside hole on the bottom of the shock tower (1). Mount the ball studs (7) from the rear on both sides of the shock tower (1) and secure each with a 4-40 mini lock nut (8).

❑ Step 6. Insert a 4-40 x 3/4" cap-head screw (9) from the rear, through the outside hole on the top of the shock tower (1). Thread a top shock mount bushing (10) onto each of the two screws (9) and tighten.

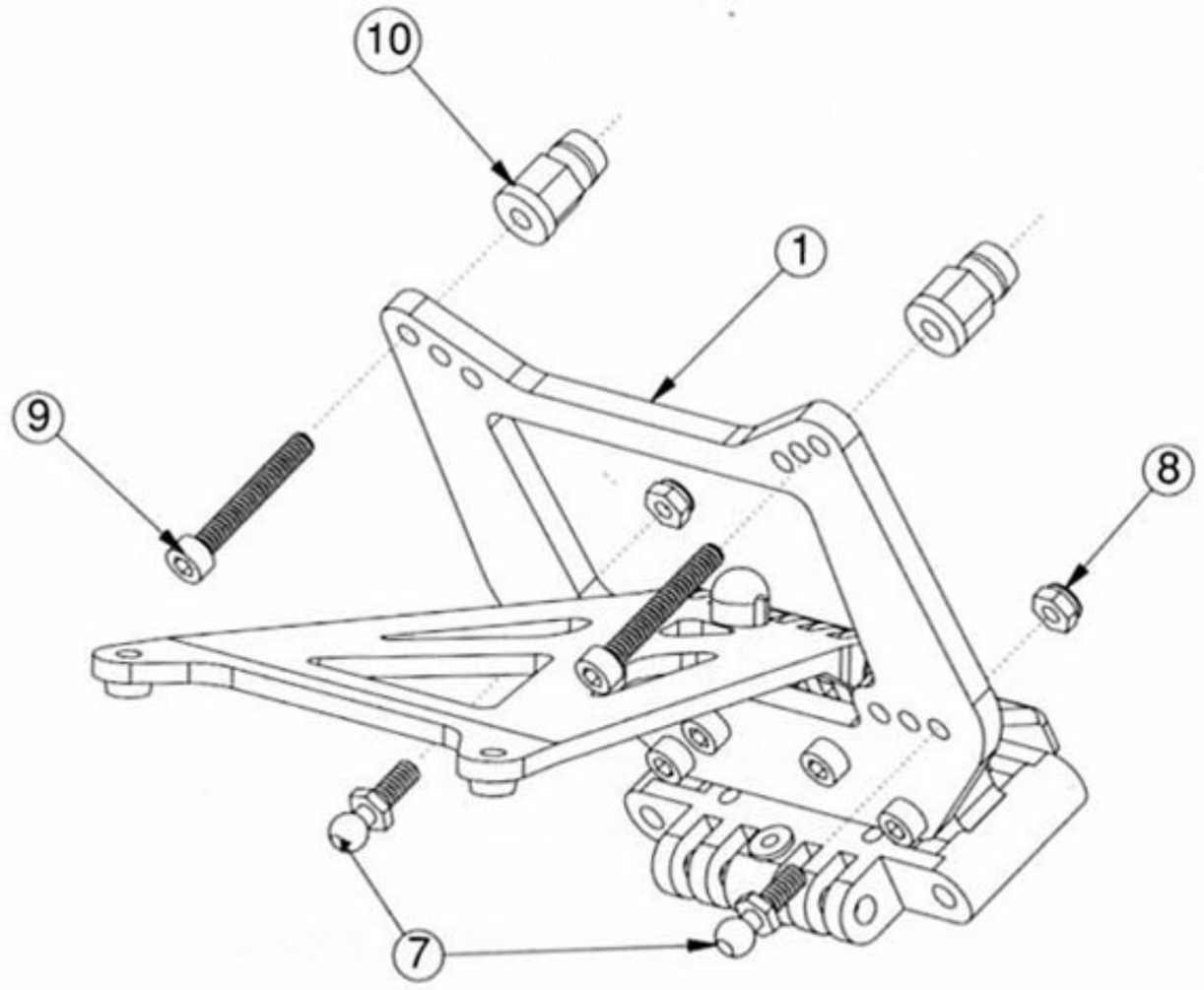
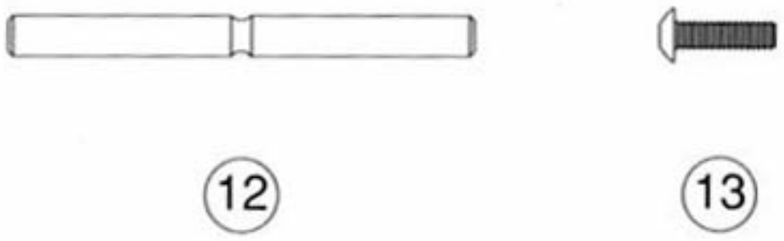


Figure 2

BAG A (Continued)

Figure 3



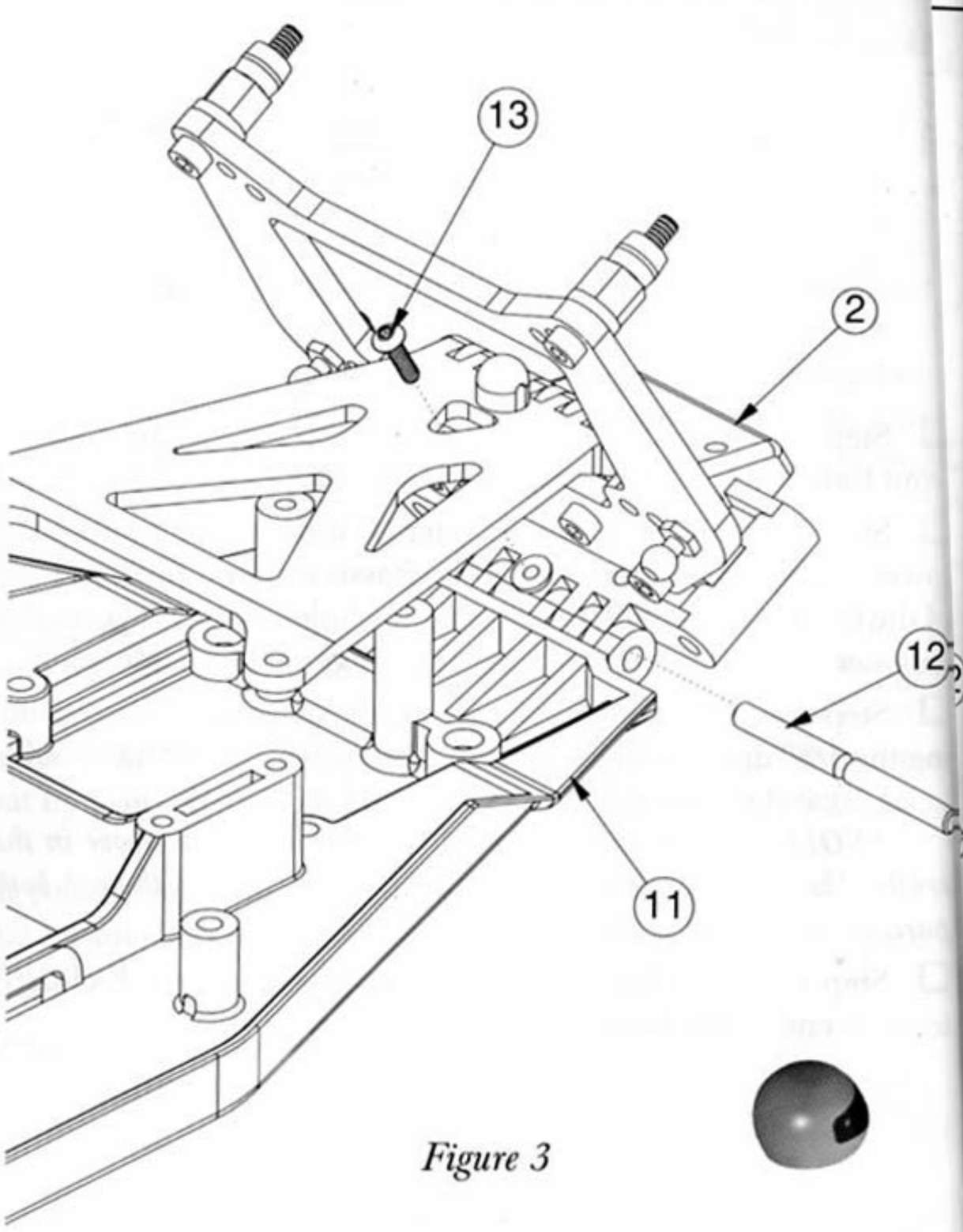


Figure 3

❑ Step 7. Attach the front bulkhead (2) to the main chassis (11) by aligning the bottom hinge holes on the bulkhead (2) and the main chassis (11). Once the holes are aligned, carefully tap the 1/8" lower bulkhead hinge pin (12) through both pieces until the hinge pin (12) is centered.

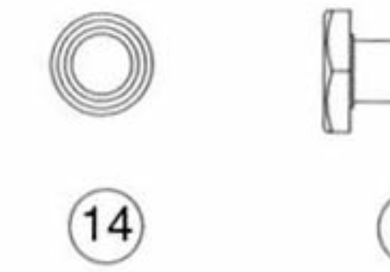
** NOTE: The lower hinge pin fit is VERY TIGHT! Be sure that the holes are aligned while tapping the pin into place.*

❑ Step 8. Secure the pin by threading a 2-56 x 5/16" button head screw (13) into the small hole in the top, rear of the front bulkhead (2). Thread the screw (13) all the way in.

**NOTE: It is easiest to get to the screw if the chassis stiffener is swung down and the wrench is inserted through the forward triangular hole in the stiffener.*

When removing the front bulkhead for any reason, the 2-56 x 5/16" button head screw must be completely removed before removing the lower hinge pin.

Figure 4



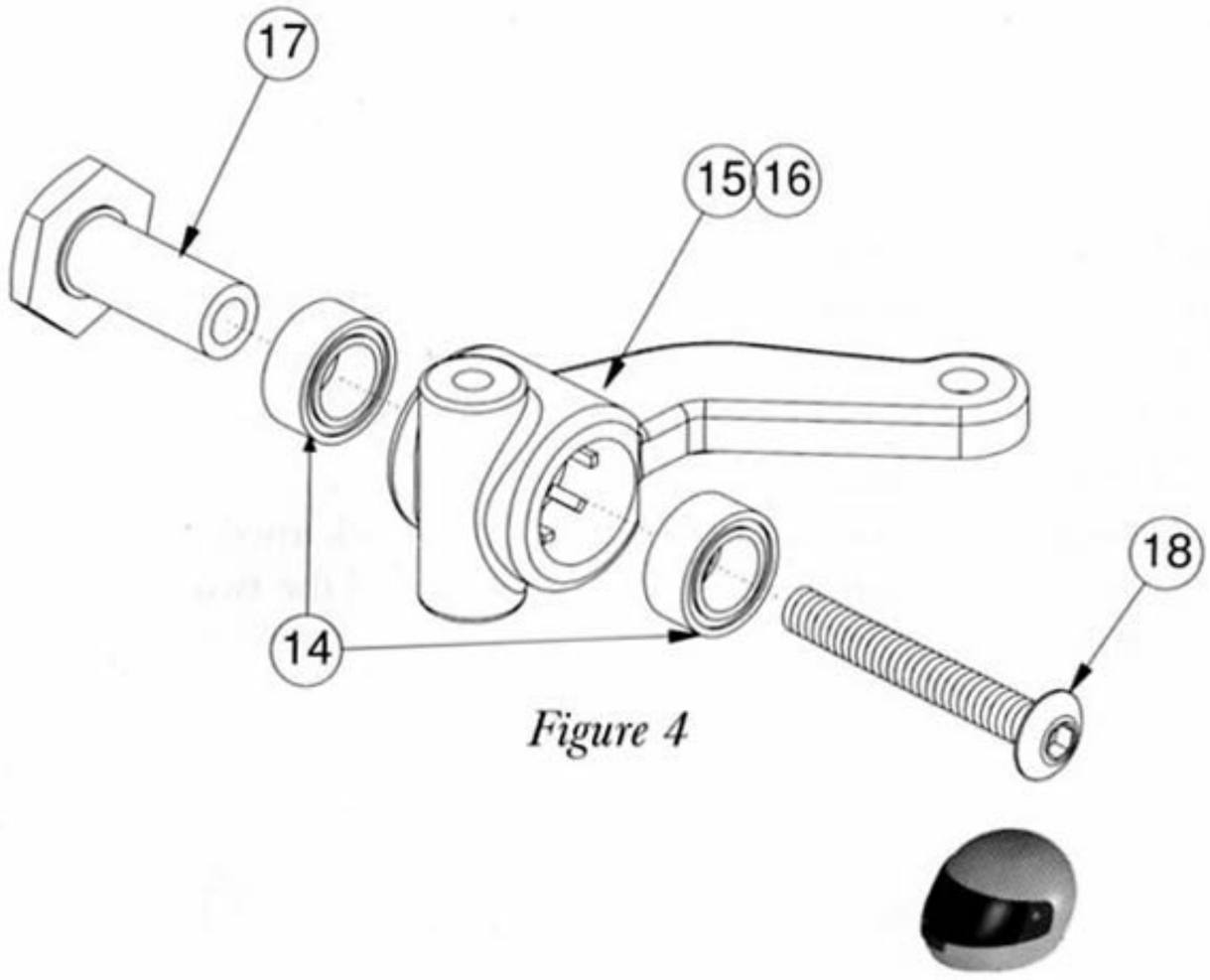


Figure 4

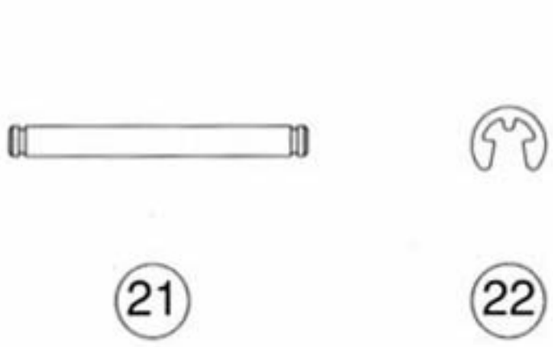
❑ Step 9. Insert a 3/16" x 5/16" sealed bearing (14) into each side of both front spindles [right (15), left (16)]. Insert a front stub axle (17) from the outside of both spindles (15), (16). Thread a 4-40 x 13/16" axle screw (18) into each stub axle (17) from the opposite side. Tighten the screw (18) while holding the stub axle (17) with a 3/8" socket wrench or pliers.

**NOTE: If the 3/16" x 5/16" bearing only has one Teflon™ seal (colored, woven looking) in it, position the seal to the outside – towards axle or screw.*

Be sure that the front axle screw is ***TIGHT!*** The threadlock compound that is on the screw takes 24 hours to set.

BAG A (Continued)

Figure 5



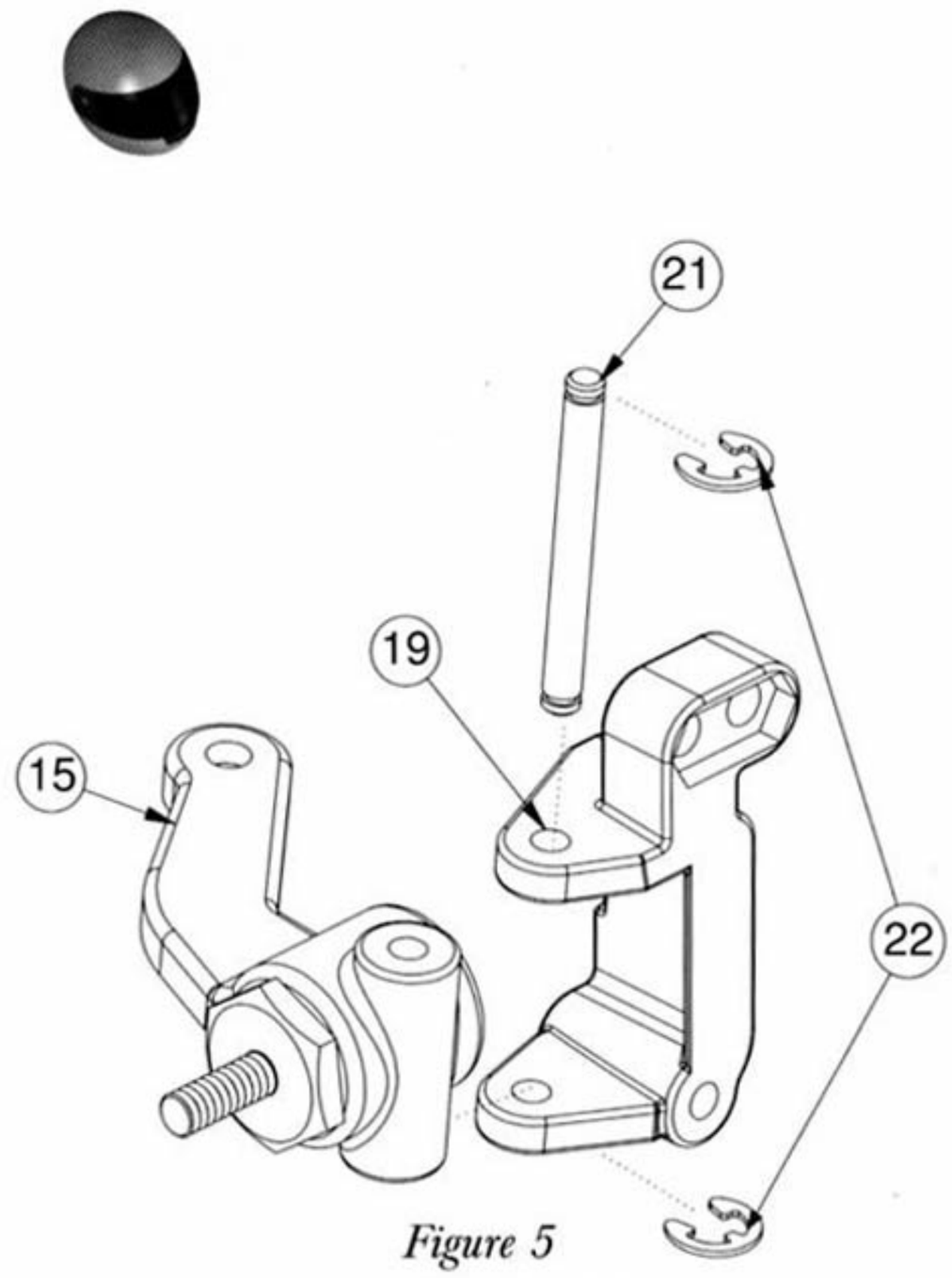


Figure 5

❑ Step 10. Attach the right spindle (15) to the right spindle carrier (19) by aligning the holes in each and inserting a 3/32" hinge pin (21) through both pieces. Be sure that the hex on the spindle (15) faces down and the camber mount holes on the carrier (19) are towards the top. Center the hinge pin (21) and secure it with two 3/32" E-clips (22).

⚠ **IMPORTANT NOTE:** There are two sizes of E-clips in this assembly bag. Be sure to use the small E-clips on the 3/32" pins.

❑ Step 11. Repeat for the left spindle (16) and left spindle carrier (20).

Figure 6

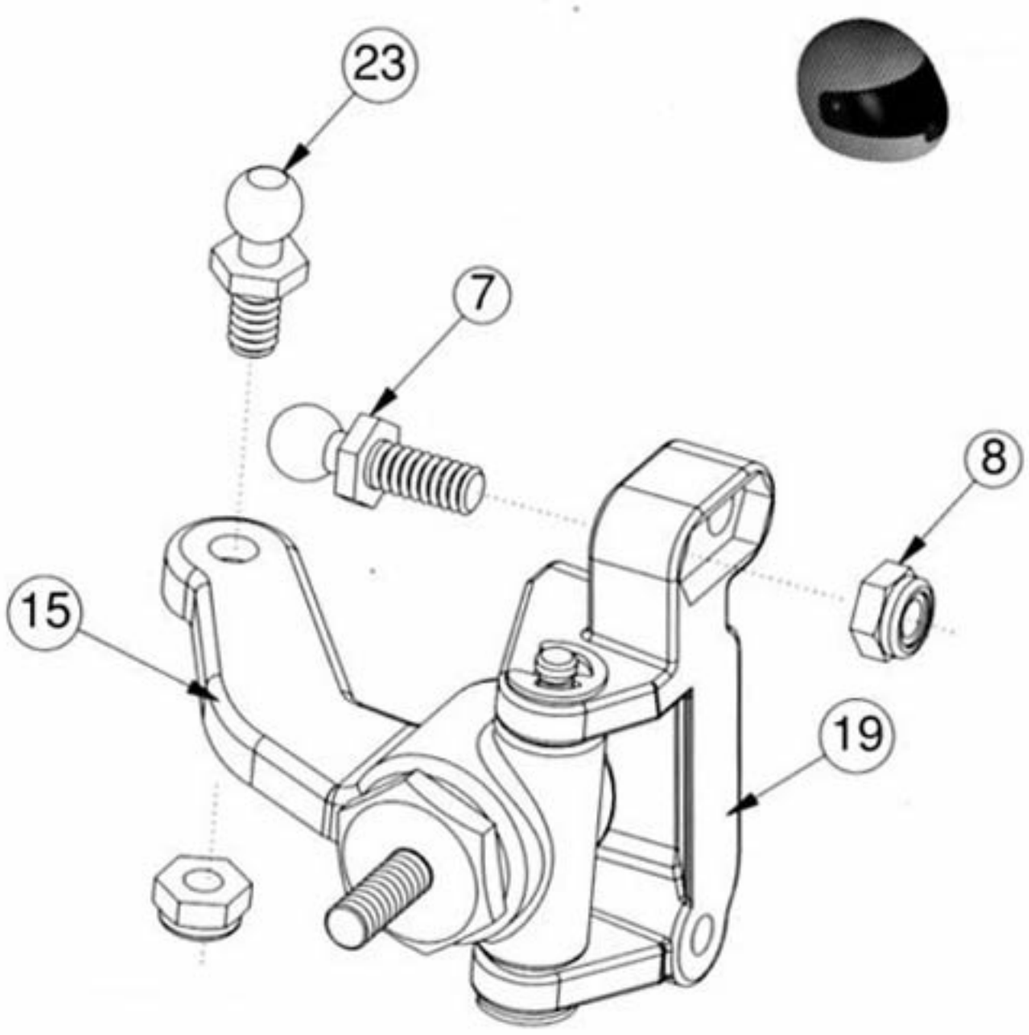


Figure 6

❑ Step 12. Insert a 4-40 mini lock nut (8) into the outside hex area (closest to the hinge pin) in each spindle carrier (19), (20) as shown. Insert a 1/4" ball stud (7) through the outside hole in the carrier (19, 20), into the nut (8), and tighten. Insert a 4-40 mini lock nut (8) into the hex area in the bottom of each spindle (15), (16). Insert a 3/16" ball stud (23) through the spindle, from the top, into the nut (8), and tighten.

⚠ **IMPORTANT NOTE:** Do not overtighten the ball studs!

BAG A (Continued)

Figure 7

❑ Step 13. Attach the right spindle and carrier assembly to a front suspension arm (24) as shown. Line up the holes in the spindle carrier (19) with the holes in the front arm (24), insert a 3/32" hinge pin (21) and attach a 3/32" E-clip (22) to both sides of the hinge pin (21).

⚠ **IMPORTANT NOTE:** There are two sizes of E-clips in this assembly bag. Be sure to use the small E-clips on the 3/32" pins.

❑ Step 14. Attach the arm (24) to the right side of the front bulkhead (2) by inserting a 1/8" inner front hinge pin (25), from the front, through the arm (24) and bulkhead (2).

❑ Step 15. Repeat Steps 13 and 14 for left side.

❑ Step 16. Insert a 1/8" E-clip (6) in the rear groove of each hinge pin (25).

❑ Step 17. Slide the front hinge pin brace (26) over the front of both hinge pins (25). Be sure that the brace (26) is installed correctly so that the E-clip grooves in both hinge pins (25) are exposed. Secure the brace by attaching a 1/8" E-clip (6) to the front of each hinge pin.

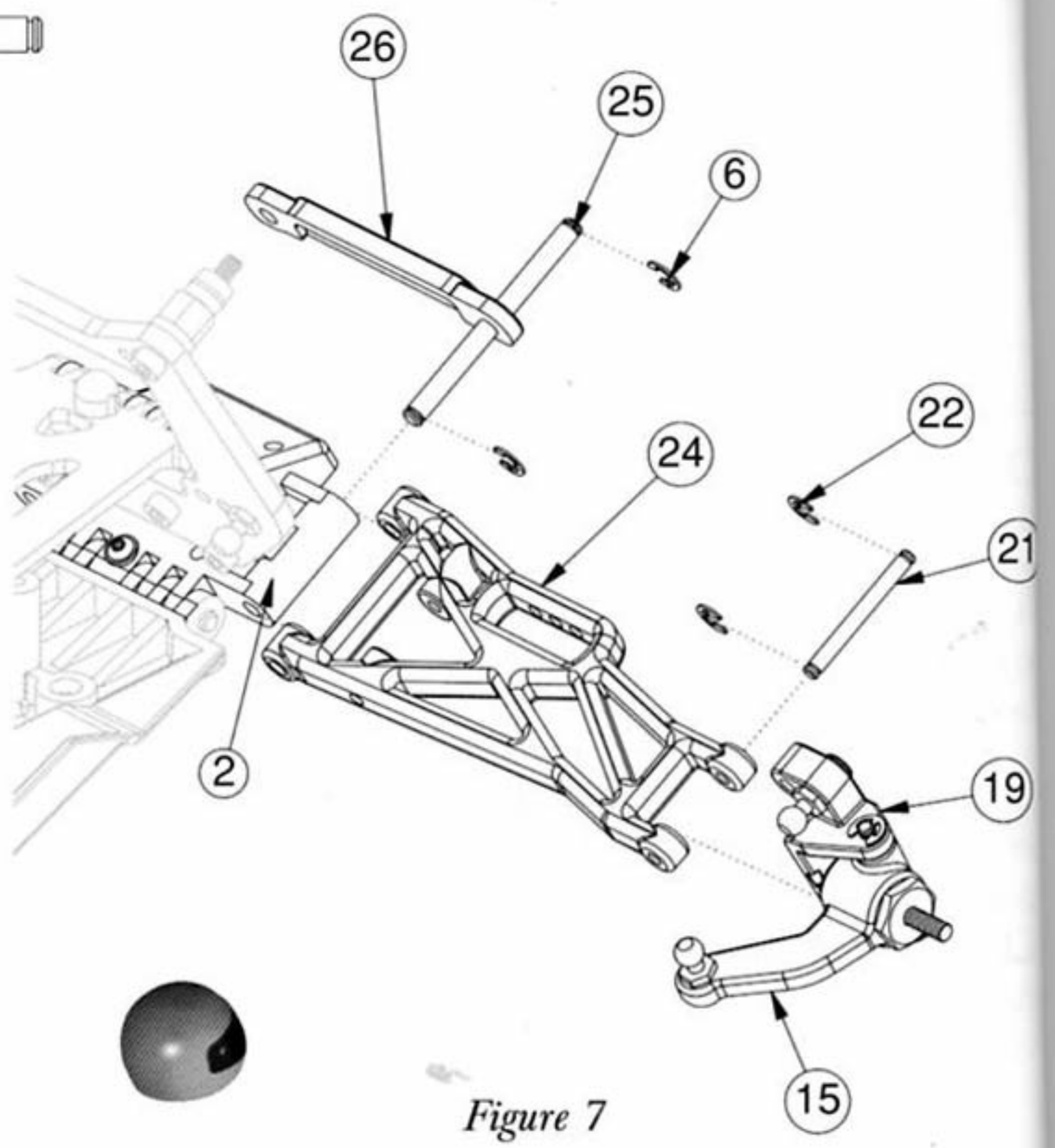


Figure 7

Figure 8

❑ Step 18. Thread a plastic rod end (27) onto each end of a 1-7/8" titanium turnbuckle (28). Tighten both rod ends (27) equally until the rod is the same length as the rod in Figure 8A. Make two of these camber link assemblies.

There is a small container/package of wax included with the titanium turnbuckles. It is recommended that this wax be applied to the threads of the turnbuckles before trying to thread the plastic rod ends onto the turnbuckles. The wax will help the rod ends to thread on much easier.

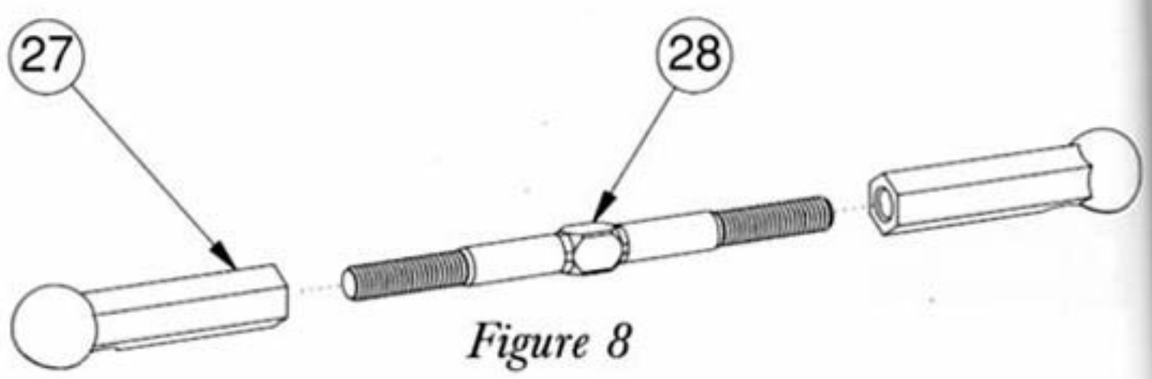


Figure 8

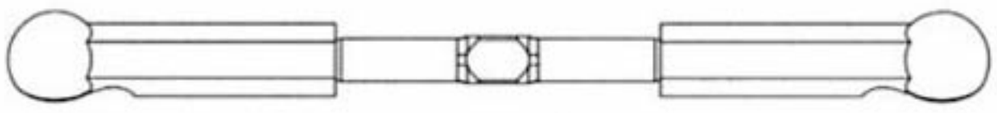


Figure 8A

Figure 9

❑ Step 19. Place a foam thing (29) over each of the ball studs on the spindle carriers (19), (20) and the shock tower (1). Next, attach one side of the camber link assembly to the ball stud on the shock tower (1) and the other side of the camber link assembly to the ball stud on the spindle carrier (19), (20). Attach a camber link to both the left and right side.

Try to mount all of the camber links so that the threads adjust the same direction. This makes it much easier to make adjustments later.

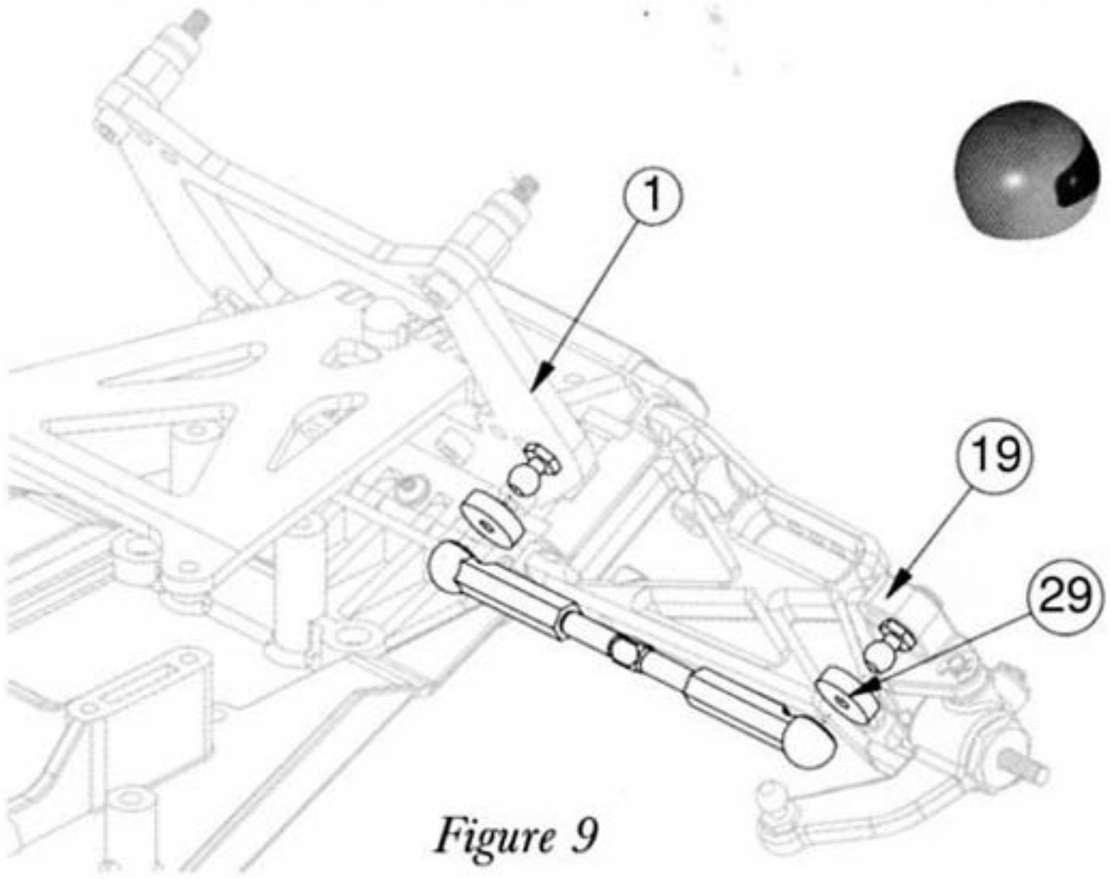
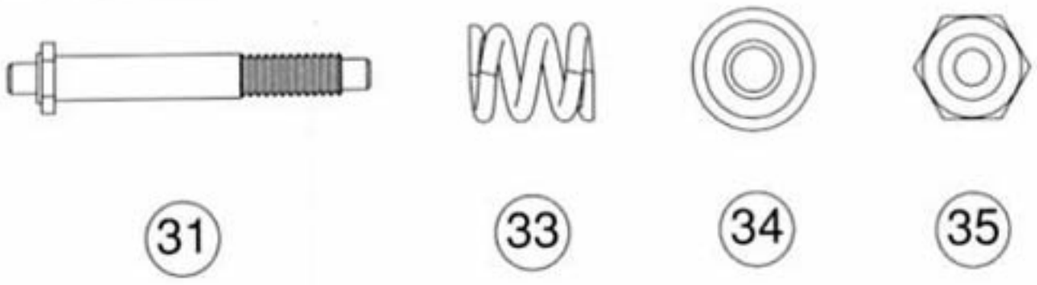


Figure 9

BAG B

Figure 10



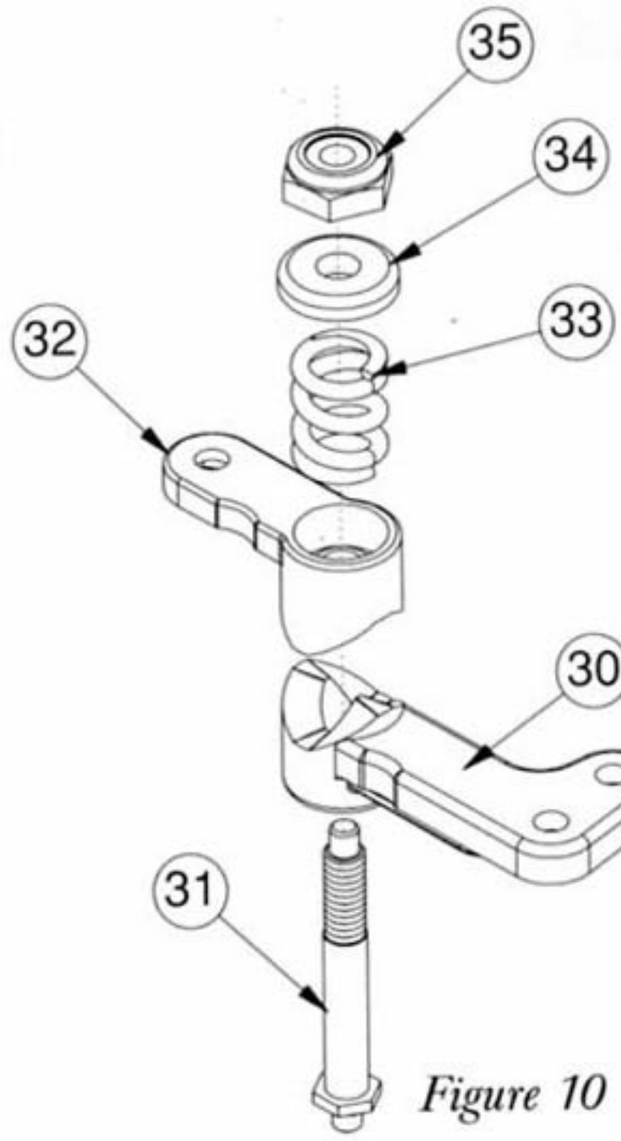


Figure 10

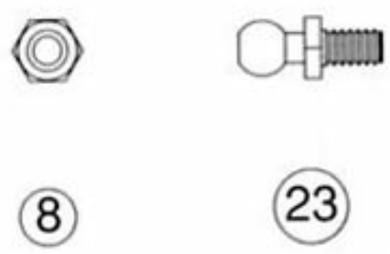
❑ Step 1. Place the servo saver bottom (30) over the servo saver post (31) and slide the servo saver bottom (30) all the way down. Be sure that the hex in the servo saver post (31) is inserted into the hex in the servo saver bottom (30).

❑ Step 2. Slide the servo saver top (32) down over the servo saver post (31) so that it rests against the servo saver bottom (30). The arm on the servo saver top (32) and the arm on the servo saver bottom (30) should point in opposite directions.

❑ Step 3. Slide the servo saver spring (33) over the servo saver post (31) and push it into the recessed area. Install the servo saver spring cap (34) and thread the 6-40 lock nut (35) onto the threads of the servo saver post (31).

❑ Step 4. Fully tighten the 6-40 lock nut (35) and then loosen it two full turns (i.e., 360 ° x 2). This is a good starting point for the adjustment. Once assembly is complete, if you wish, the servo saver can be adjusted tighter or looser.

Figure 11



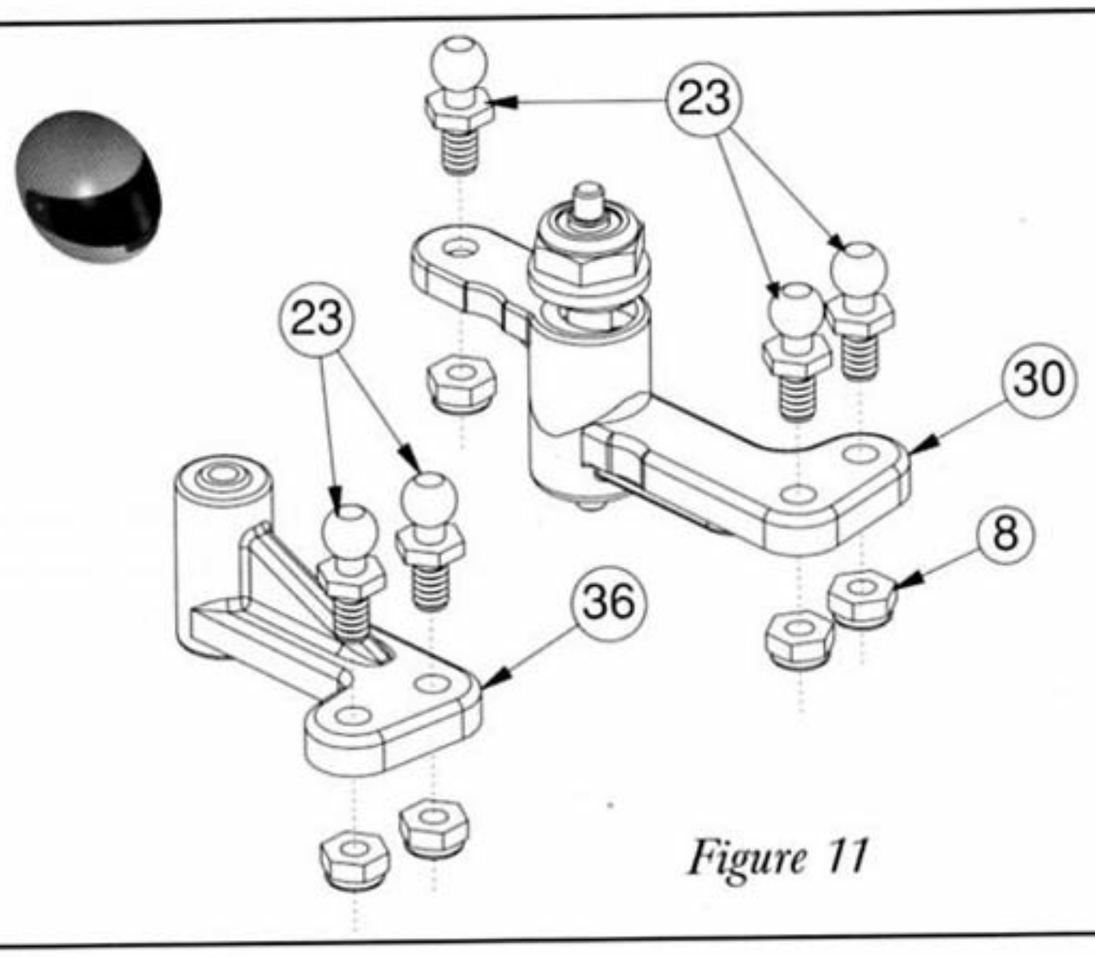


Figure 11

❑ Step 5. Insert a 4-40 mini lock nut (8) into each of the two hex areas illustrated in the servo saver bottom (30). Thread a 3/16" ball stud (23) though the servo saver, into each nut (8) and tighten. Insert a 4-40 mini lock nut (8) into the hex area in the servo saver top (32). Thread a 3/16" ball stud (23) through the servo saver top (32), into the nut (8) and tighten.

❑ Step 6. Insert a 4-40 mini lock nut (8) into each of the two hex areas illustrated in the steering idler arm (36). Thread a 3/16" ball stud (23) through the idler arm (36), into each nut (8) and tighten.

Figure 12

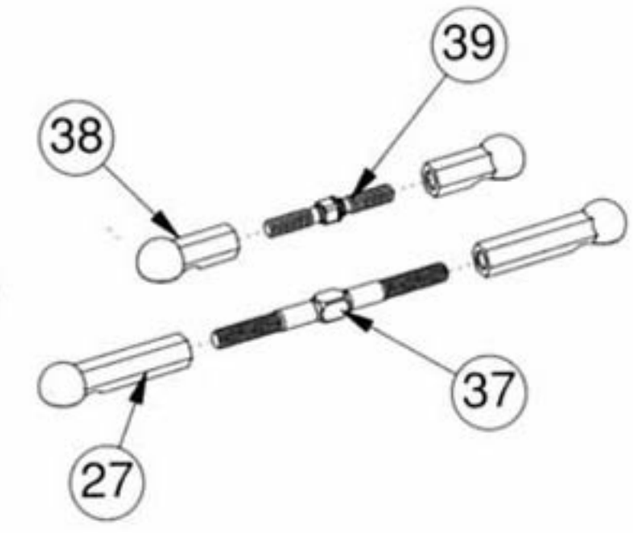


Figure 12

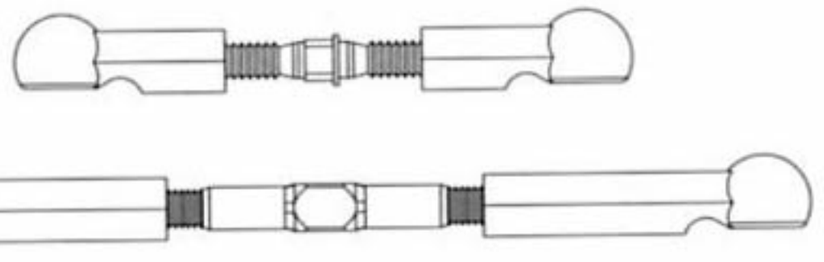


Figure 12A

❑ Step 7. Thread a plastic rod end (27) onto each end of a 1-3/4" titanium turnbuckle (37). Tighten both rod ends (27) equally until the completed tie rod is the same length as the one in Figure 12A. Make two of these tie rod assemblies.

❑ Step 8. Thread a short plastic rod end (38) onto each end of the 1-1/8" turnbuckle (39). Tighten both rod ends (38) equally until the completed drag link is the same length as the one in Figure 12A.

There is a small container/package of wax included with the titanium turnbuckles. It is recommended that this wax be applied to the threads of the turnbuckles before trying to thread the plastic rod ends onto the turnbuckles. The wax will help the rod ends to thread on much easier.

BAG B (Continued)

Figure 13

❑ Step 9. Snap one end of the short drag link to the inner ball stud (23) on the servo saver bottom (30). Snap the other end to the inner ball stud on the steering idler arm (36).

**NOTE: Be sure to snap the rod onto the correct ball studs as shown!*

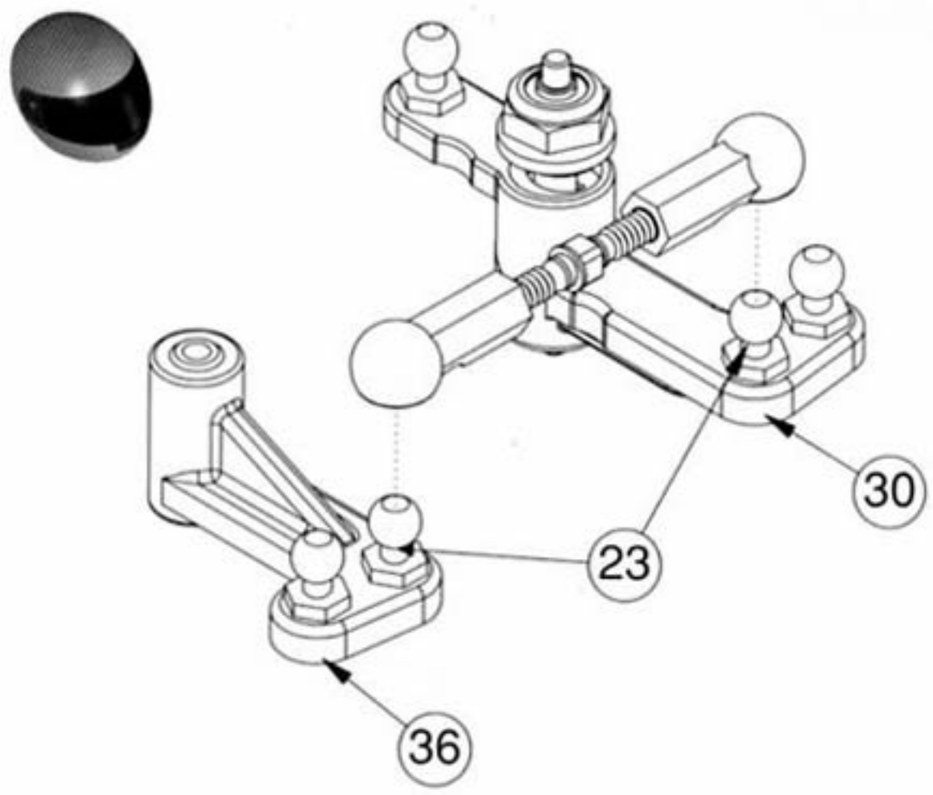
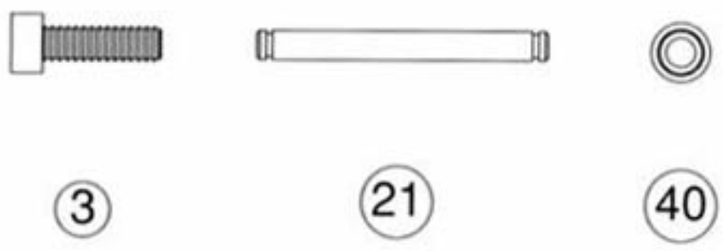


Figure 13

Figure 14



❑ Step 10. Insert a 3/32" x 3/16" bearing (40) into the two large holes in the bottom of the steering brace (41). Insert the other two bearings (40) into the two holes in the main chassis (11).

❑ Step 11. Insert a 3/32" hinge pin (21) through the hole in the steering idler arm (36) and position it as shown in Figure 14A. Place the servo saver assembly and the steering idler arm (36) into the bearings (40) in the chassis (11) so that the installed drag link is in the front.

❑ Step 12. Place the steering brace (41) on top of the servo saver assembly and steering idler arm (36) being sure that the bearings (40) slide over the pins.

❑ Step 13. Attach the steering brace with two 4-40 x 3/8" cap-head screws (3) through steering brace (41) and into chassis (11).

⚠ **IMPORTANT NOTE:** Tighten the two 4-40 screws all the way and then back them off 1/8 of a turn. This will keep the posts on the chassis from "taking a set" if they should twist at all.

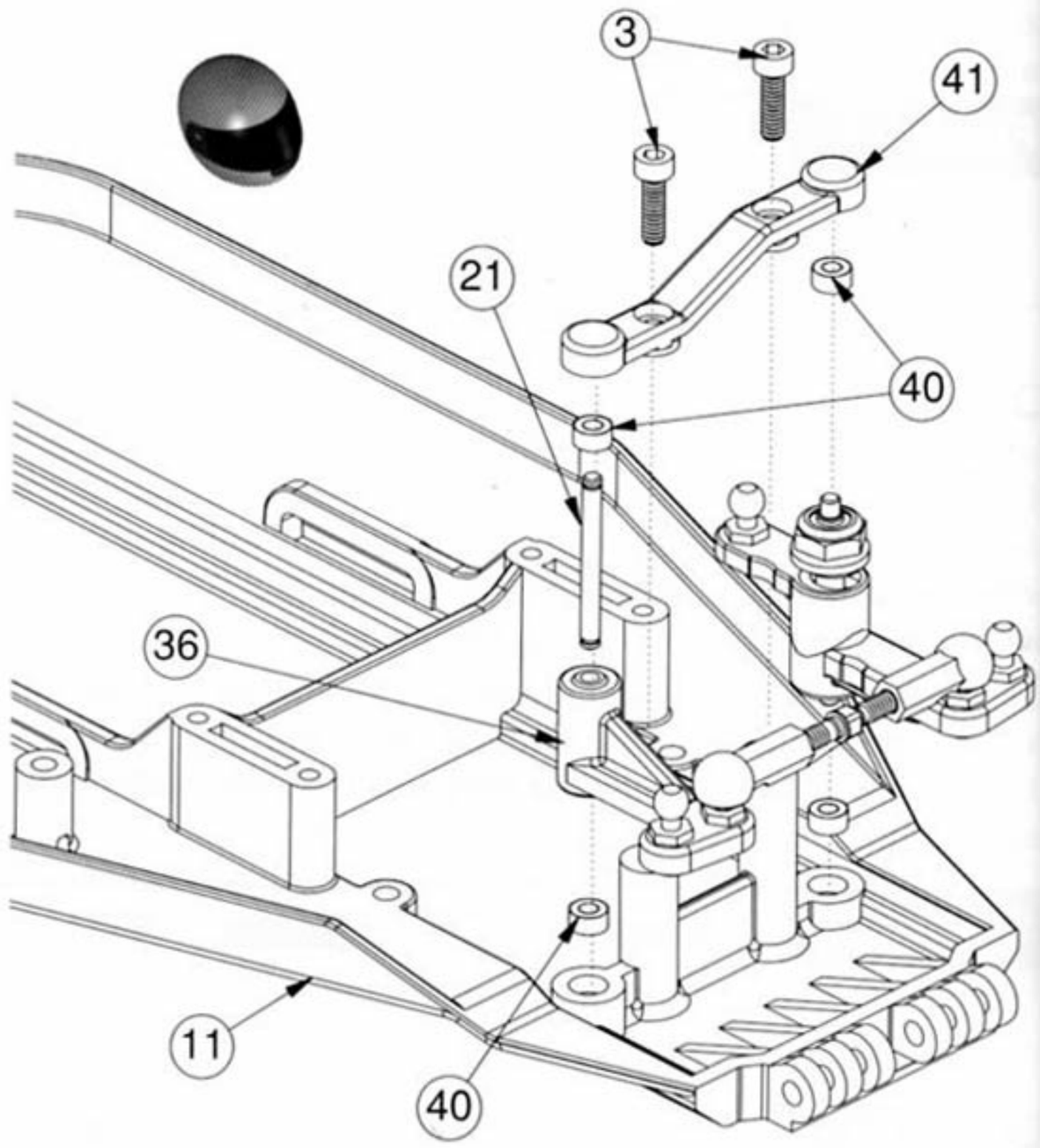


Figure 14

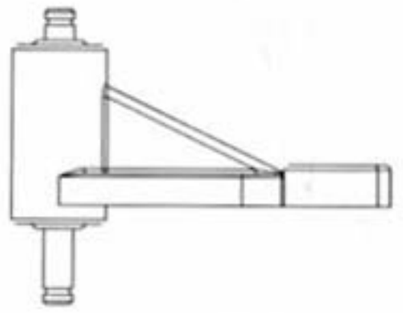


Figure 14A

BAG B (Continued)

Figure 15

❑ Step 14. Snap one end of a completed tie rod to the ball stud (23) on the steering idler arm (36). Snap the other end of the tie rod to the ball stud (23) on the right spindle (15). Attach the other tie rod assembly to the ball stud (23) on the servo saver bottom (30) and the ball stud (23) on the left spindle (16).

Once again, assure that all turnbuckles are mounted with the threads in the same direction for easier adjustment later!

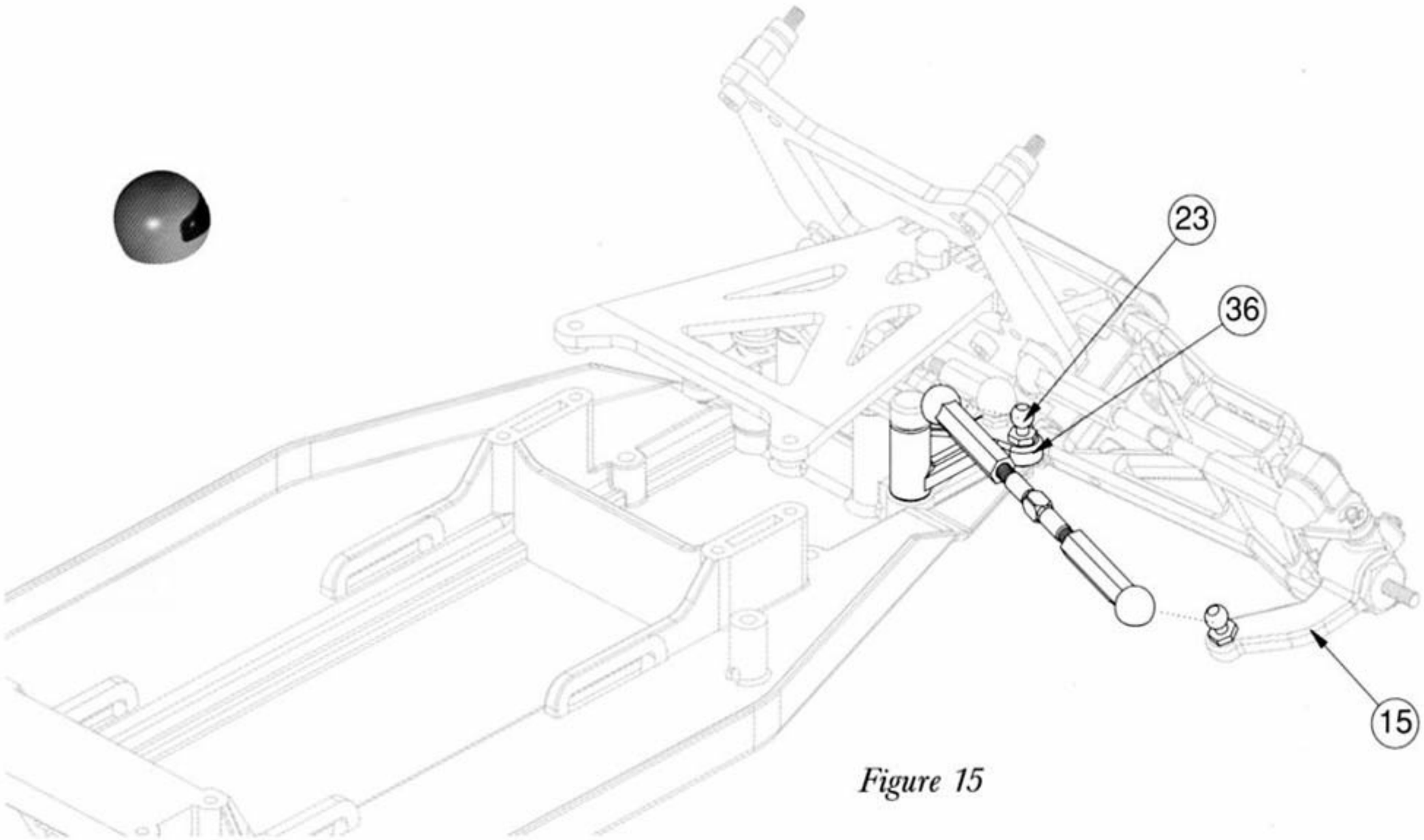


Figure 15

Figure 16

** NOTE: If you do not have your servo at this time, skip to Bag C and continue assembly. It is recommended that the servo be installed at this time since much of the front end is built around the servo and minor disassembly will be required to install it later.*

⚠ **IMPORTANT NOTE:** If the servo mounting instructions are not followed carefully, your servo may be damaged!

❑ Step 15. Using a file or a Dremel tool, trim the two lower ears off of your servo *(not included)* as shown in Figure 16. Be very careful to trim the correct ears! If the wrong ears are trimmed, your servo will not be able to be mounted unless the servo case is replaced.

⚠ **IMPORTANT NOTE:** It is not recommended that you use cutters or a hobby knife to remove the servo ears. Some cases are made of very brittle material and damage to your servo case may result.

Figure 16

BAG B (Continued)

Figure 17

❑ Step 16. Using Table 18B, determine which servo arm (42) is required for your servo. If your servo is not listed, try using the arm recommended for another servo made by the same manufacturer, or use one supplied with your servo that is the same length as either the 23L or the 25L arm.

❑ Step 17. Insert a 4-40 mini lock nut (8) in the hex area of the servo arm (42). Thread a 3/16" ball stud (23) into the lock nut (8) and tighten.

❑ Step 18. Plug your servo into your radio system's receiver. Make sure that there is power to the receiver, and switch the transmitter on, followed by the receiver. Be sure that the trim settings for the steering on your transmitter are set to the middle. With the radio system still turned on, attach the servo arm (42) so that it points straight up, away from the ears that were trimmed off. Secure the arm (42) with the servo arm screw supplied with your servo.

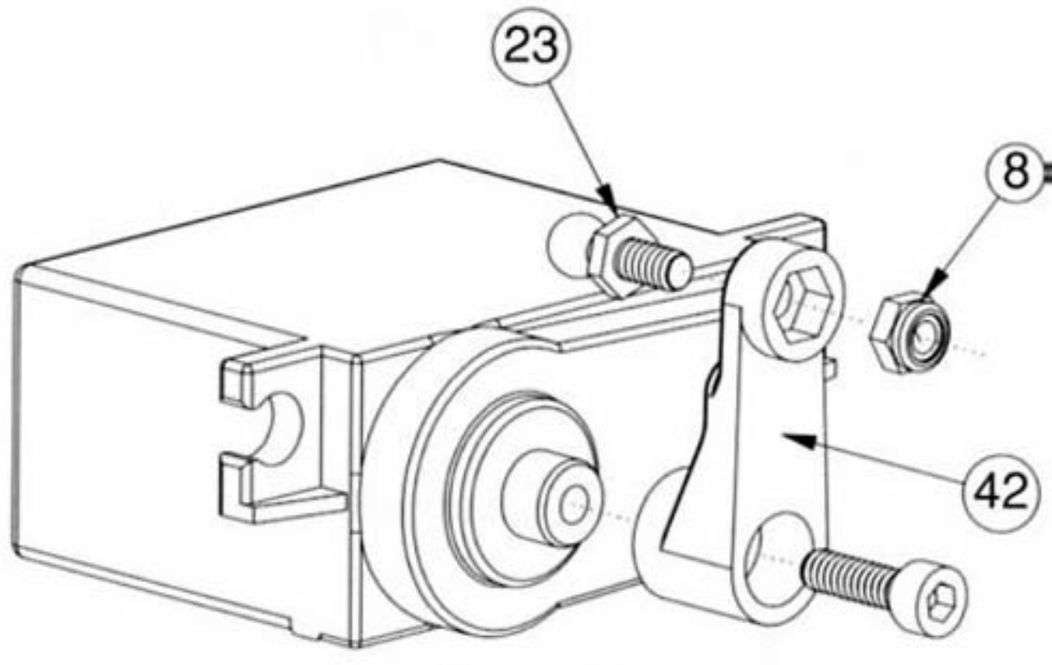
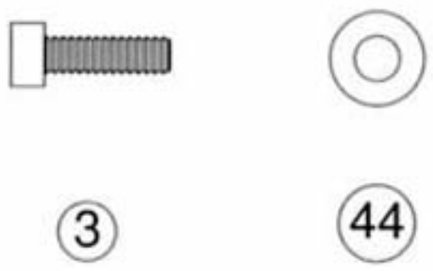


Figure 17

Figure 18



❑ Step 19. Use the Tables 18A and 18B to determine how the servo mounting posts (43) should be attached to the servo.

Trim flashing from the pins on the mounting posts so that they will seat all of the way into the holes in the chassis brace and chassis.

❑ Step 20. Place a #4 washer (44) over each of the two 4-40 x 3/8" cap-head screws (3) and attach the servo posts (43) to the servo by threading a screw (3) through the center hole in each post (43). Do not tighten the screws (3) all of the way yet! Just snug them up. The screws (3) will be tightened after the servo is installed in the chassis (11) so that the posts (43) will have the correct spacing.

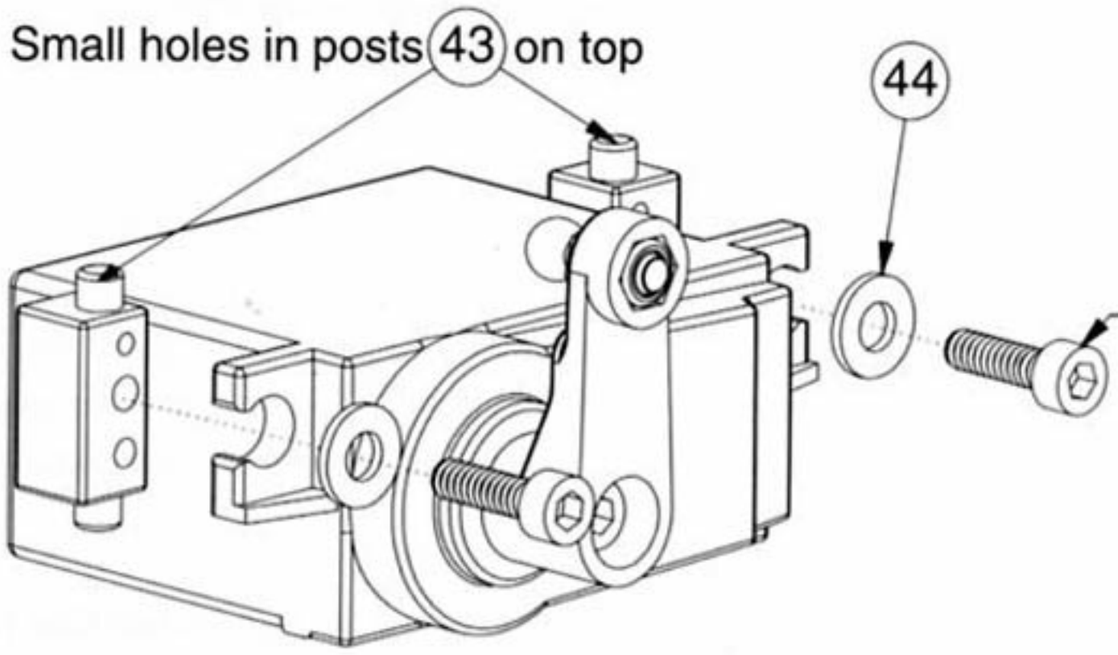
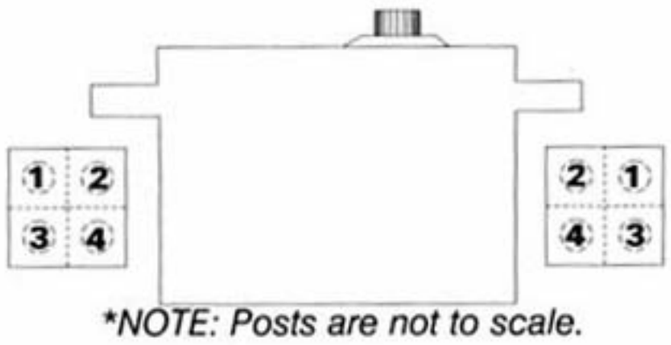


Figure 18

BAG B (Continued)



*NOTE: Posts are not to scale.

Position of pin on servo mount post	
1	Forward away from servo
2	Forward next to servo
3	To rear away from servo
4	To rear next to servo

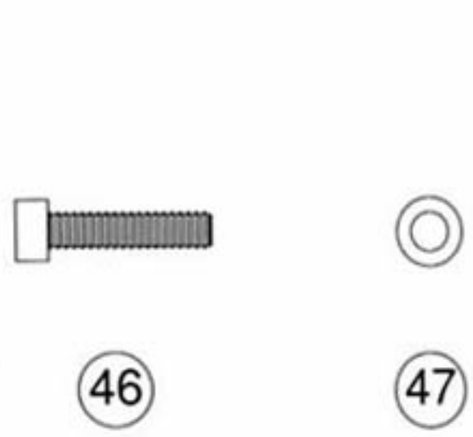
Table 18A

⚠ **IMPORTANT NOTE:** Small, lightening hole in the servo mounting post should always be mounted to the top (the side opposite of where the mounting ears were removed from).

SERVO TYPE	MOUNTING POST PIN LOCATION	REQUIRED SERVO ARM
Airtronics 94141, 94145, 94151, 94152, 94155, 94156, 94157, 94158, 94732, 94734, 94735, 94737, 94738, 94739, 94741, 94742, 94743	3	23L
Airtronics 94102, 94103, 94322	1	23S
Futaba S131S, S131SH, S148, S3001, S5101, S9101, S9201, S9301, S9303, S9304, S9401, S9403	2	25L
Futaba S132H	1	25L
JR NES-507, NES-513, NES-517, NES-901, NES-4000, NES-4131, NES-4721, NES-4735, NES-9021	2	23S
KO PS-702, PS-703, PS-1001, PS-1003	2	23S
KO PS-901BH, PS-902	1	23S

Table 18B

Figure 19



❑ Step 21. Place the servo, with servo mounting posts (43) attached, into the chassis (11). Align the pins in the mounting posts (43) with the holes in the chassis (11). Mount the chassis brace (45) on top of the servo. The slots in the chassis brace (45) should align with the grooves in the chassis (11). Make sure that the pins in the mounting posts (43) are inserted into the chassis brace (45) and the chassis (11). Using two 4-40 x 1/2" cap-head screws (46) and two gold washers (47), attach the chassis brace (45) as shown.

❑ Step 22. Tighten the screws (3) in the servo mounting posts (43)

⚠ **IMPORTANT NOTE:** Don't overtighten the screws in the servo mounting posts! The mounting ears on the servo can be damaged if these screws are overtightened.

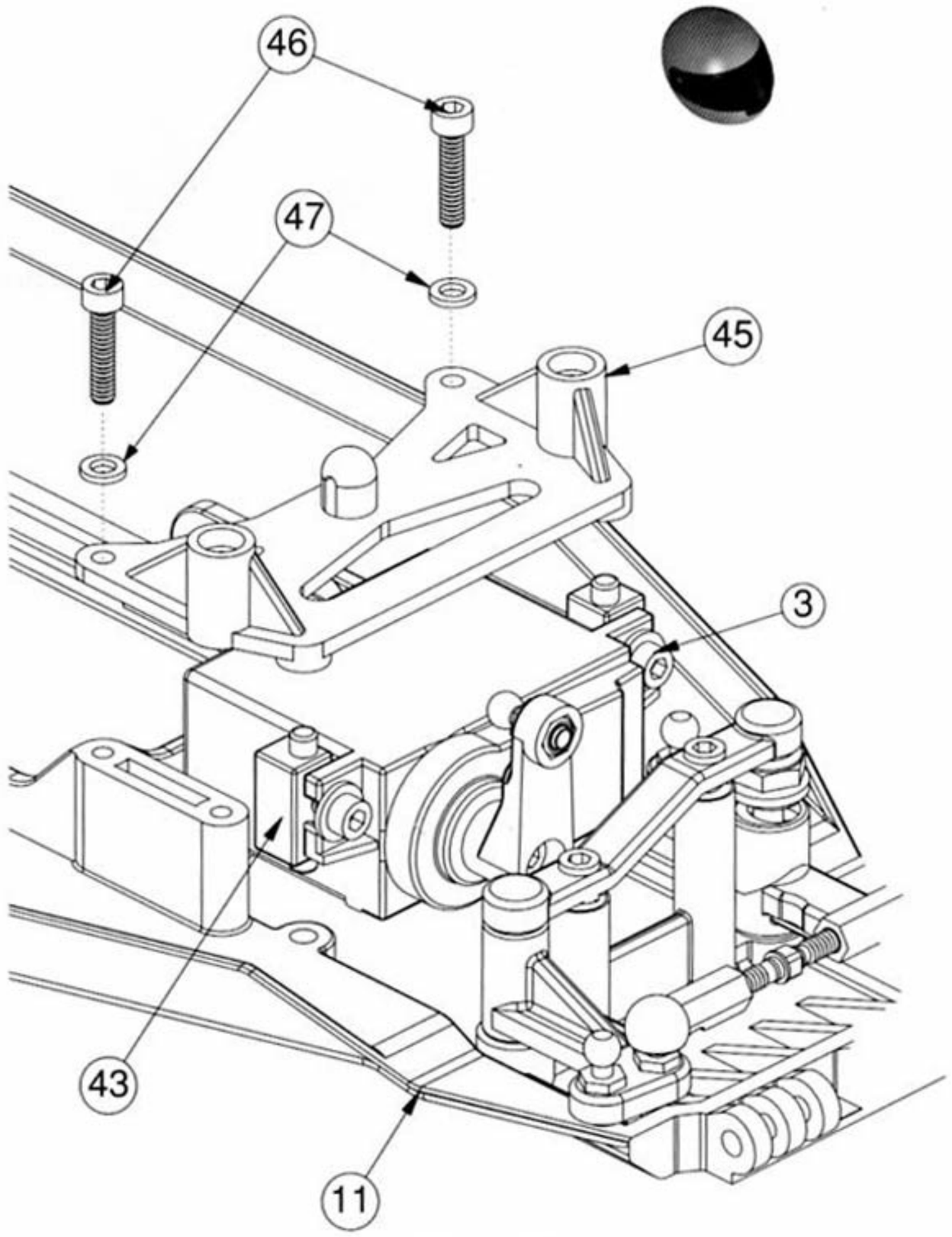


Figure 19

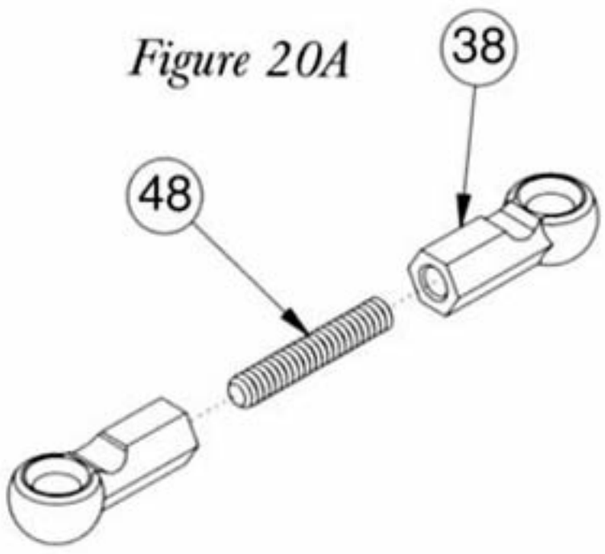
BAG B (Continued)

Figure 20

48

❑ Step 23. Thread a short plastic rod end (38) onto each end of the 4-40 x 5/8" threaded rod (48). Tighten both sides equa the rod is the same length as the one shown in Figure 20B. Attach one end of the rod to the ball stud (23) in the servo arm (42) other to the ball stud (23) in the servo saver top (32) as shown in Figure 20.

Figure 20A



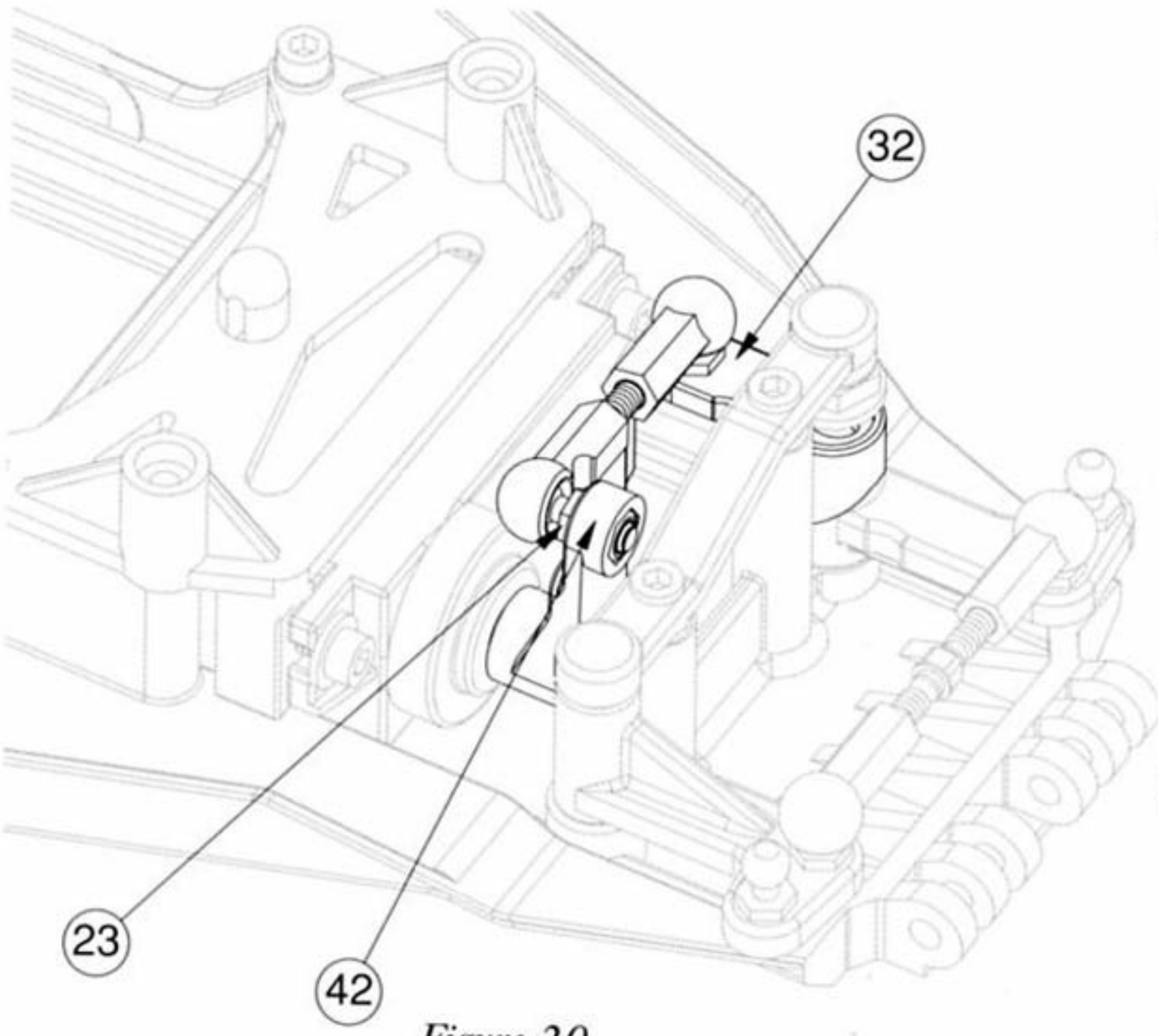


Figure 20

Figure 20B

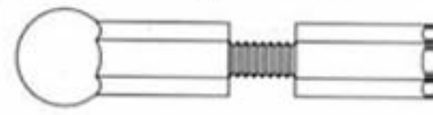
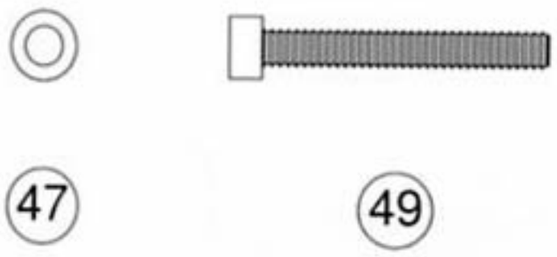


Figure 21



❑ Step 24. Rotate the front suspension assembly back until the front chassis stiffener (4) can be indexed into the chassis brace (45). Place a gold washer (47) over each of the two 4-40 x 7/8" cap-head screws (49). Insert a screw (49) through each of the two holes in the front chassis stiffener (4) and tighten.

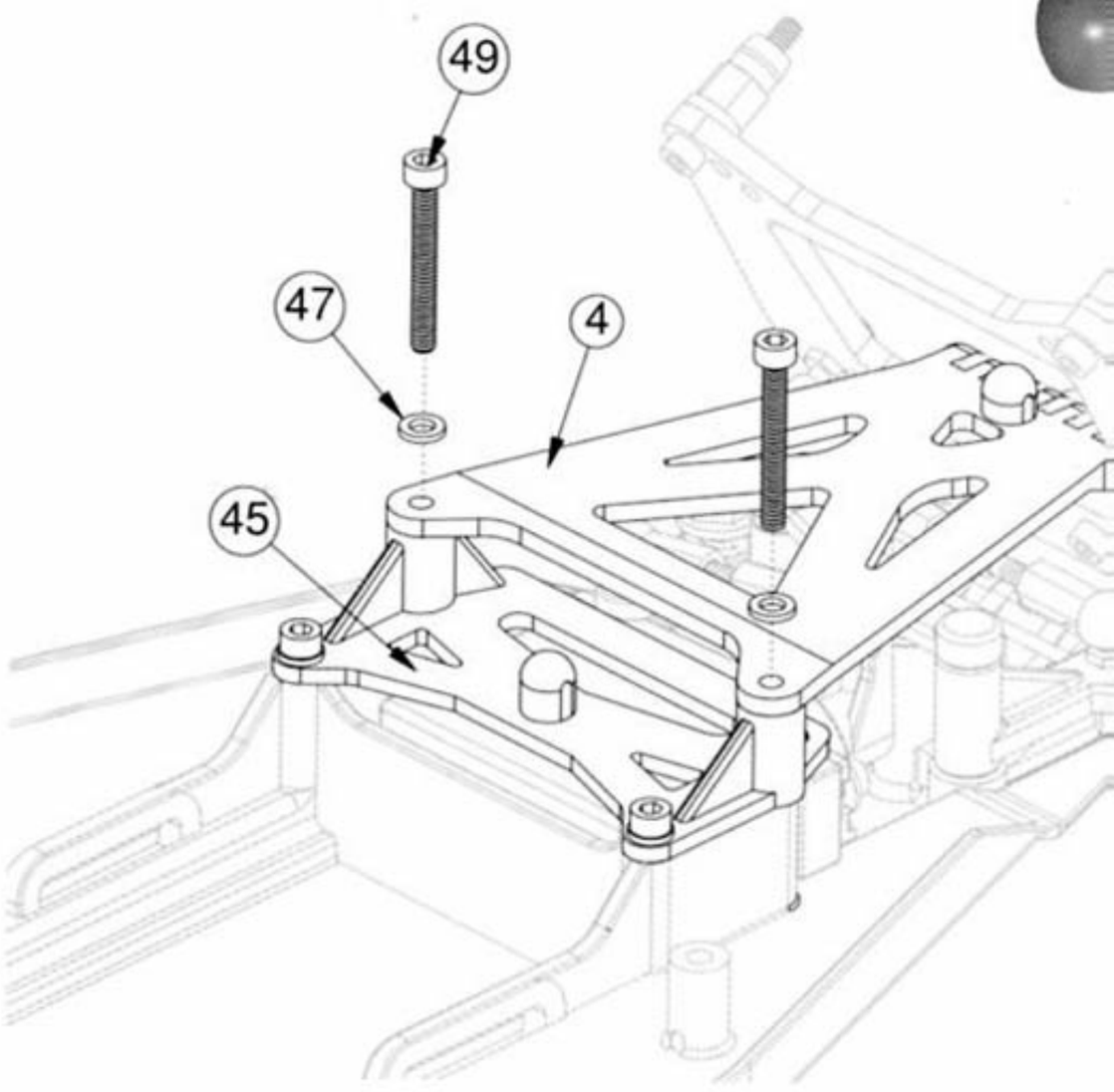
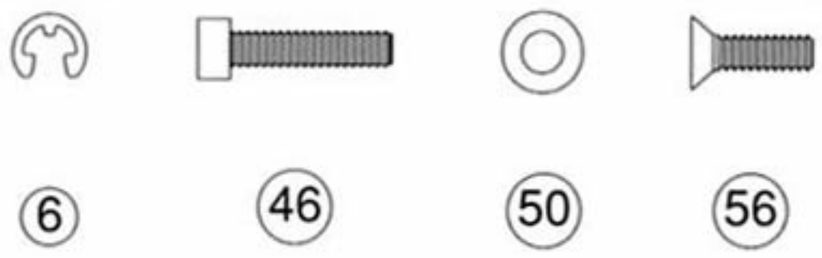


Figure 21

BAG C

Figure 22



❑ Step 1. Insert a 1/8" x 1/4" washer (50) into the recessed area on each side of the rear pivot block (51).

❑ Step 2. Place the right rear suspension arm (52) over the right side of the rear pivot block (51). Line up the holes in the arm (52) with the holes in the pivot block (51) and attach them by inserting an inner rear hinge pin (54), 'E' clip groove forward, from the rear, all the way through both pieces. Install a 1/8" E-clip (6) to the front end of the hinge pin (54).

⚠ **IMPORTANT NOTE:** The lettering on the rear pivot block should face up. The two rear arms are different. Ensure that the arm marked 'R' is on the right, and the arm marked 'L' is on the left.

❑ Step 3. Repeat Steps 1 and 2 for the left rear suspension arm (53).

❑ Step 4. Attach the rear pivot block (51) to the rear pivot plate (55) with four 4-40 x 3/8" flat-head screws (56).

⚠ **IMPORTANT NOTE:** Be sure that the pivot block is installed with the wider end to the rear.

❑ Step 5. Holding the chassis (11) upside down, insert the tab on the rear pivot plate (55) under the rear part of the chassis (11), so that the pivot plate (55) is flush with the chassis (11). Make sure that the four holes in the chassis (11) line up with the four holes in the pivot plate (55). Secure the pivot plate (55) to the chassis (11) using four 4-40 x 1/2" cap-head screws (46).

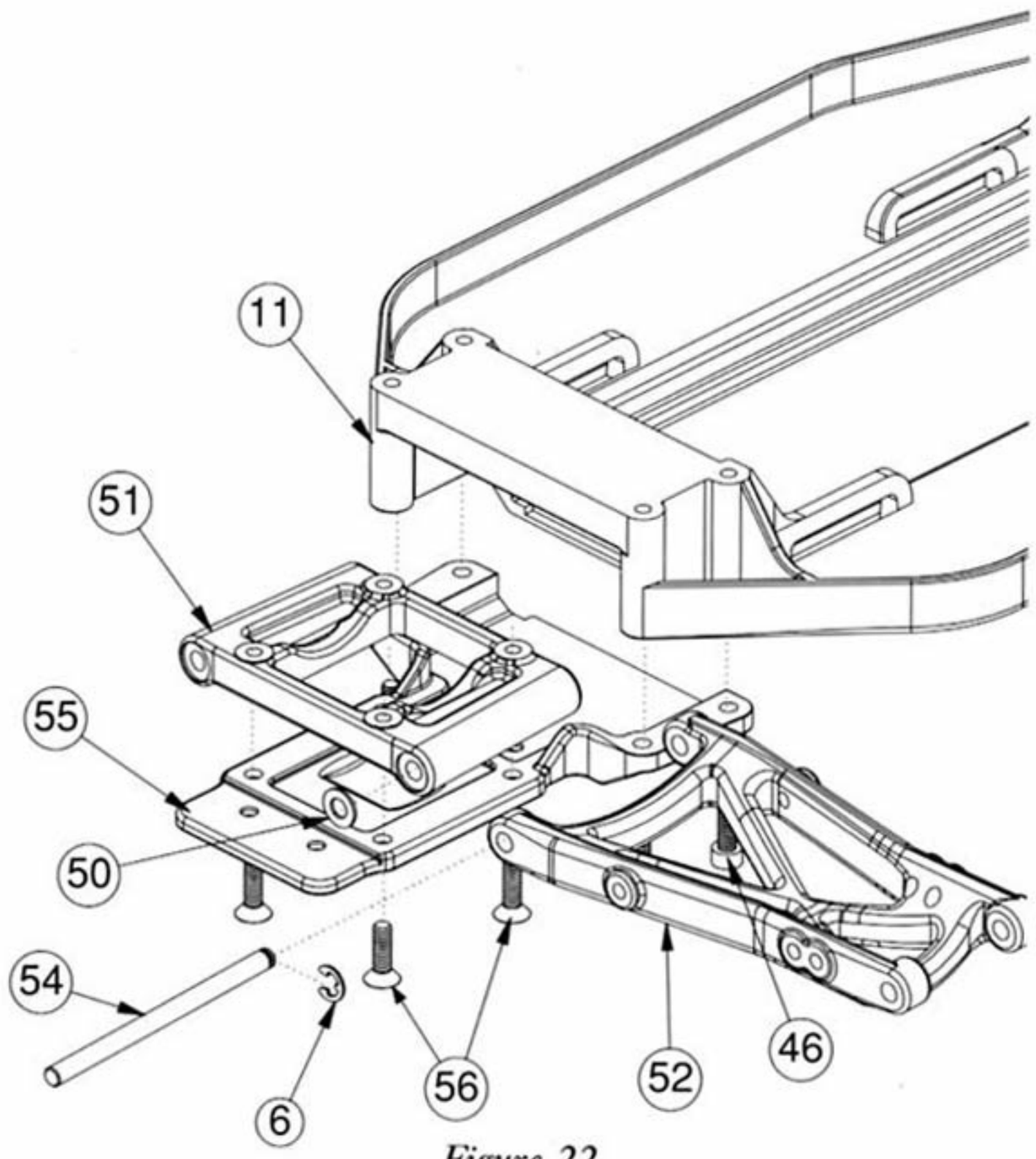
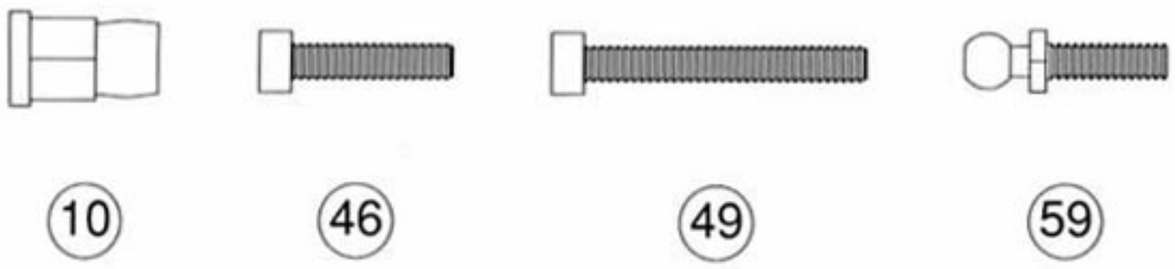


Figure 22

Figure 23



❑ Step 6. Insert two 4-40 x 7/8" cap-head screws (49) through the third hole in on each side of the rear shock tower (57) as shown. Thread top shock mount bushings (10) onto the two screws (49) and tighten. The shock mount bushings (10) should be on the side of the shock tower (57) opposite the flat surface.

❑ Step 7. Attach the rear shock tower (57) to the rear bulkhead (58) using four 4-40 x 1/2" cap-head screws (46) as shown.

❑ Step 8. Thread a 3/8" ball stud (59) into the #6 hole on each side of the rear bulkhead (58). Place a foam thing (29) over each of the two ball studs (59). See Figure 23A.

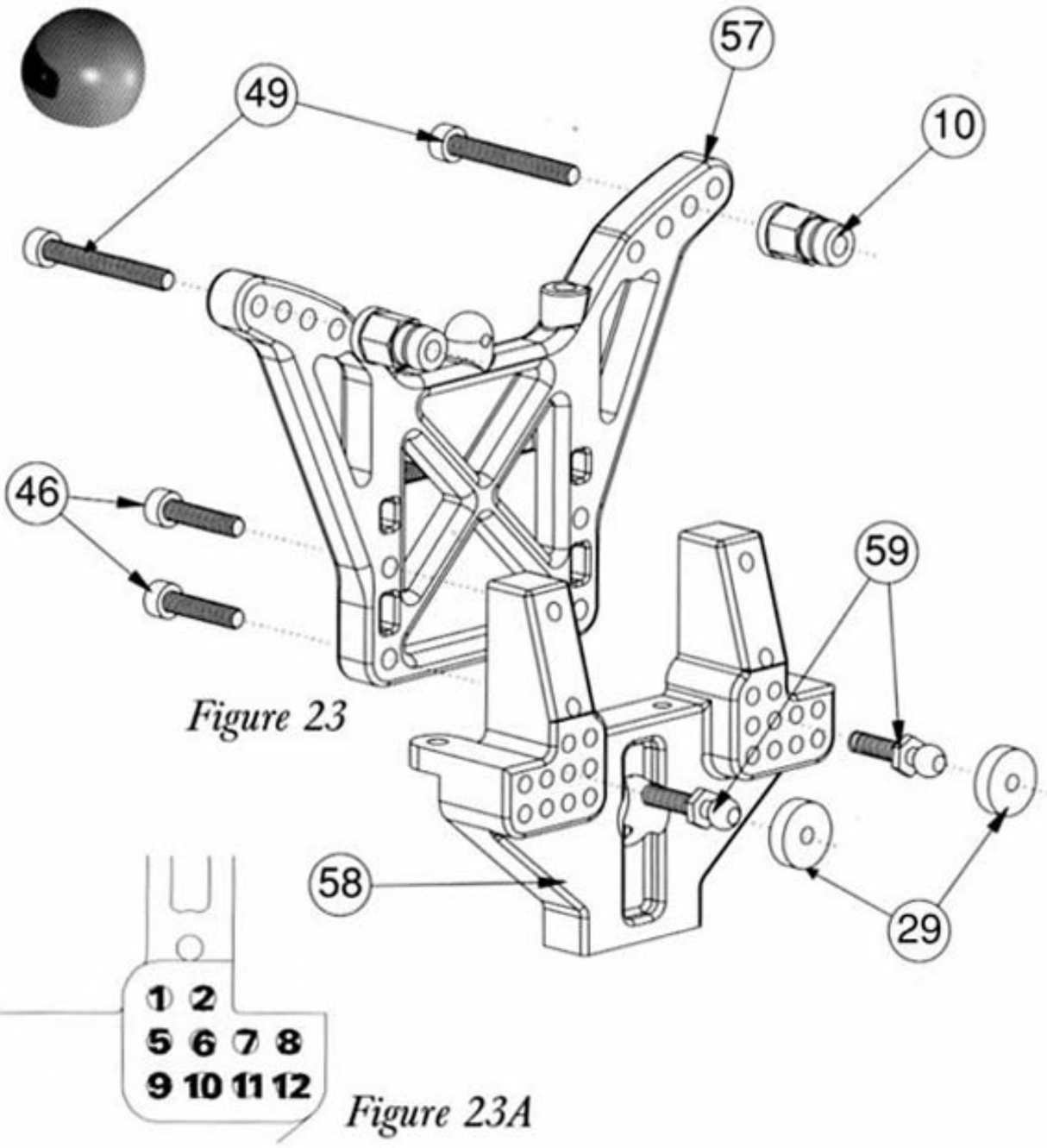


Figure 23

Figure 23A

BAG C (Continued)

Figure 24

❑ Step 9. Place the rear bulkhead (58) into the top, forward area of the rear pivot plate (55). Make sure that the bulkhead (58) is all the way down and that the mounting ears are flush with the chassis (11). Thread two 4-40 x 3/8" flat-head screws (56) through the pivot plate (55) and into the rear bulkhead (58). Do not tighten these screws yet.

❑ Step 10. Place a gold washer (47) over each of the two 4-40 x 3/8" cap-head screws (3) and partially thread the screws (3) through the two ears in the top of the bulkhead (58), into the chassis (11). Now tighten all four screws starting with the flathead screws (56).

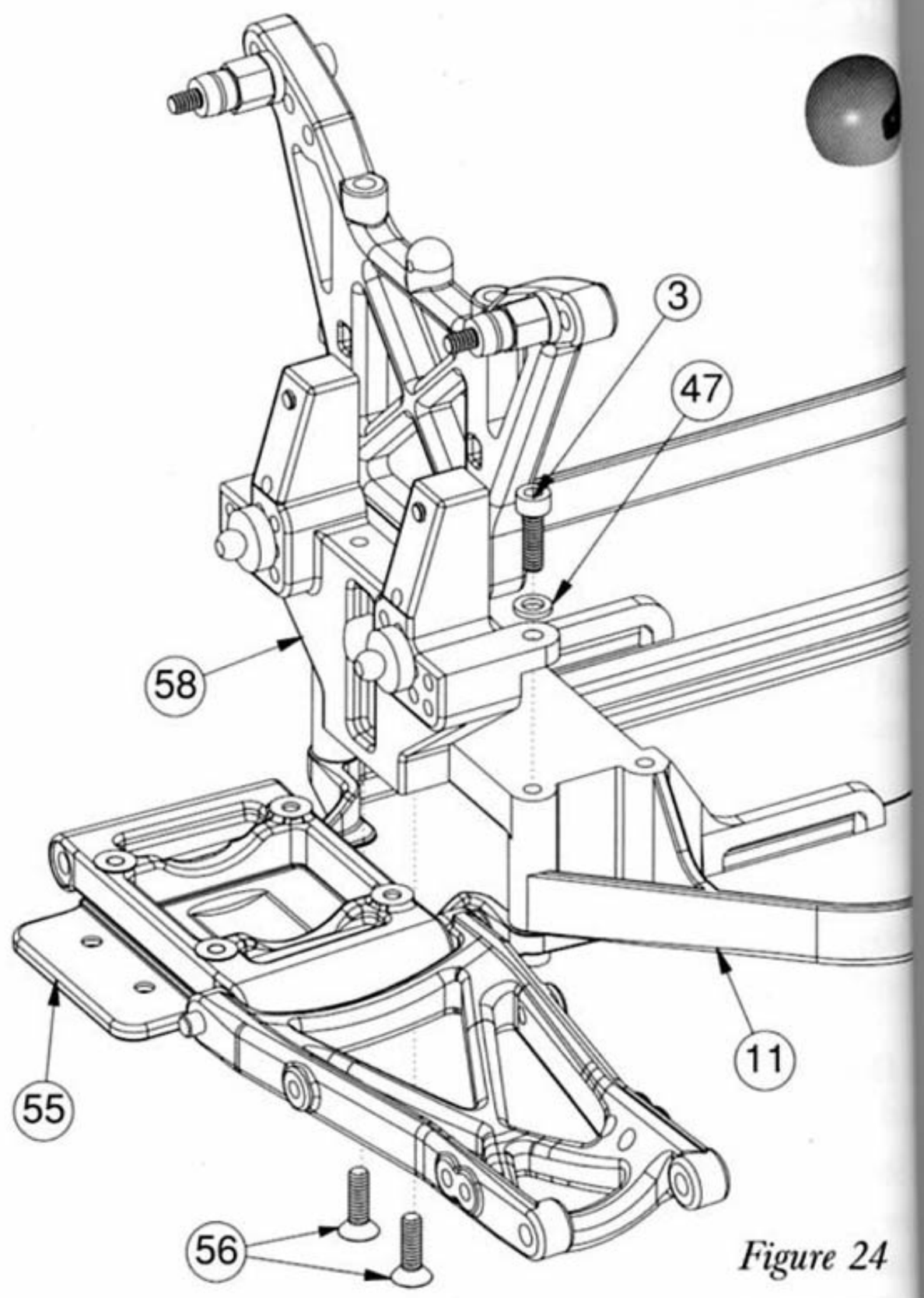
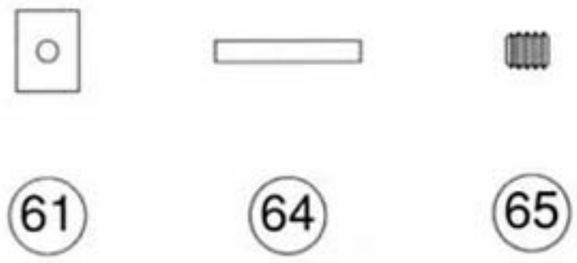


Figure 24

Figure 25



❑ Step 11. Apply a thin coat of white thrust bearing/assembly grease (60) to the outside of the CVD yoke (61). Insert the greased CVD yoke (61) into the large hole in the CVD rear axle (62) so that the hole in the CVD yoke (61) can be seen through the slots in the CVD rear axle (62).

❑ Step 12. Place the CVD dogbone (63) over the CVD rear axle (62). Align the holes in the CVD dogbone (63) with the hole in the CVD yoke (61). Secure all three parts by inserting a 1/16" x 7/16" (solid) pin (64) through the holes in the CVD dogbone (63), the slots in the CVD rear axle (62), and the hole in the CVD yoke (61).

❑ Step 13. Center the pin (64) in the CVD dogbone (63) and secure it by threading a 4-40 setscrew (65) into the end of the CVD yoke (61). Thread-lock compound (66) should be applied to the setscrew (65) before installing it.

⚠ **IMPORTANT NOTE:** Apply the enclosed thread-lock to the setscrew before threading it into the CVD yoke. If thread-lock is not used, the setscrew will loosen during operation. This will cause your car to stop running.

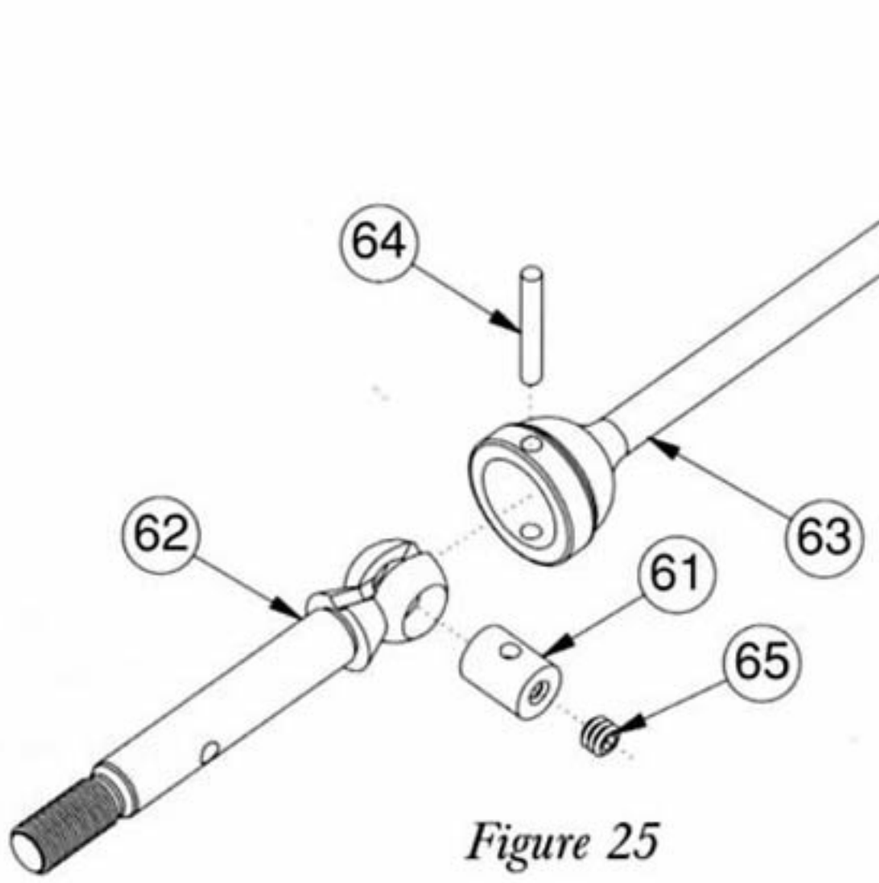


Figure 25

BAG C (Continued)

Figure 26

❑ Step 14. Thread a 1/4" ball stud (7) into the 'A' hole in the right rear hub (67), from the front (the side with the letter).

⚠ **IMPORTANT NOTE:** Do not overtighten the ball studs.

❑ Step 15. Place a foam thing (29) over the ball stud (7).

❑ Step 16. Press a 3/16" x 3/8" bearing (69) into the inside of the right rear hub (67). Slide a CVD rear axle (62) through the bearing (69) in the rear hub (67).

**NOTE: If the 3/16" x 3/8" bearing only has one Teflon™ seal (colored, woven looking) in it, position the seal to the outside of the hub.*

❑ Step 17. Slide an inner rear axle spacer (70) over the CVD rear axle (62) – from the outside – against the inside of the bearing (69). Place a second 3/16" x 3/8" bearing (69) over the CVD rear axle (62) and press the bearing (69) into the outside of the rear hub (67).

**NOTE: If the 3/16" x 3/8" bearing only has one Teflon™ seal (colored, woven looking) in it, position the seal to the outside of the hub.*

❑ Step 18. Place a outer rear axle spacer (71) over the CVD rear axle (62), against the outside bearing (69). The small side of the spacer (71) should be positioned next to the bearing (69).

❑ Step 19. Secure the CVD rear axle (62) and the spacer (71) by inserting a 1/16" x 7/16" (spirol) pin (72) through the small hole in each of the CVD rear axle (62). The pin (72) should be centered in the CVD rear axle (62).

❑ Step 20. Repeat Steps 14 - 19 for the left rear hub (68).

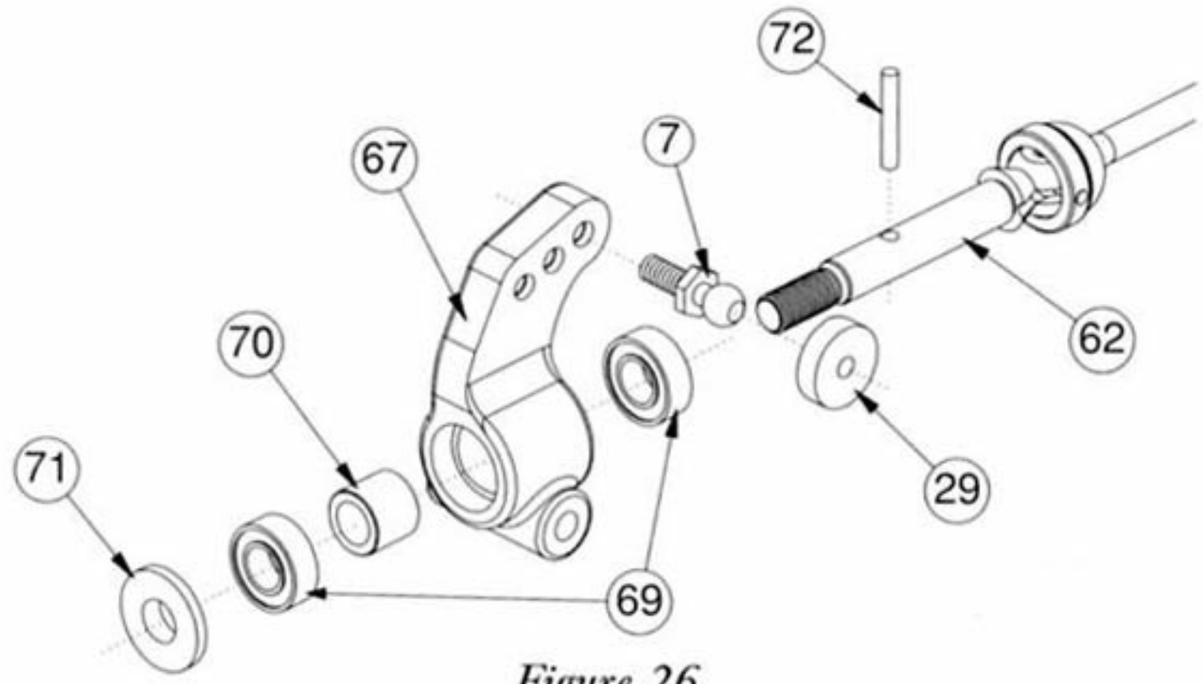


Figure 26

Figure 26A

Figure 27

5 6 73

❑ Step 21. Place the right rear hub (67) between the outer rails of the right rear suspension arm (52). Be sure that the ball stud (7) is towards the front. Position a rear hub spacer (73) between the hub (67) and the suspension arm (52) on each side of the hub (67).

❑ Step 22. Insert a 1/8" hinge pin (5) into the suspension arm (52), through each of the two spacers (73) and rear hub (67). Secure the hinge pin (5) with two 1/8" E-clips (6)

❑ Step 23. Repeat Steps 21 and 22 for the left hub (68) and left rear suspension arm (53).

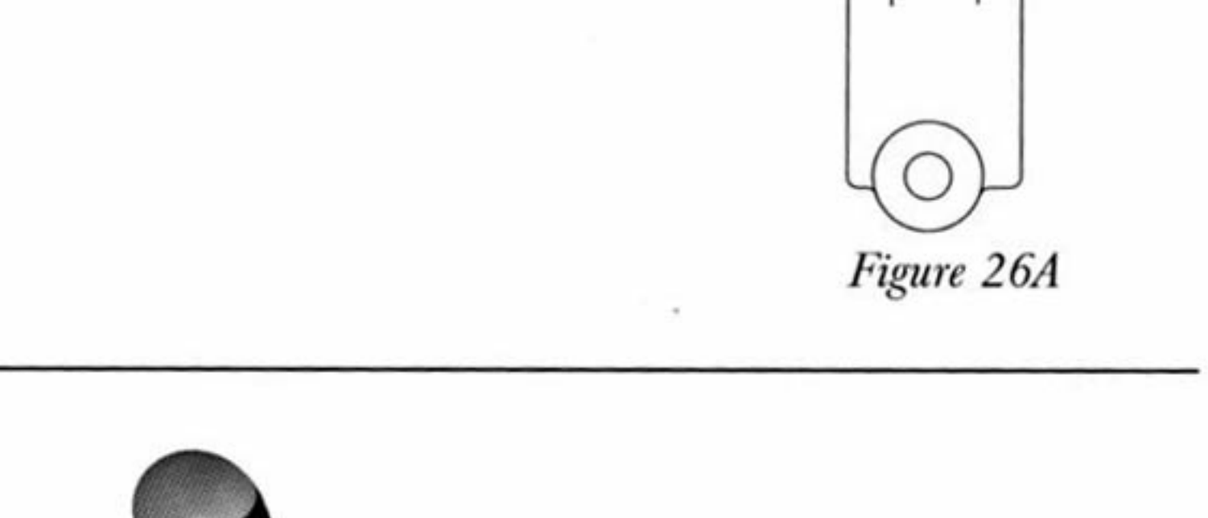
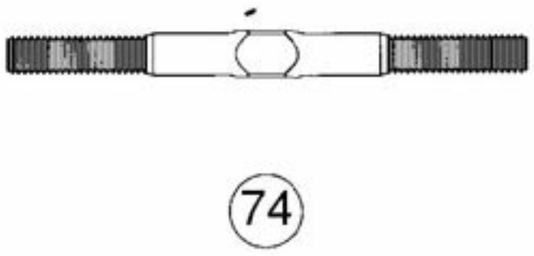


Figure 27

BAG C (Continued)

Figure 28



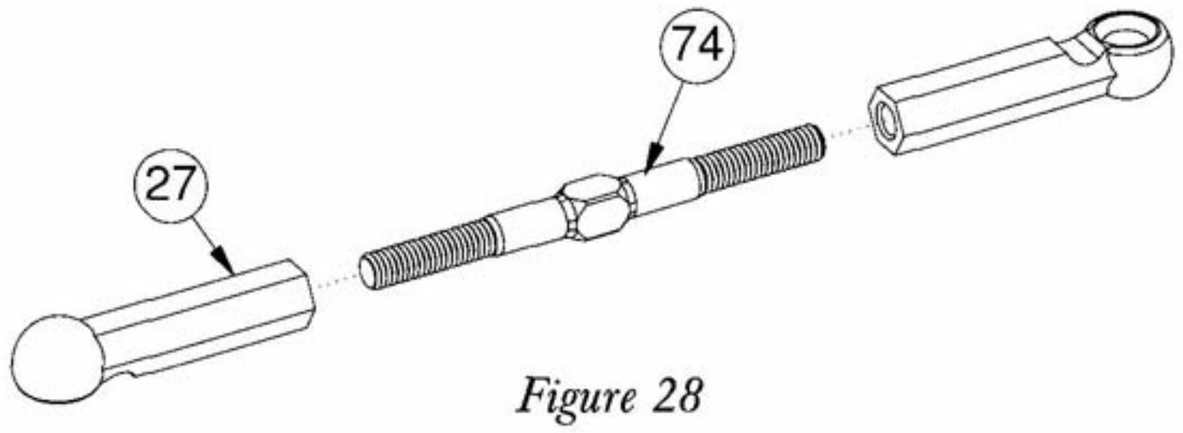


Figure 28

❑ Step 24. Thread a plastic rod end (27) onto each end of a 1-5/8" titanium turnbuckle (74). Tighten both ends (27) evenly until the rod is the same length as the one shown in Figure 28A. Make two of these rear camber links.

➽ There is a small container/package of wax included with the titanium turnbuckles. It is recommended that this wax be applied to the threads of the turnbuckles before trying to thread the plastic rod ends onto the turnbuckles. The wax will help the rod ends to thread on much easier.

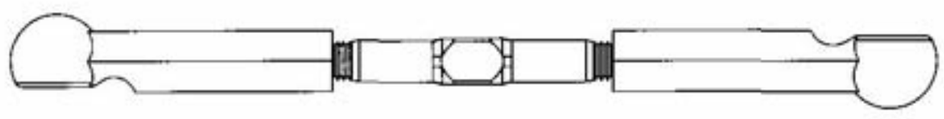


Figure 28A

Figure 29

❑ Step 25. Attach one end of a rear camber link from Step 24 to the ball stud (7) in the right rear hub (67) and the other end to the ball stud (59) in the rear bulkhead (58).

➽ Remember to attach the turnbuckles so that the threads are in the same direction on all of your linkages.

❑ Step 26. Repeat Step 25 for the left side of the car.

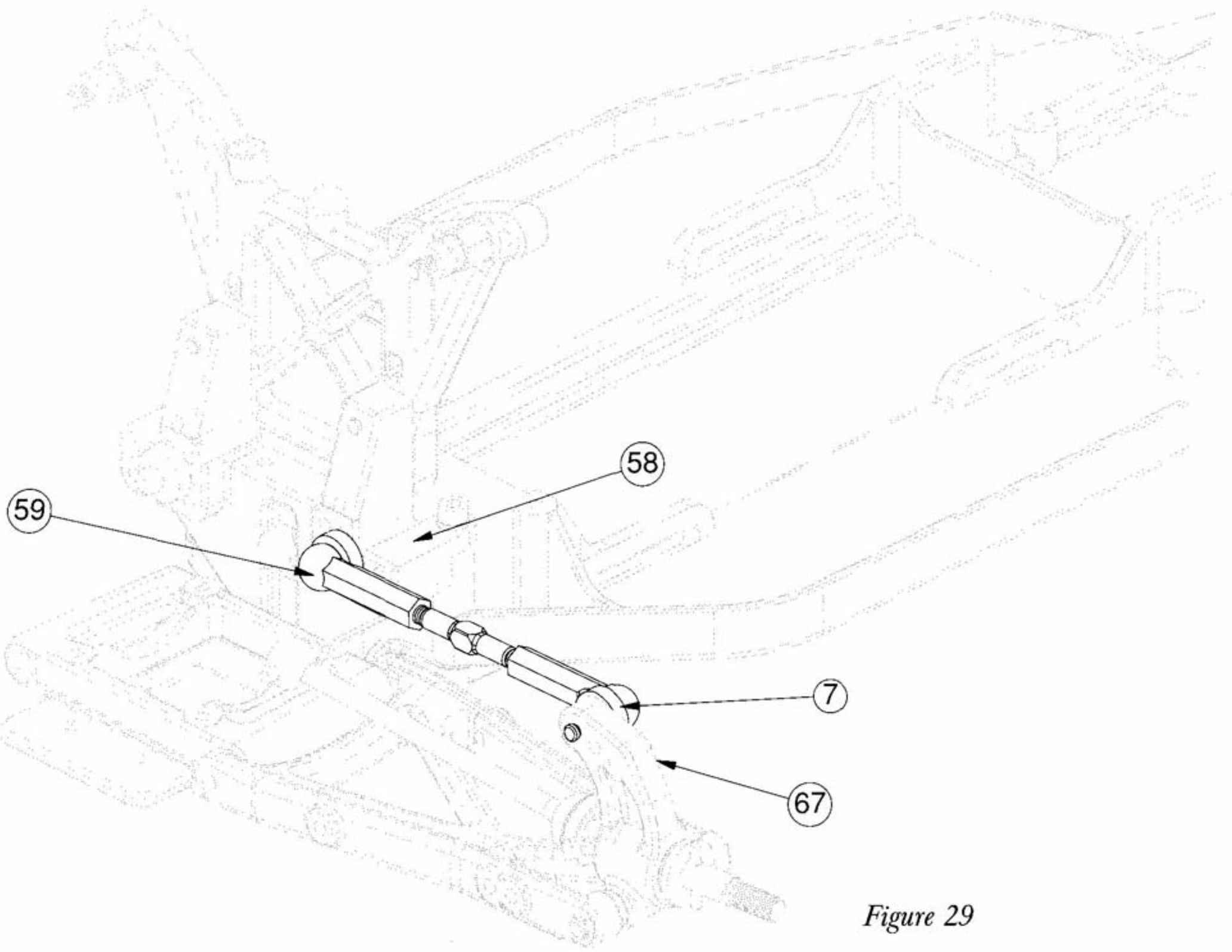


Figure 29

BAG D

STOP! Bag D requires that you pay close attention to the bearings involved in the assembly. Some bearings used during the assembly of this bag are very similar in size. It is important that you open the bags only as they are needed. The bearings that are of concern are packed in separate bags.

Figure 30

❑ Step 1. Insert a 4-40 mini lock nut (8) into the hex area of the diff nut carrier (75). The thread-locking portion of the nut (8) should be to the outside.

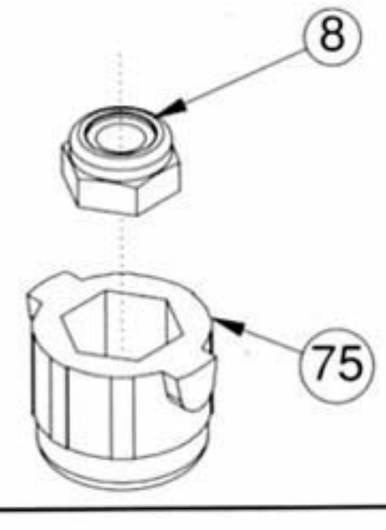
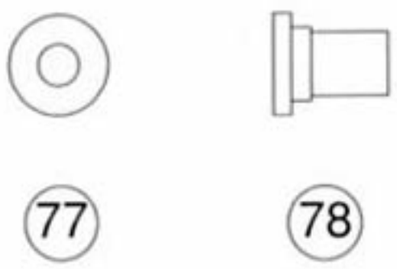


Figure 30

Figure 31



❑ Step 2. Locate the 5/64" Allen wrench (76) supplied with the kit. Place the diff nut carrier (75), nut side first, over the Allen wrench.

❑ Step 3. Stack the six beveled washers (77) over the wrench, next to the diff nut carrier (75). The washers (77) should all point the same direction and open away from the nut carrier (75).

❑ Step 4. Place the diff tube (78) over the wrench, big side first, so that it rests against the beveled washers (77).

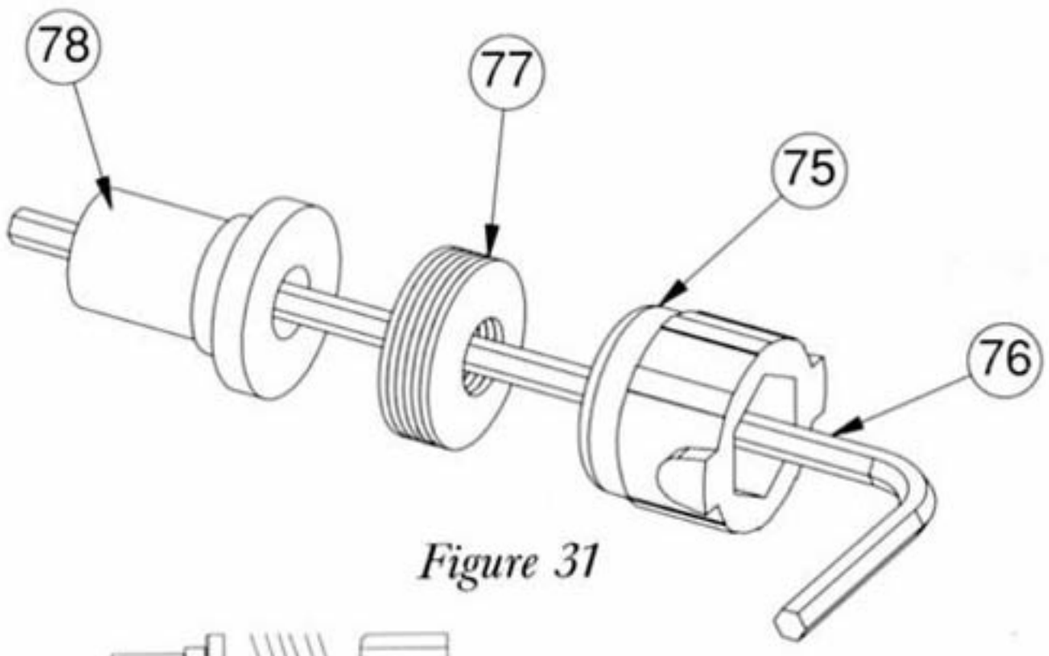


Figure 31

Figure 32

❑ Step 5. Insert all of the parts that are stacked on the wrench into one of the outdrive/diff halves (79). Line up the tabs on the diff nut carrier (75) with the slots in the outdrive (79). Make certain that the diff tube (78) is pressed all the way into the outdrive/diff half (79), and that it is straight. There is a small shoulder on the diff tube (78) that should be flush with the outer surface of the outdrive (79).

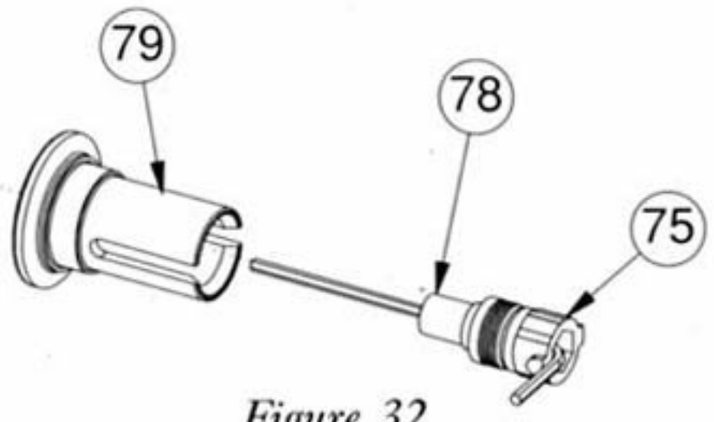
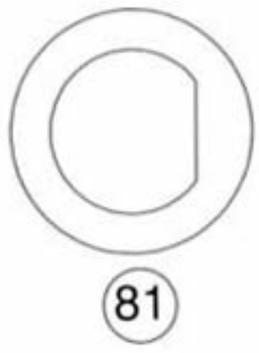


Figure 32

Figure 33



❑ Step 6. Apply a small amount of diff grease (clear) (80) to the outside ring of the outdrive/diff half (79). Attach a diff washer (81) to the outdrive (79) by lining up the flat section of the washer (81) with the flat section of the outdrive (79).

** NOTE: Only a small amount of grease is needed. It is only there to hold the diff washer in place.*

⚠ **IMPORTANT NOTE:** Do not glue the diff washers to the outdrive/diff halves. Doing so may not allow the washers to mount flat.

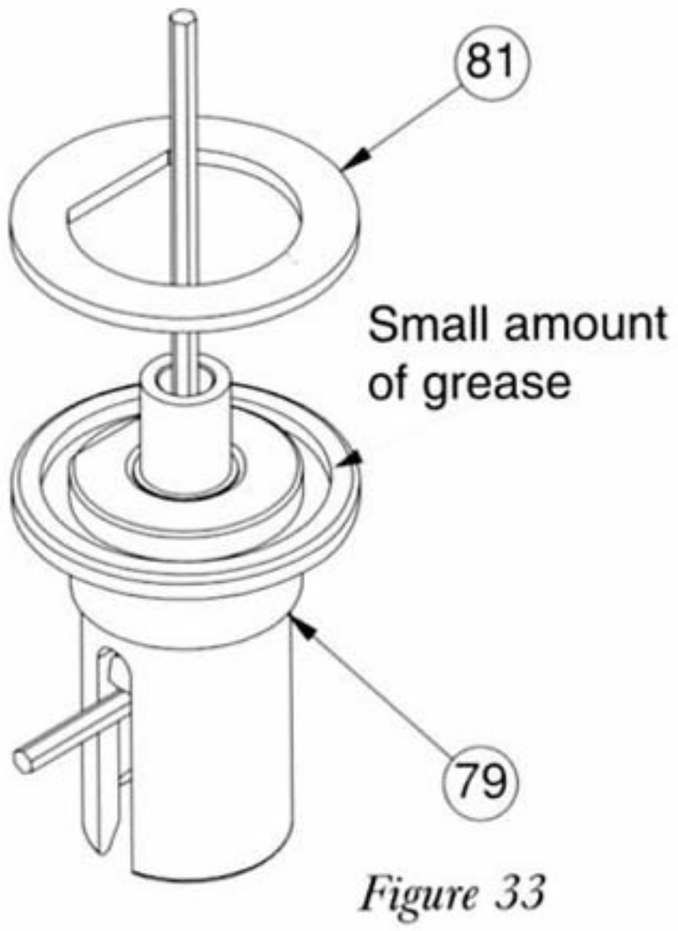
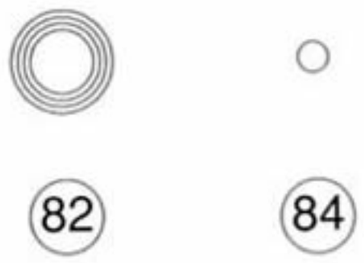


Figure 33

BAG D (Continued)

Figure 34



❑ Step 7. Insert a 5mm x 8mm bearing (82) into the center of the diff gear (83).

❑ Step 8. Press a 3/32" diff ball (84) into each of the small holes in the diff gear (83).

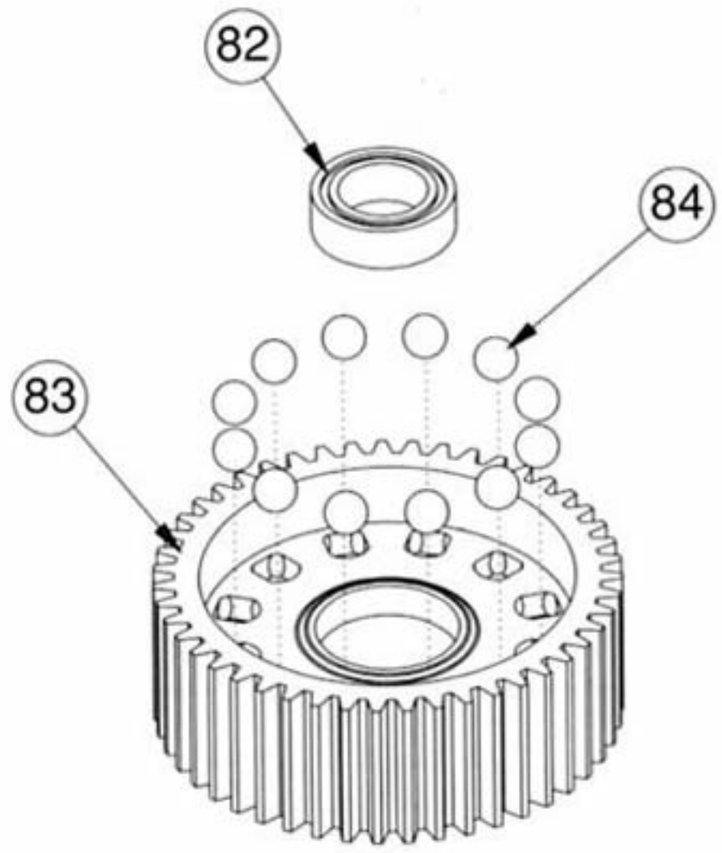


Figure 34

Figure 35

❑ Step 9. Apply a fairly heavy coat of clear diff grease (80) to the exposed side of the diff washer (81). Carefully place the diff gear (83) over the diff tube (78) so that the diff balls (84) and diff gear (83) rest against the diff washer (81).

⚠ **IMPORTANT NOTE:** It is a good idea to hold the diff nut carrier in place so the diff tube is not pushed through when the gear is pushed over it.

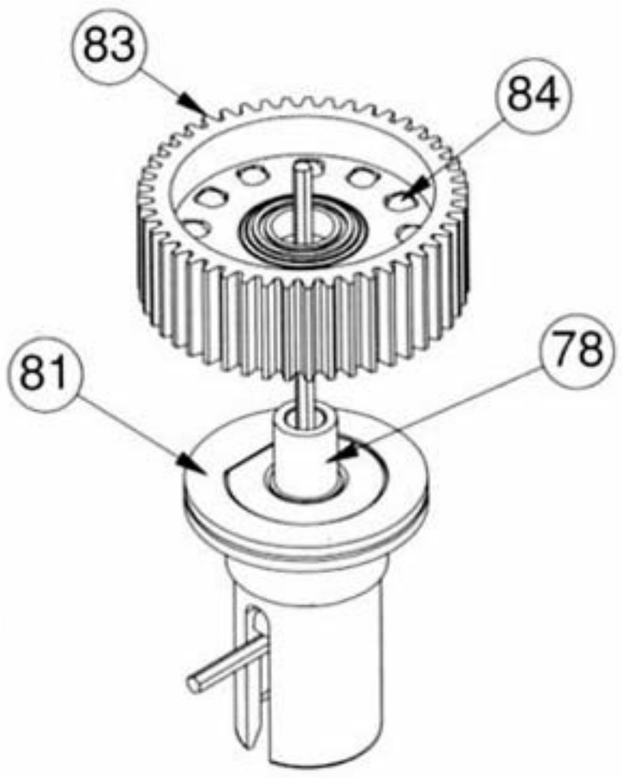
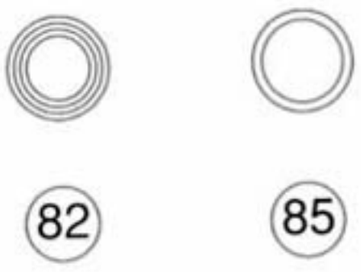


Figure 35

Figure 36



❑ Step 10. Insert a 5mm x 8mm bearing (82) into the second outdrive/diff half (79). Make sure that the bearing (82) is pushed all the way into the outdrive (79). The handle of a hobby knife or a pencil can be used to push the bearing (82) into place.

❑ Step 11. Drop the 1/4" x 5/16" shim (85) into the outdrive/diff half (79) on top of the 5mm x 8mm bearing (82). Make sure that the shim (85) is flat against the bearing (82). *Be extra careful not to bend this shim!*

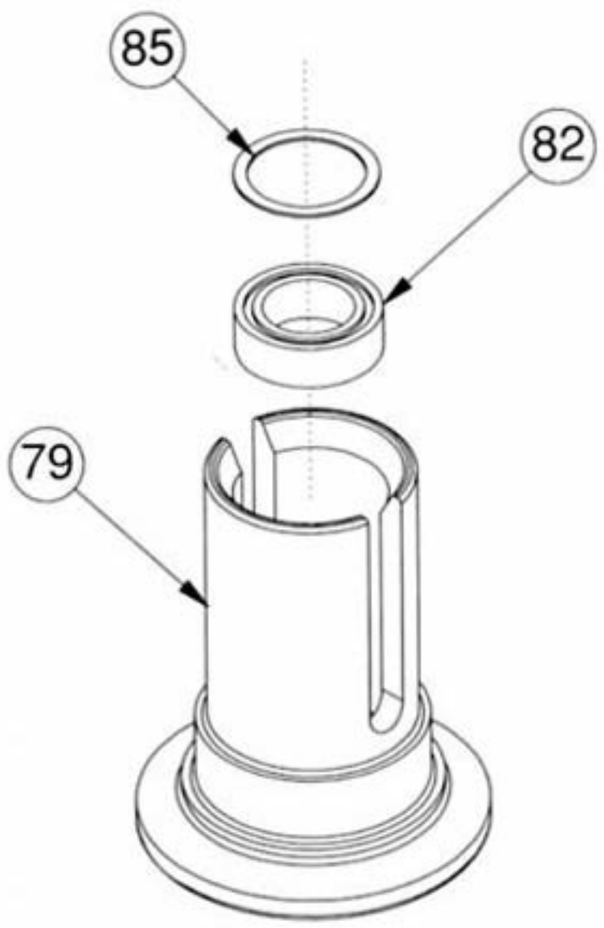
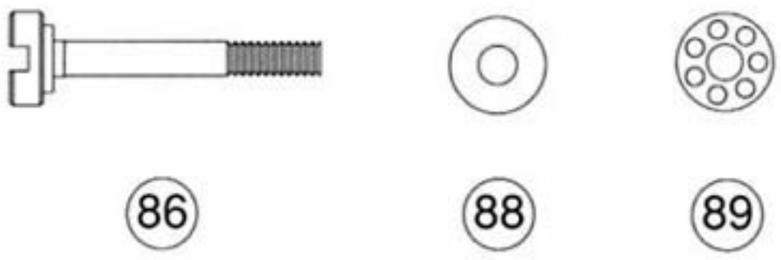


Figure 36

BAG D (Continued)

Figure 37



❑ Step 12. Locate the diff adjusting screw (86) and place the foam thrust bearing seal (87) over the shoulder of the screw (86).

❑ Step 13. Place one of the 3mm x 8mm thrust bearing washers (88) over the diff screw (86).

❑ Step 14. Grease the thrust washer (88) well and place the 3mm x 8mm thrust bearing (89) over the screw (86) and next to the washer (88). Grease the exposed side of the thrust bearing (89) well and place the second thrust washer (88) over the screw and against the thrust bearing (89).

❑ Step 15. Very carefully insert the diff screw (86), with the thrust bearing assembly installed, into the outdrive (79). Be very careful not to bend or pinch the shim (85) while inserting the diff screw (86). Pull the threaded end of the diff screw (86) until the thrust bearing assembly rests against the shim (85) and bearing (82) inside of the outdrive (79).

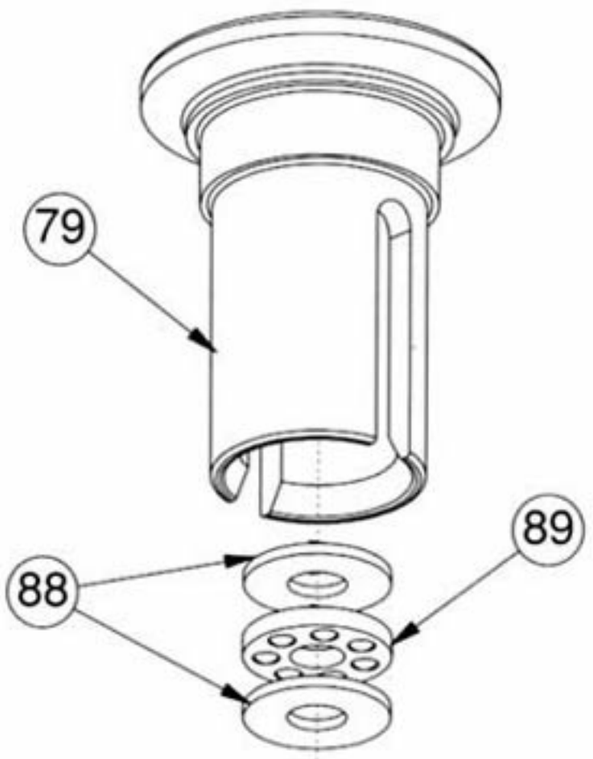
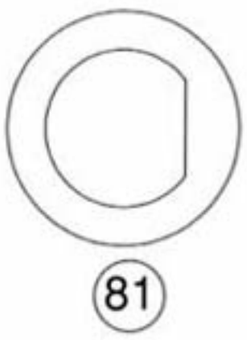


Figure 37

Figure 38



❑ Step 16. Locate the smallest of the Allen wrenches (76) and place it through the slot in the outdrive/diff half (79) containing the diff screw (86). Slide the wrench all the way against the screw (86). By handling the outdrive/diff half (79) with the wrench inserted, the diff screw (86) will be held in place while finishing assembly of the differential.

❑ Step 17. Apply a small amount of clear diff grease (80) to the outer ring of the outdrive (79). Install the second diff washer (81) again lining up the flat sections of the outdrive/diff half (73) with the flat sections in the washer (81). Apply a fairly heavy coat of grease (80) to the exposed side of the diff washer (81).

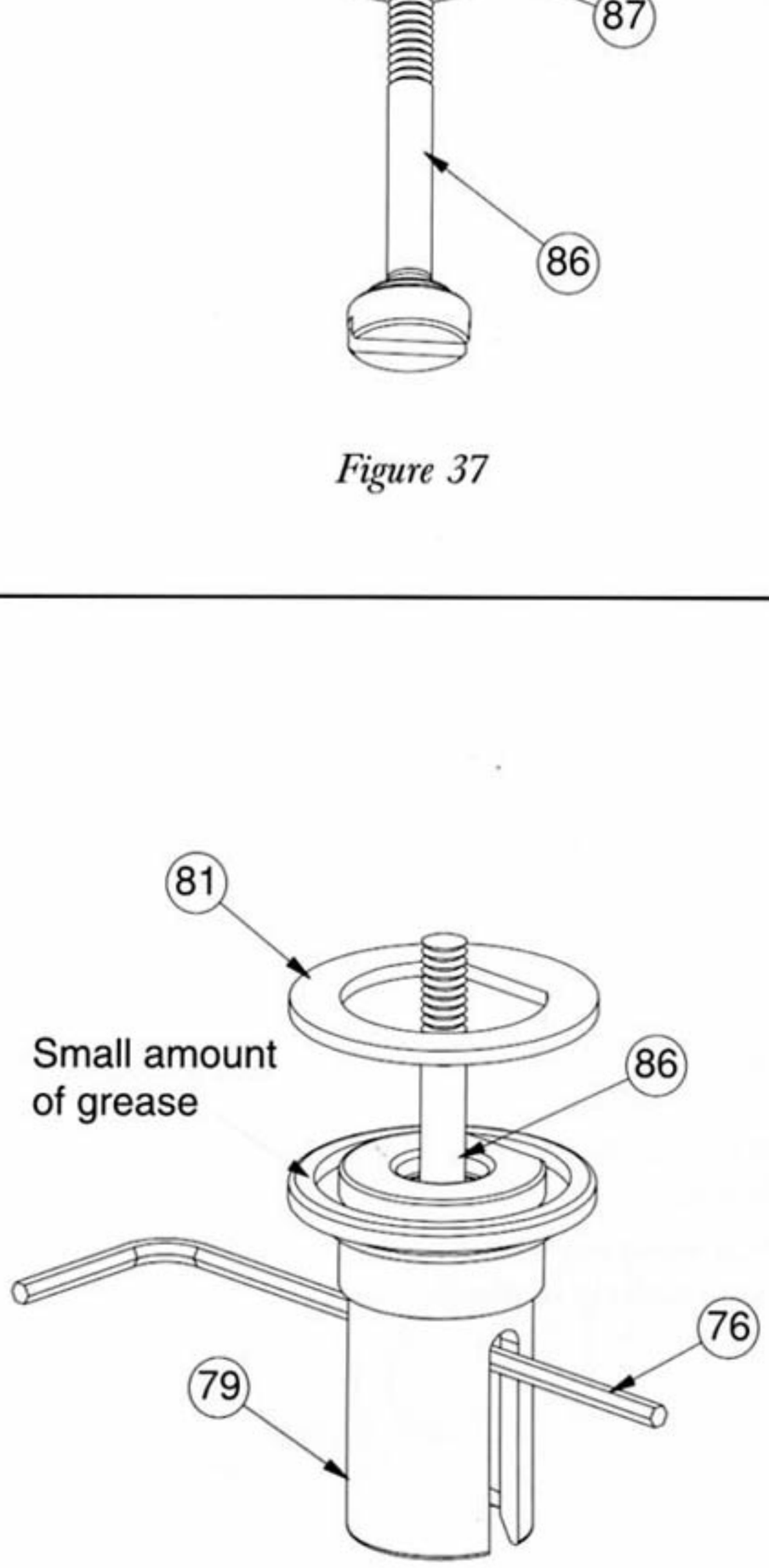


Figure 38

BAG D (Continued)

Figure 39

❑ Step 18. While holding the outdrive/diff half (79) with the Allen wrench inserted, carefully place the two outdrive/diff halves (79) together.

❑ Step 19. Make sure that the slot in the diff screw (86) is lined up with the slot in the outdrive/diff half (79) and that the Allen wrench is inserted in the slot in the diff screw (86).

❑ Step 20. Hold the diff so that the outdrive/diff half (79) with the diff nut carrier (75) is pointing up. Slowly turn the top diff half clockwise to thread the diff screw (86) into the 4-40 mini nut (8) in the diff nut carrier (75). Thread the two halves together until the screw just starts to snug up.

** NOTE: If the screw will not thread into the nut, make sure that the nut carrier is pushed all the way into the outdrive/diff half.*

When tightening the diff, tighten the screw a little and then "work" the diff a little. Then tighten the diff a little more and "work" the diff again. Continue this until the diff is tight. This will insure proper seating of all the parts in the diff assembly.

❑ Step 21. Tighten the diff until the gear (83) cannot be turned while both of the outdrives (79) are being held. Final diff adjustment should be made after completion of the car.

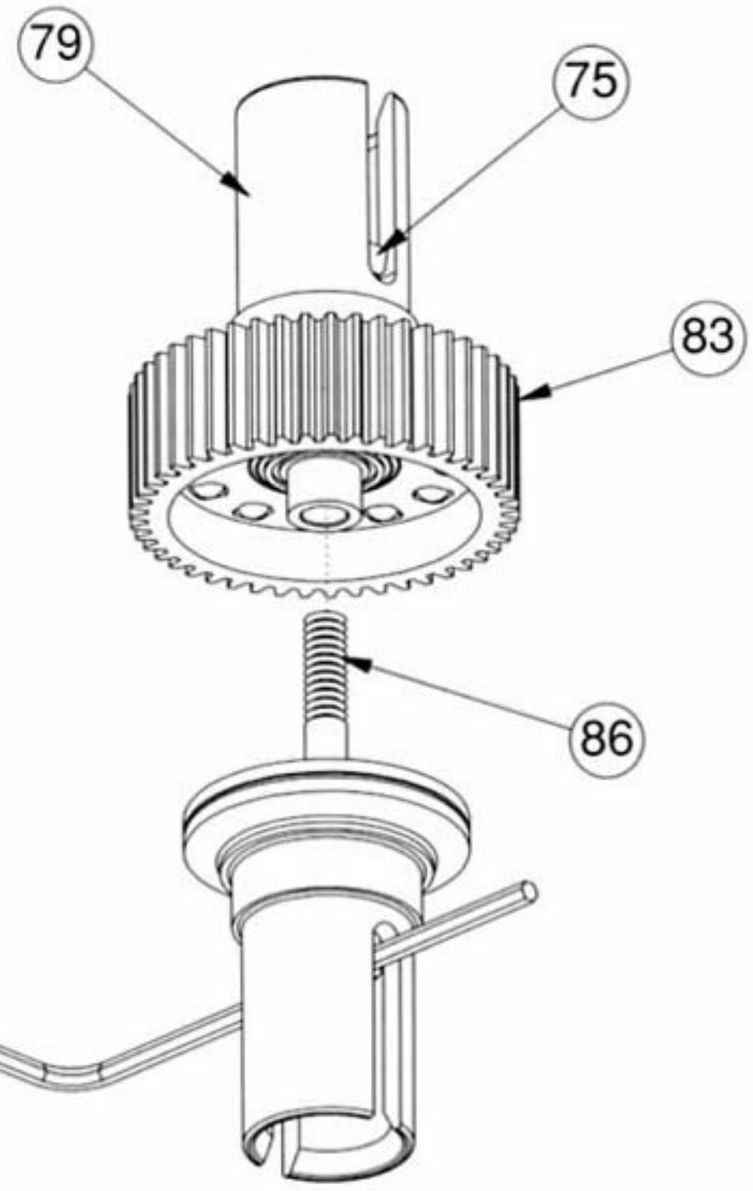


Figure 39

Figure 40

90

❑ Step 22. Thread the 4-40 x 1" setscrew (90) all the way into the threaded side of the aluminum top gear/slipper shaft (91). Make sure that the setscrew (90) is ***TIGHT!***

**NOTE: Some top gear/slipper shaft assemblies may be preassmebled from the factory.*

A small amount of liquid thread-lock will help to hold the setscrew securely in place.

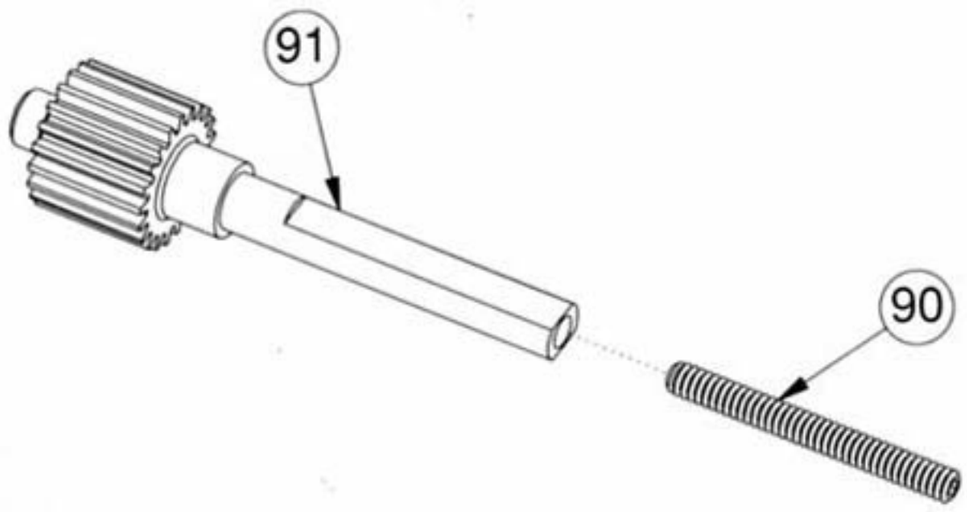
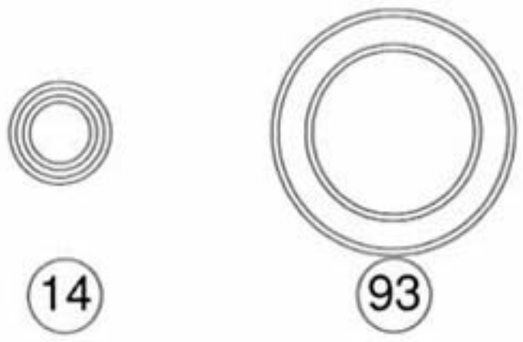


Figure 40

BAG D (Continued)

Figure 41



❑ Step 23. Insert a 3/16" x 5/16" bearing (14) into the top bearing seat of the left gearbox half (92).

**NOTE: If the 3/16" x 5/16" bearing only has one Teflon™ seal (colored, woven looking) in it, position the seal to the outside of the gearbox half.*

❑ Step 24. Insert a 1/2" x 3/4" bearing (93) into the lower bearing seat of the left gearbox half (92).

**NOTE: If the 1/2" x 3/4" bearing only has one Teflon™ seal (colored, woven looking) in it, position the seal to the outside of the gearbox half.*

⚠ **IMPORTANT NOTE:** Never allow the gearbox halves to come into direct contact with any type of motor spray. The material used on these parts was selected with performance in mind, and some motor sprays can damage the parts.

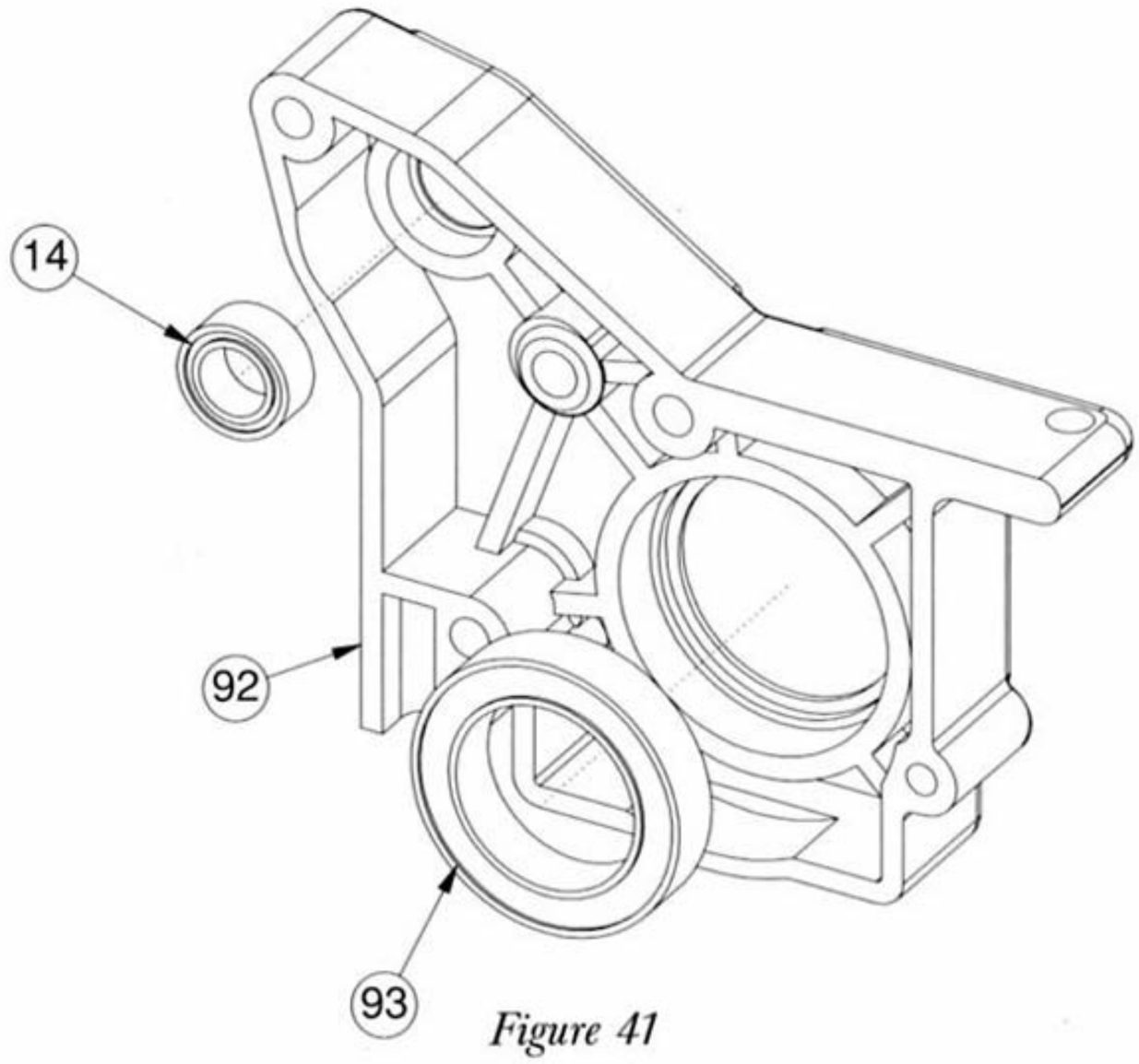
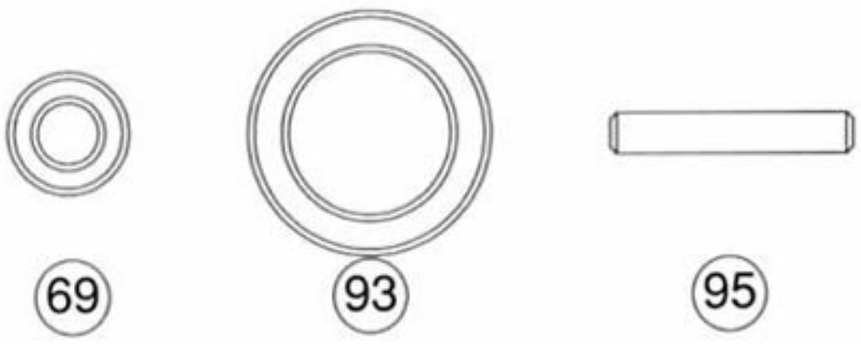


Figure 41

Figure 42



❑ Step 25. Insert a 3/16" x 3/8" bearing (69) into the top bearing seat of the right gearbox half (94). Carefully push the bearing (69) all the way into the bearing seat using a pen or the handle of a hobby knife. Care should be taken not to damage the seals on the bearing (69).

❑ Step 26. Insert a 1/2" x 3/4" bearing (93) into the lower bearing seat of the right gearbox half (94).

❑ Step 27. Press, and lightly tap, the idler gear shaft (95), into the hole in the center of the right gearbox half (94).

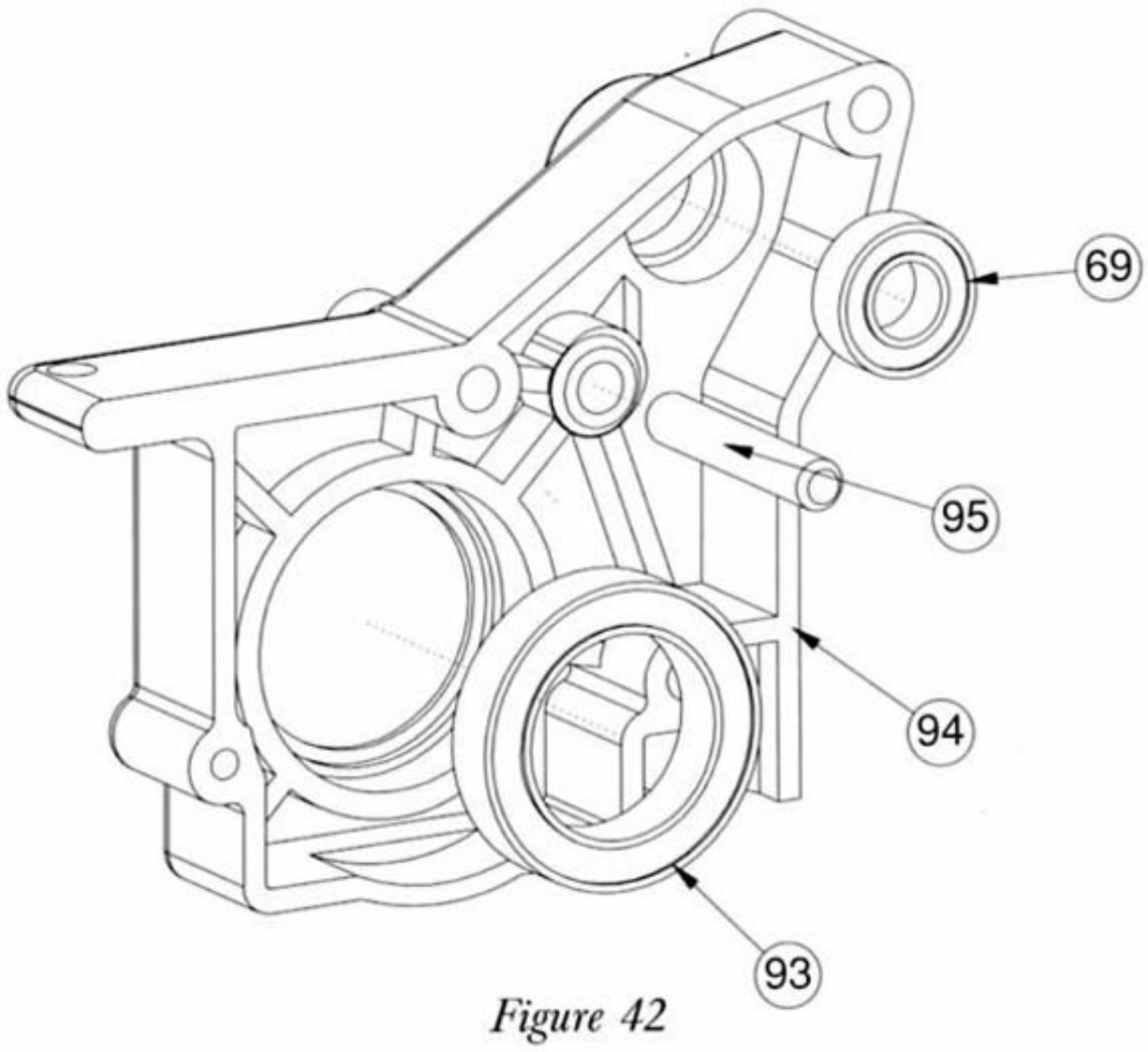
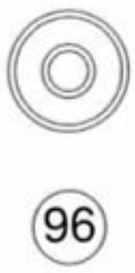


Figure 42

BAG D (Continued)

Figure 43



❑ Step 28. Insert the top gear/slipper shaft (91), threaded side first, through the bearing (69) in the right gearbox half (94).

❑ Step 29. Apply a thin coat of white assembly grease (60) to the teeth on the aluminum top gear/slipper shaft (91).

❑ Step 30. Insert a 1/8" x 3/8" bearing (96) into each side of the idler gear (97). Place the idler gear (97) over the idler gear shaft (95).

❑ Step 31. Insert the differential assembly into the 1/2" x 3/4" bearing (93) in the right gearbox half (94). Insert the differential diff nut carrier (75) side first.

** NOTE: Align the teeth on all gears when installing the differential.*

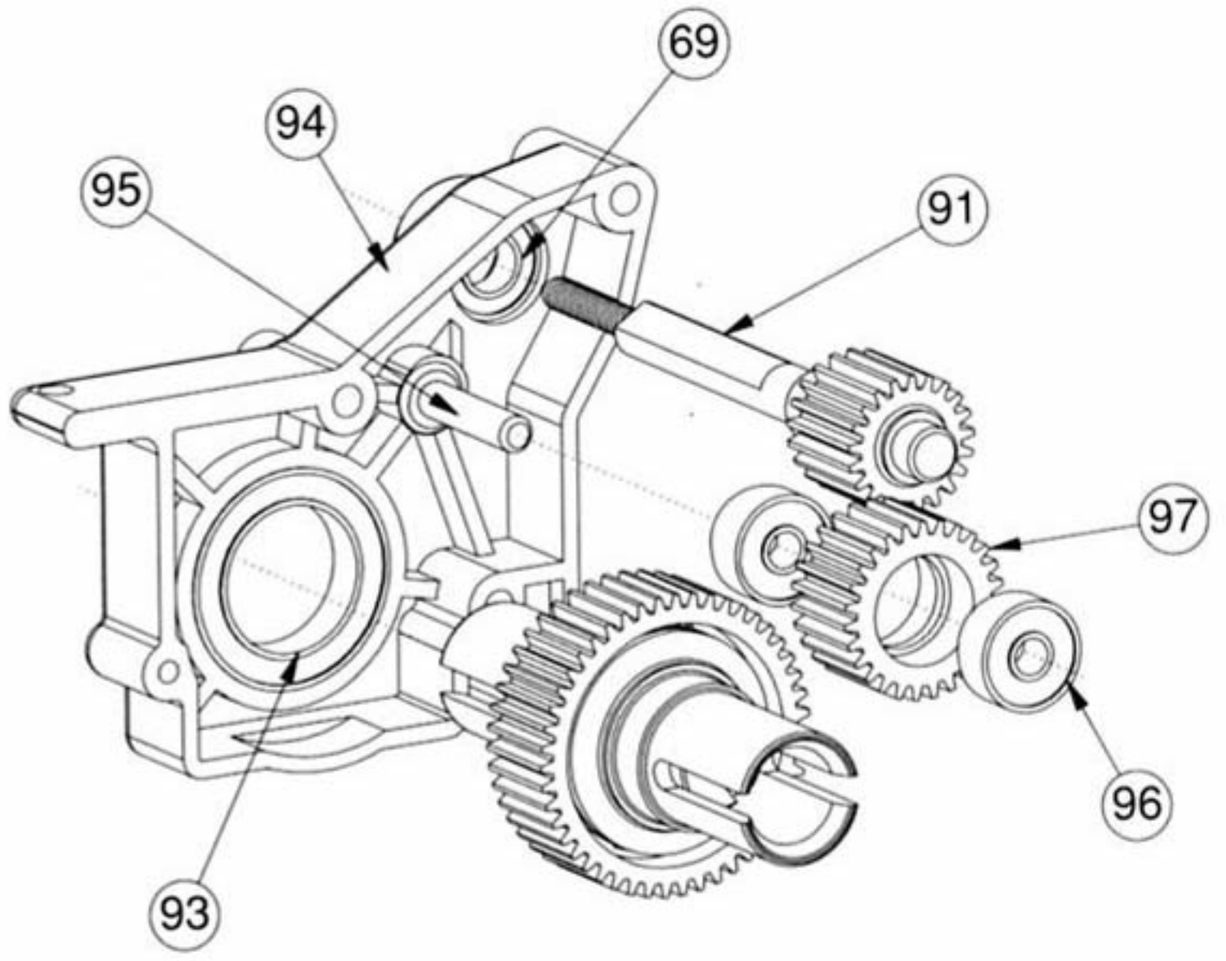
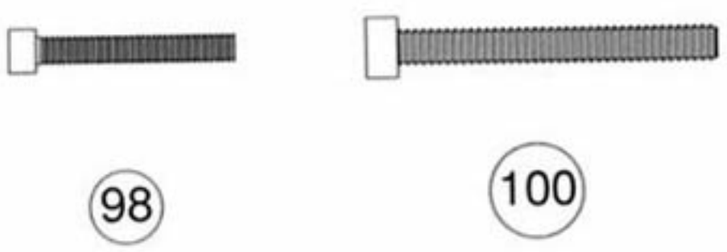


Figure 43

Figure 44



❑ Step 32. Apply a thin coat of white assembly grease (60) along the inside edge of the right gearbox half (94). This will help seal the gearbox once it is assembled.

❑ Step 33. Carefully place the left gearbox half (92) over the assembled right gearbox half (94).

❑ Step 34. Thread the 2-56 x 5/8" cap-head screw (98) into the lower, forward hole in the transmission housing from the left side.

**NOTE: Do not tighten the screw yet. Just snug it up.*

❑ Step 35. Place the motor plate (99) against the right gearbox half (94) and line up the three holes in the transmission housing with the three holes in the motor plate (99).

❑ Step 36. Insert a 4-40 x 1" cap-head screw (100) into each of the three holes in the left gearbox half (92) and thread them into the motor plate (99). Tighten the three 4-40 x 1" screws (100), followed by the 2-56 x 5/8" cap-head screw (98).

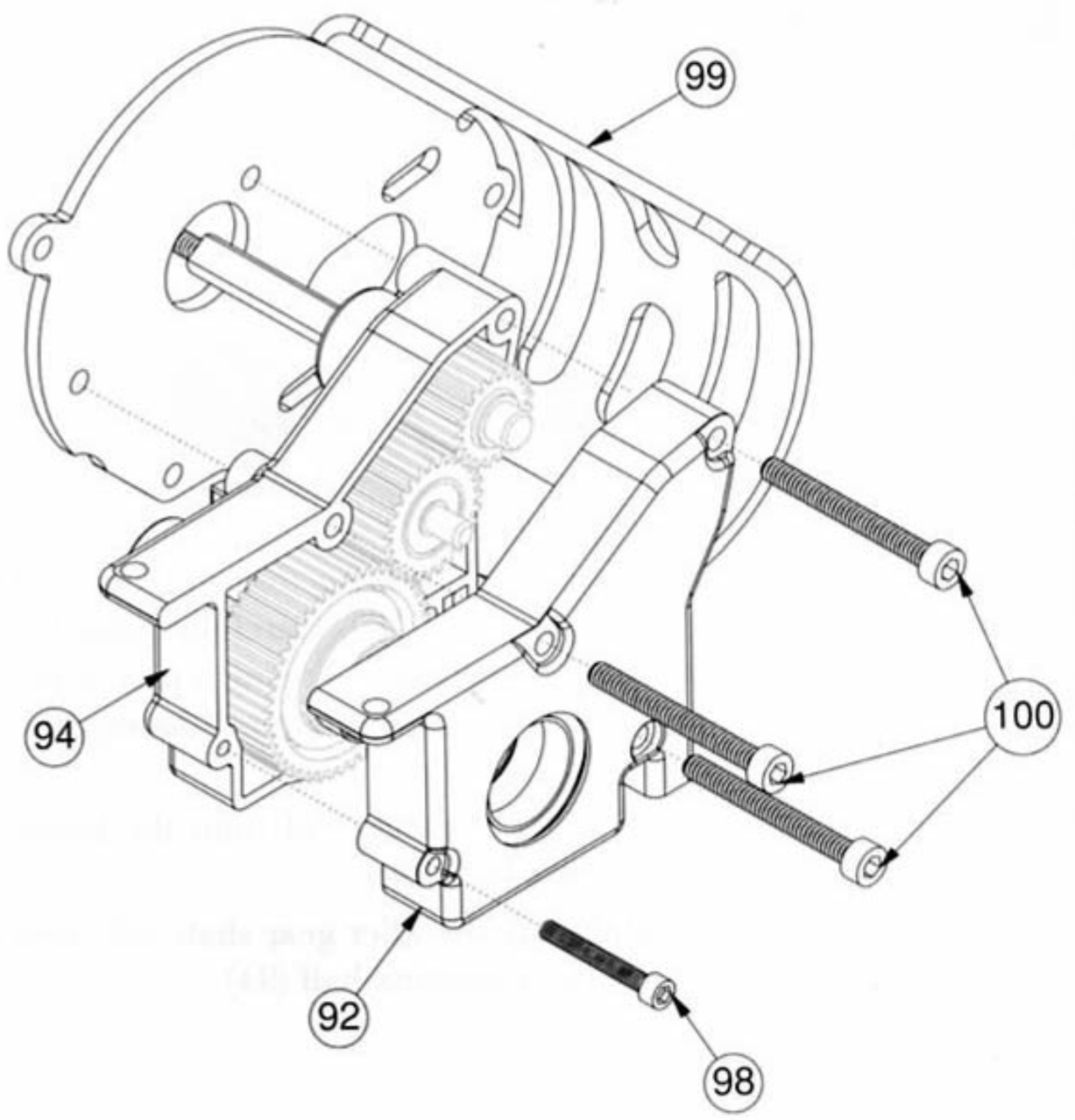
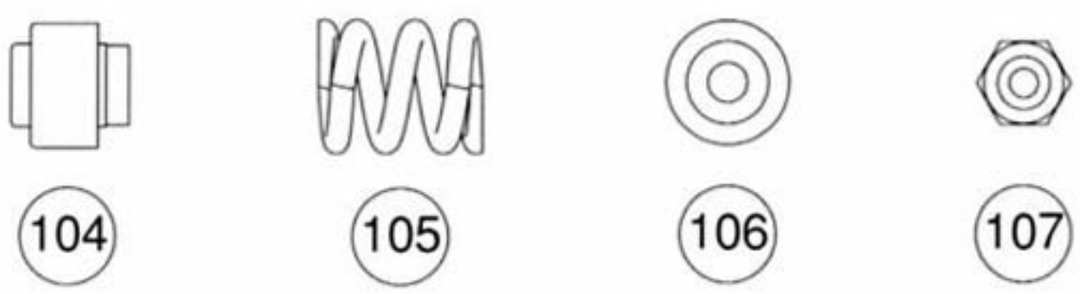


Figure 44

BAG D (Continued)

Figure 45



❑ Step 37. Slide the slipper back plate (101) over the slipper shaft (91), aligning the flat sections on the slipper shaft (91) with the flat sections of the back plate (101).

❑ Step 38. Place the slipper pad (102) on one side of the spur gear (103) and align the notches on the spur gear (103) with the notches on the slipper pad (102).

❑ Step 39. Place the spur gear (103), pad side first, over the slipper shaft (91). The slipper pad (102) should rest against the slipper back plate (101).

**NOTE: Ensure that the slipper pad remains indexed in the spur gear.*

❑ Step 40. Install the second slipper pad (102) to the exposed side of the spur gear (103). Again, align the notches on the spur gear (103) with the notches on the slipper pad (102).

❑ Step 41. Place the second slipper back plate (101) over the slipper shaft (91) so that the large, flat surface of the back plate (101) rests against the slipper pad (102).

❑ Step 42. Slide the slipper spacer (104), long side first, onto the shaft (91) and against the outer slipper back plate (101).

❑ Step 43. Place the gold slipper spring (105) over the shaft (91), followed by the spring retaining washer (106) and secure with the 4-40 aluminum lock nut (107).

⚠ **IMPORTANT NOTE:** Before tightening the nut, check to see that the slipper pads are properly aligned with the spur gear on both sides. If not, align them before proceeding.

❑ Step 44. Tighten the 4-40 lock nut (107) all the way down, and then back it off four full turns (i.e., 360° x 4). This is a good starting point for adjustment. Final adjustment can be made later.

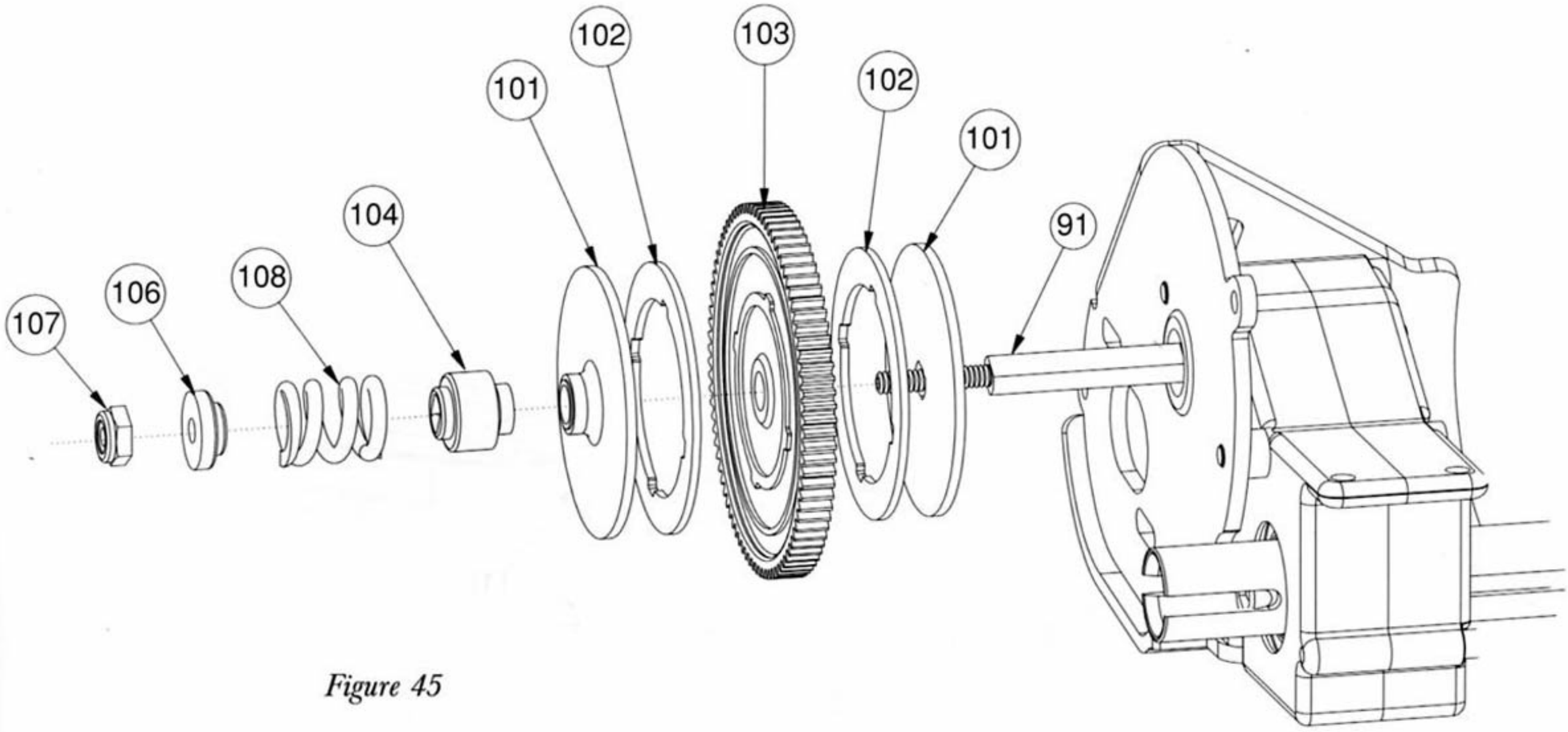


Figure 45

BAG D (Continued)

Figure 46

❑ Step 45. Place the assembled chassis on a flat table so that the rear suspension arms (52), (53) are flat and the chassis (11) is flat on the table. This will make installing the transmission a little easier.

❑ Step 46. Insert the CVD dogbones (63) into each of the outdrive/diff halves (79) and place the transmission into the rear pivot plate (55).

❑ Step 47. Align the two forward holes in the transmission housing with the two holes in the rear bulkhead (58).

❑ Step 48. Place a gold washer (47) over each of the two 4-40 x 1/2" cap-head screws (46) and thread one through each of the two holes in the transmission housing and into the rear bulkhead (58).

**NOTE: Do not tighten the screws all the way yet! Leave the screw head about 1/16" above the transmission housing.*

❑ Step 49. Hold the rear arms (52), (53) up so that the dogbones (63) stay in place, and turn the car over. Apply a small amount of white assembly grease (60) to each of the two 4-40 x 1/2" flat-head screws (108). Thread the screws (108) through the two holes in the back of the rear pivot plate (55), through the motor plate (99), and into the transmission housing.

❑ Step 50. Tighten these two screws (108) all the way. Turn the car back over, being careful to keep the dogbones in place, and tighten the other two screws (46).

** NOTE: It's a good idea to leave your car sitting on a flat surface until the shocks are assembled and installed. This way the dogbones will stay in place.*

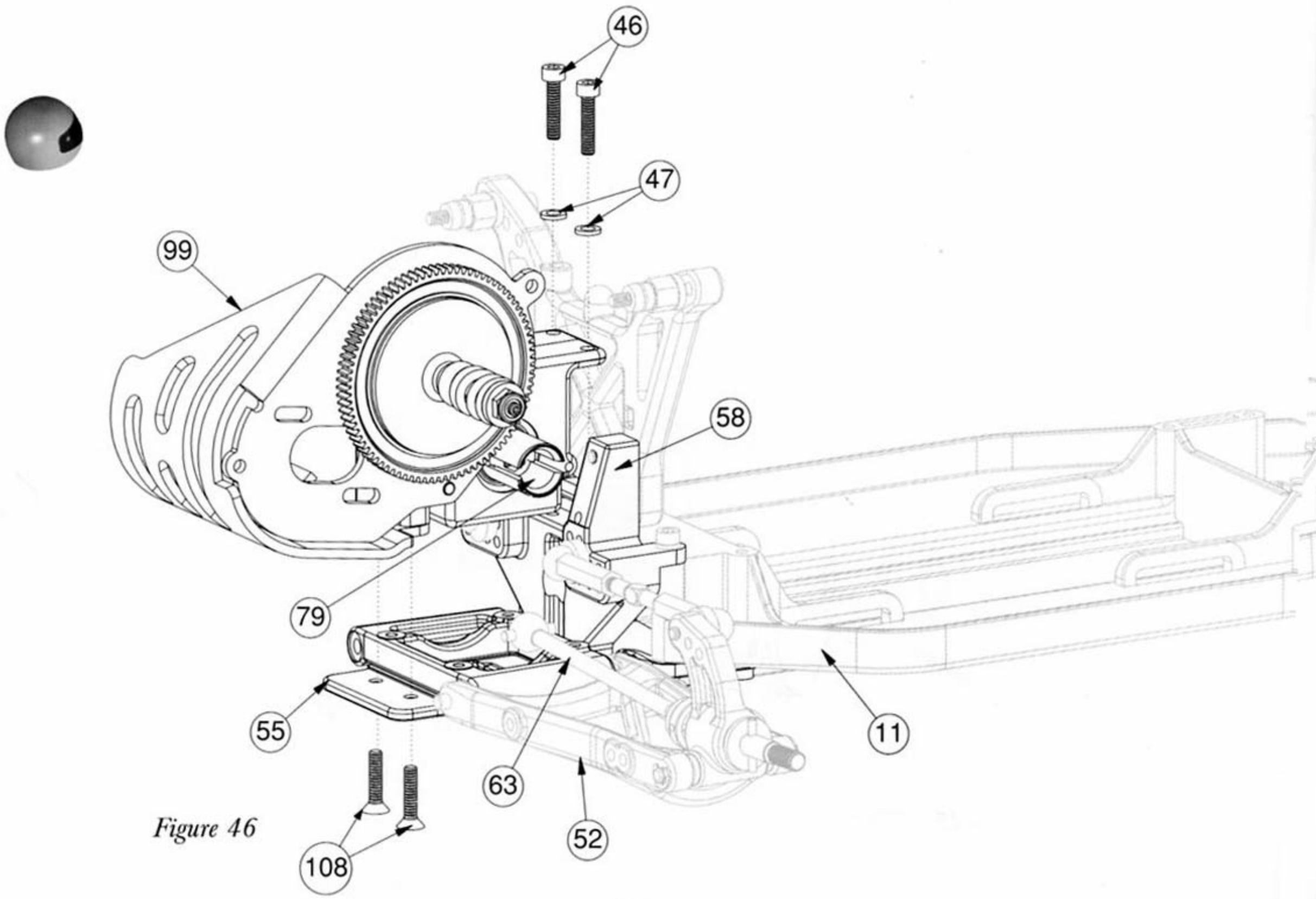


Figure 46

BAG E

Figure 47

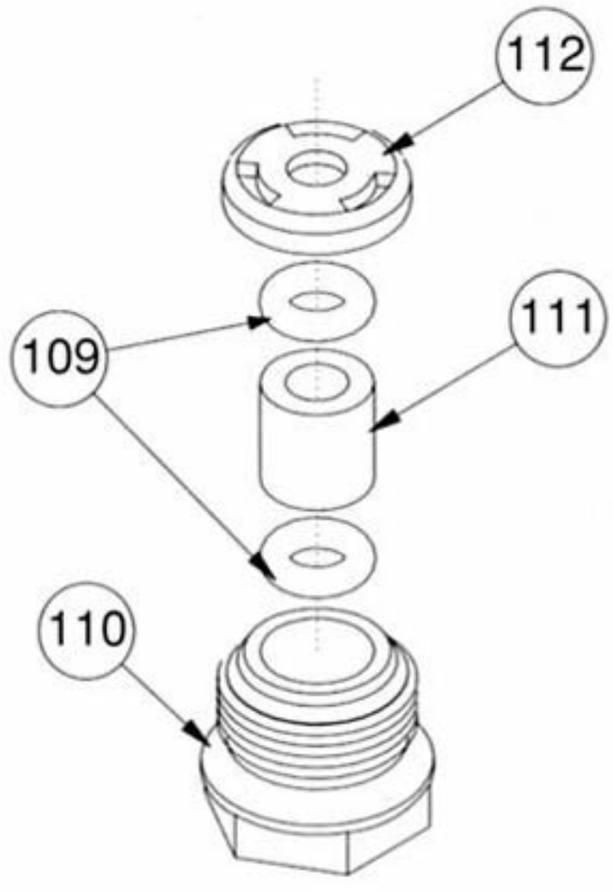


Figure 47

❑ Step 1. Place one shock O-ring (109) into the shock cartridge body (110), making sure that the O-ring (109) sits flat in the bottom of the cartridge body (110).

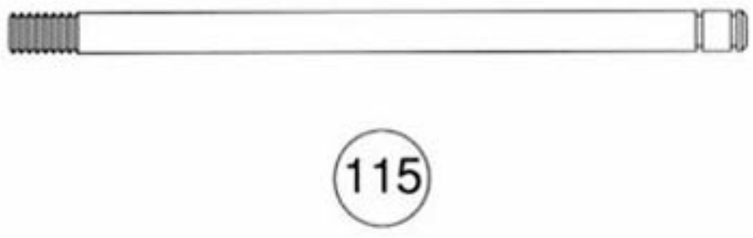
❑ Step 2. Insert the cartridge spacer (111) into the cartridge body (110) followed by a second O-ring (109).

❑ Step 3. Once the second O-ring (109) is inserted, and is flush with the top of the cartridge body (110), "snap" the cartridge cap (112) onto the cartridge body (110).

❑ Step 4. Make four cartridge assemblies.

** NOTE: Cartridges in some kits may be pre-assembled at the factory.*

Figure 48



❑ Step 5. Place a drop of shock fluid (113) on the grooved end of each shock shaft [front (114), rear (115)] and slide a cartridge, hex end first, down the shock shaft (114), (115) towards the threads.

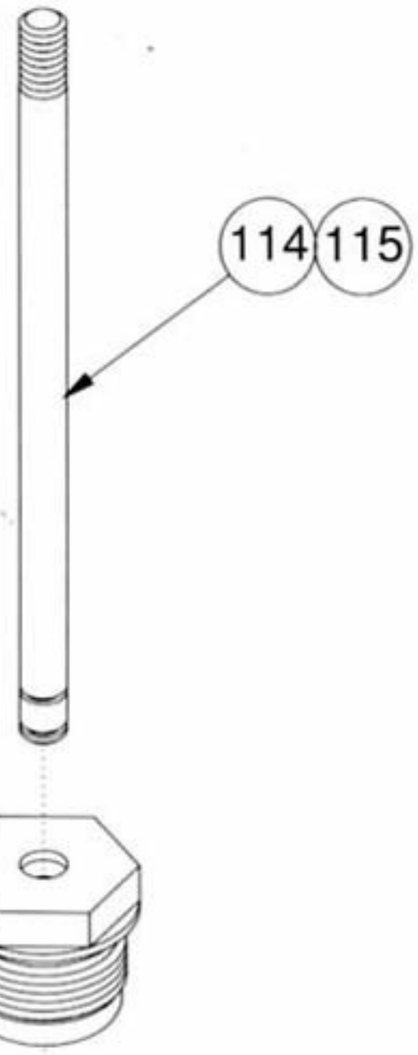


Figure 48

BAG E (Continued)

Figure 49

❑ Step 6. Using needle-nose pliers, or small vise grips, grasp the front shock shaft (114) between the grooves and thread a shock end (116) onto the shaft (114). Thread the shock end (116) all the way onto shaft (114) until the threads are no longer visible.

❑ Step 7. Repeat Step 6 for the second front shaft (114).

❑ Step 8. Before threading the shock ends (116) onto the rear shock shafts (115), place a 'B' shock spacer (117) *(larger of the two spacers, marked with a 'B')* over the shaft (115) and next to the cartridge.

** NOTE: Shock spacers are only used on the rear shock shafts.*

❑ Step 9. Now, with the spacers in place, thread a shock end (116) to each of the two rear shock shafts (115) as described in Step 6.

❑ Step 10. Carefully snap a 1/4" swivel ball (118) into each of the shock ends (116) on the four shock shafts (114), (115).

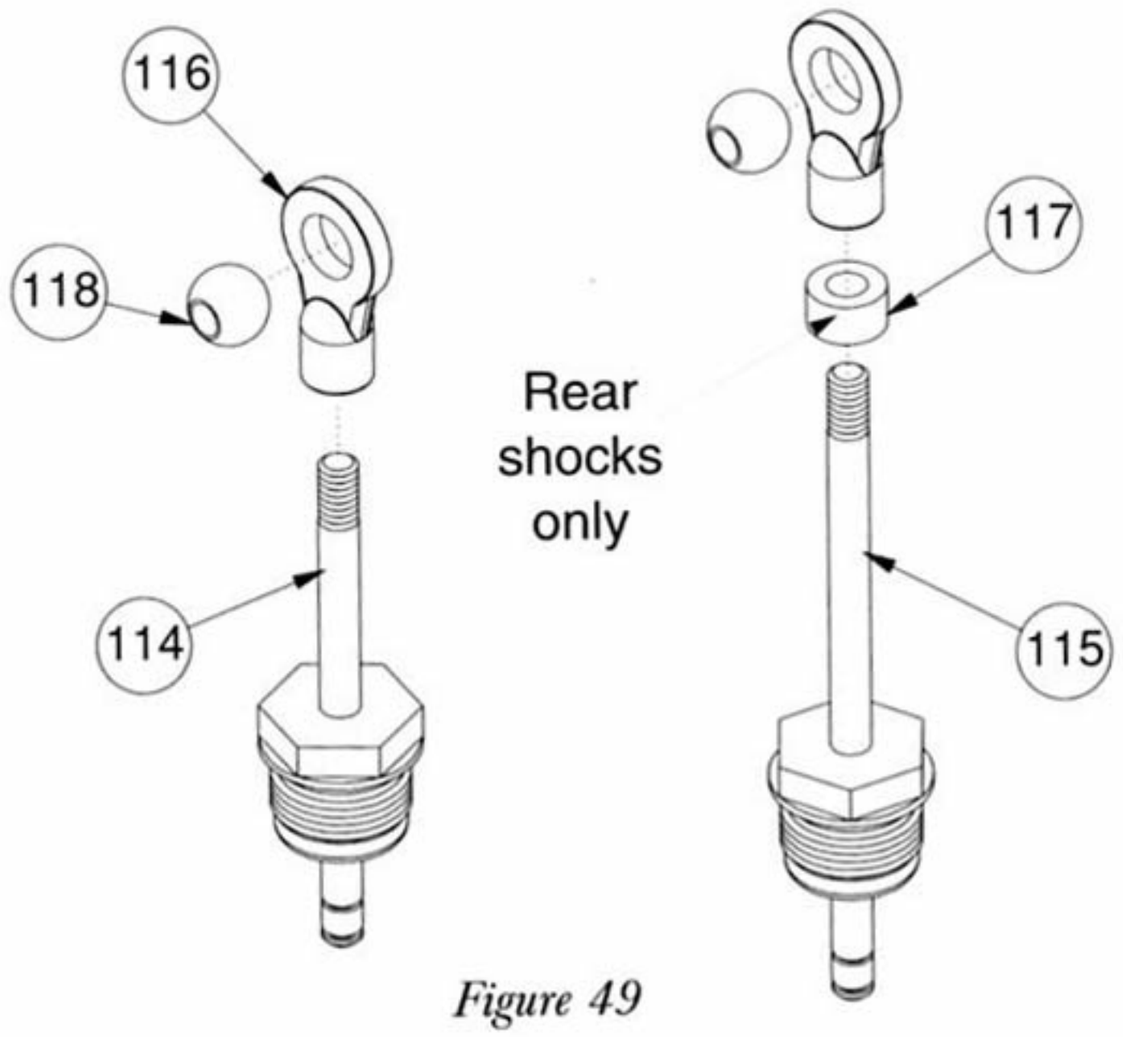


Figure 49

Figure 50

❑ Step 11. Slide an 'A' shock spacer (117) *(the smaller of the two spacers, marked 'A')* over each of the four shock shafts (114), (115) next to the cartridge.

❑ Step 12. Snap a 1/8" E-clip (6) into the groove closest to the cartridge on all four shock shafts (114), (115).

❑ Step 13. Slide a black shock piston (119) onto each of the two front shafts (114), until it rests against the E-clip (6). Secure the piston (119) to the two shafts (114), with a second E-clip (6).

❑ Step 14. Slide a red shock piston (120) onto each of the two rear shafts (115), until it rests against the E-clip (6). Secure the piston (115) to the two shafts (115), with a second E-clip (6).

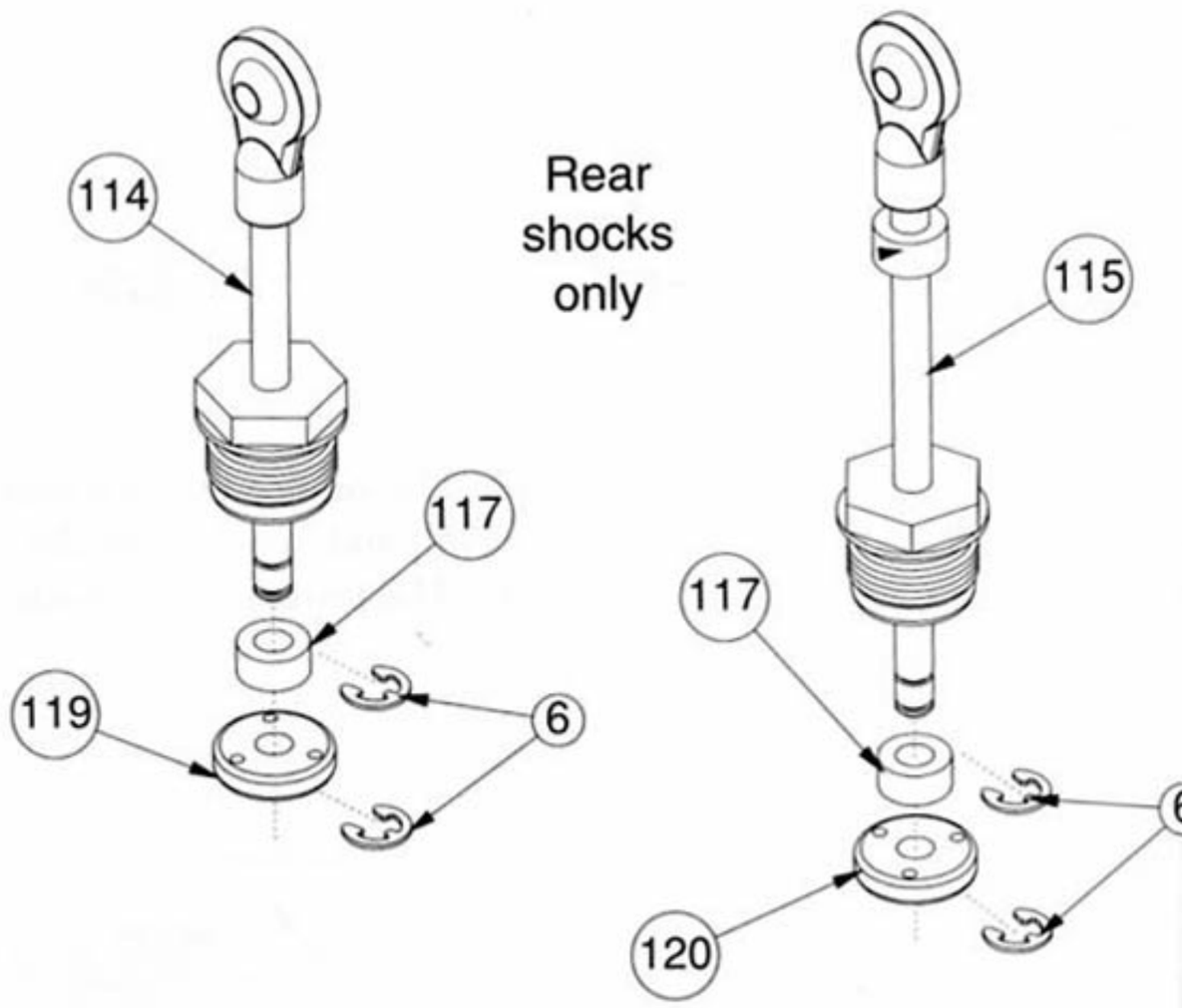


Figure 50

BAG E (Continued)

Figure 51

❑ Step 15. Match the short front shock bodies (121) to the short front shafts (114), and the long rear shock bodies (122) to the long rear shafts (115).

❑ Step 16. Fill shock body (121), (122) with shock fluid (113) up to the bottom of the threads.

❑ Step 17. Insert shaft assembly with the cartridge against the shock piston (119), (120). Slowly tighten the cartridge about two full turns only. With the cartridge still a little loose, slowly push the shock shaft (114), (115) into the shock body (121), (122). This will bleed the excess fluid out of the shock. Once the shaft (114), (115) is all the way in, tighten the shock cartridge the rest of the way.

** NOTE: Be sure to match the front shock shafts with the front shock bodies.*

❑ Step 18. Now, with the shaft (114), (115) still all the way in, secure the cartridge by tightening it with pliers approximately an additional 1/8 turn. There should be no air in the shock as you push the shaft (114), (115) in and out. If there is, the shock needs more oil. If the shock does not compress all the way, the shock has too much oil.

** NOTE: If leaking persists around the outside of the cartridge, tighten the cartridge more.*

❑ Step 19. Repeat Steps 16-18 for all four shocks.

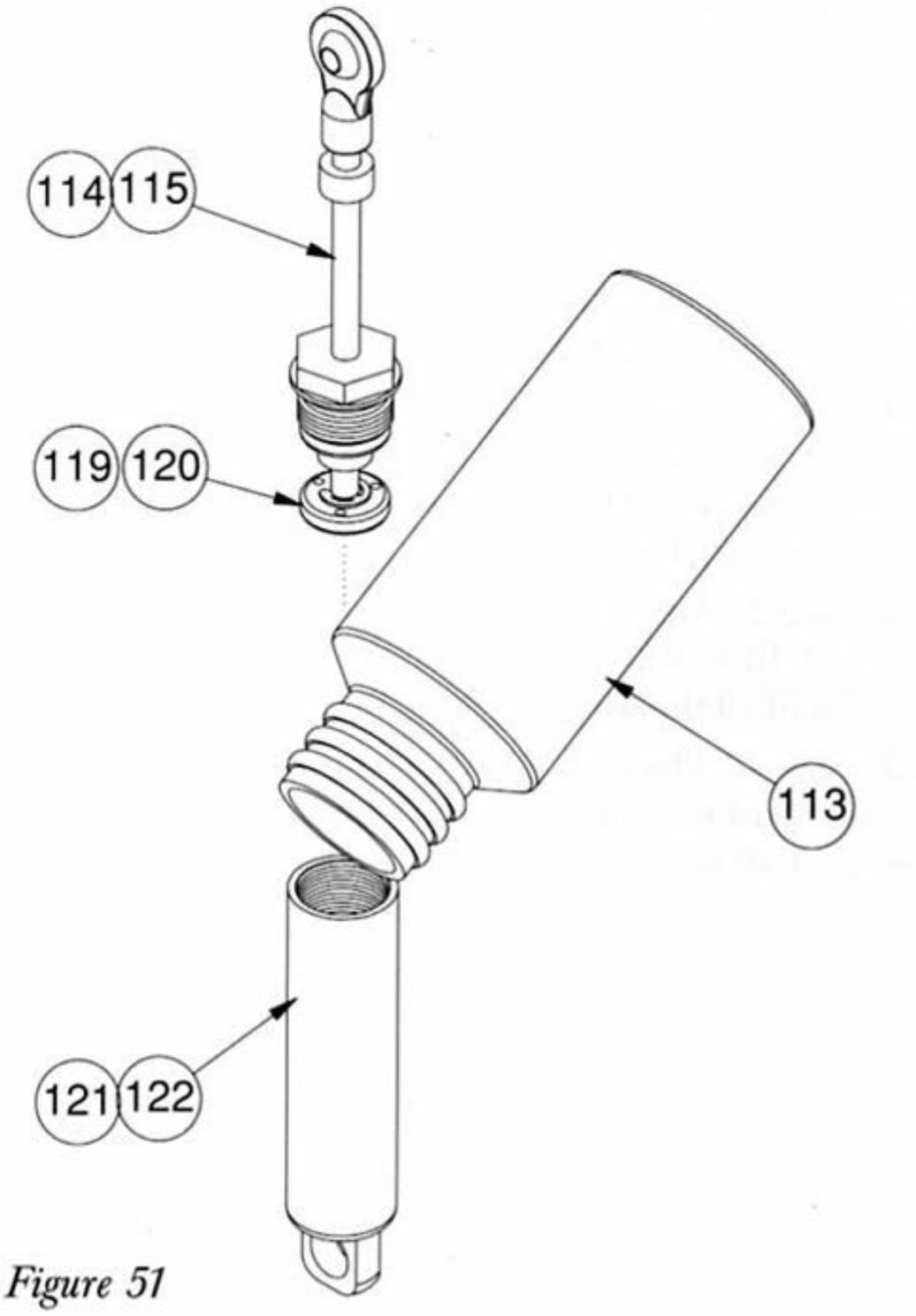


Figure 51

Figure 52

③

❑ Step 20. Snap a shock spring cup (123) onto each of the four shafts (114), (115) and down around the shock end (116).

** NOTE: On the rear shocks, the spring cup should be placed between the shock end and the shock spacer.*

❑ Step 21. Slide a 2" front spring (124) *(shorter of the two springs)* down over each of the front shocks so that it rests on the spring cup (123).

❑ Step 22. Slide a 2.5" rear spring (125) *(longer of the two springs)* down over each of the rear shocks so that it rests on the spring cup (123).

** NOTE: The rear springs included in the Kinwald Edition 'CR' kit are pink springs colored blue. This is done strictly for aesthetics. The blue-colored pink springs are only available as part of the Kinwald Edition kit and are not available separately.*

❑ Step 23. Insert a 4-40 x 3/8" cap-head screw (3) into the larger hole of each of the four shock collars (126) and thread it into the smaller hole.

❑ Step 24. With the collar (126) loose, slide it down over the top of each shock body (121), (122) and against the spring (124), (125). Tighten the collar (126) to hold it in place.

**NOTE: Do not overtighten the collars!*

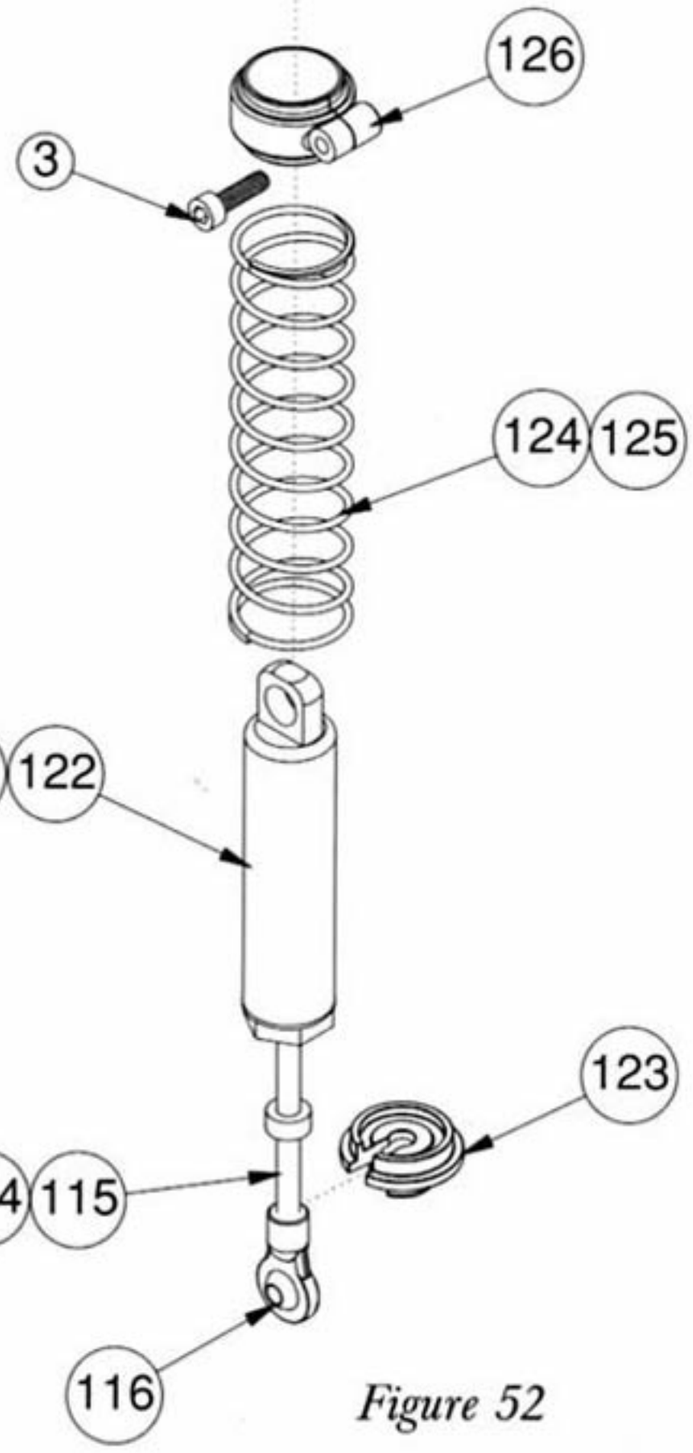
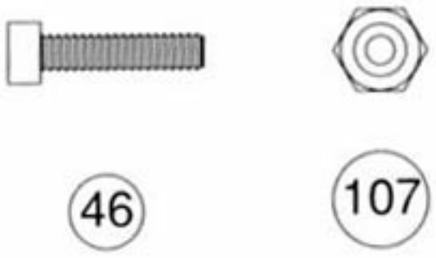


Figure 52

BAG E (Continued)

Figure 53



❑ Step 25. Pick up your car, making sure that the dogbones (63) stay in the outdrives (79).

❑ Step 26. Position the bottom of an assembled rear shock near the shock mounting area of a rear suspension arm. Line up the hole in the swivel ball (118) with the outside hole in the suspension arm (52), (53).

❑ Step 27. Attach the shock to the rear arm (52), (53) by threading a 4-40 x 1/2" cap-head screw (46) through the swivel ball (118) and all the way into the arm (52), (53).

❑ Step 28. Place the top of the shock body (122) over the shock mount bushing (10) on the rear shock tower (57) and secure it with a 4-40 aluminum lock nut (107).

** NOTE: Before attaching the top of the shock, make sure that the dogbone is in place in the outdrive.*

❑ Step 29. Repeat Steps 26-28 for the second rear shock.

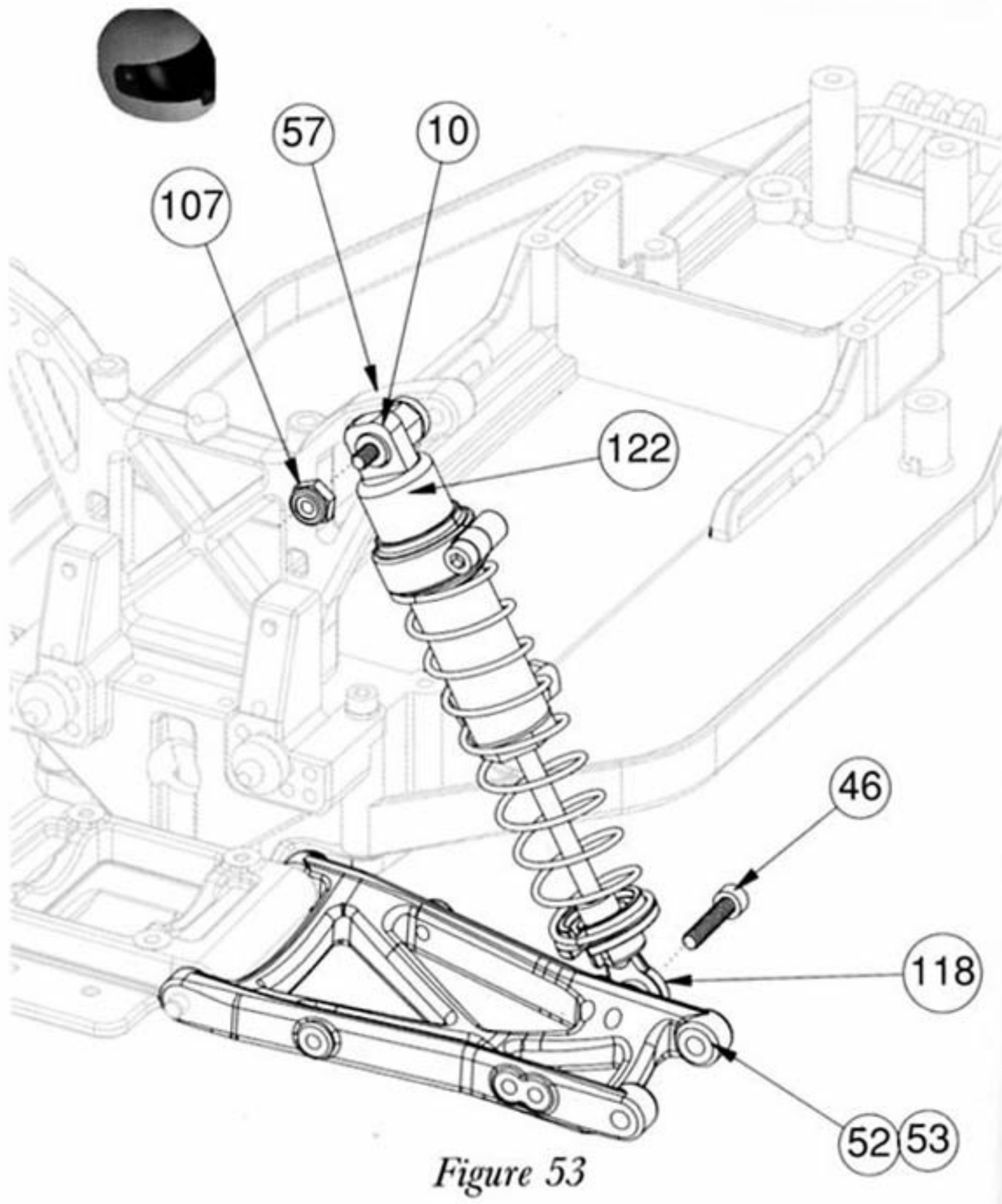
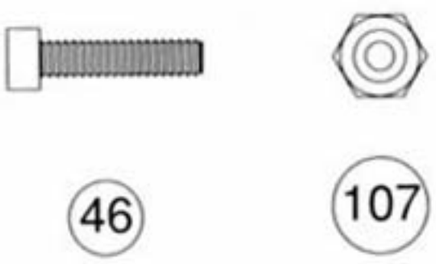


Figure 53

Figure 54



❑ Step 30. Insert the bottom of a front shock into the shock mounting area of the front suspension arm (24) and line up the hole in the swivel ball (118) with the middle hole in the arm (24).

❑ Step 31. Secure the shock to the front arm (24) by threading a 4-40 x 1/2" cap-head screw (46) all the way into the hole in the arm (24), through the swivel ball (118).

❑ Step 32. Place the top of the shock body (121) over the shock mount bushing (10) on the front shock tower (1) and secure it with a 4-40 aluminum lock nut (107).

❑ Step 33. Repeat Steps 30- 32 for the second front shock.

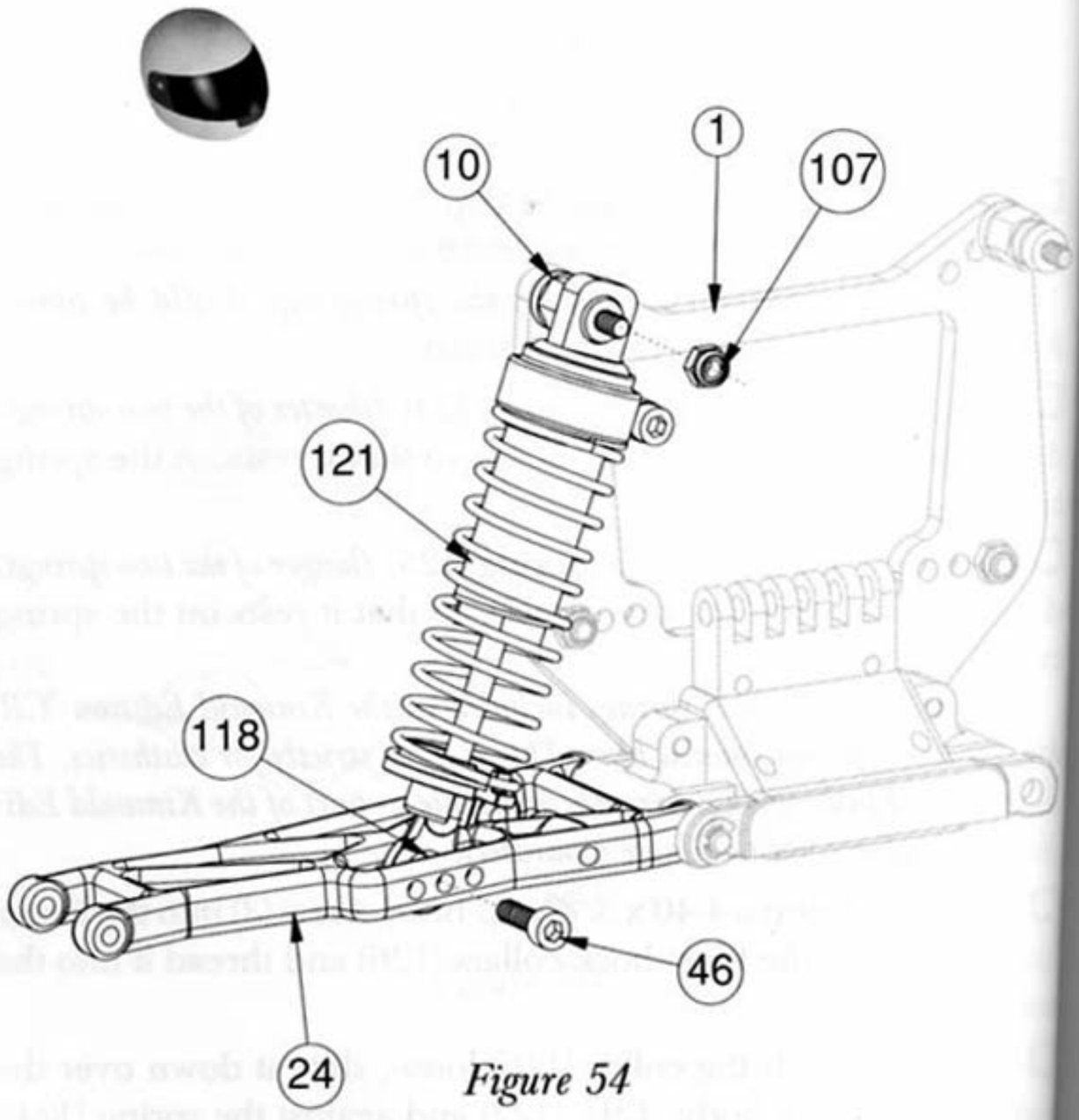
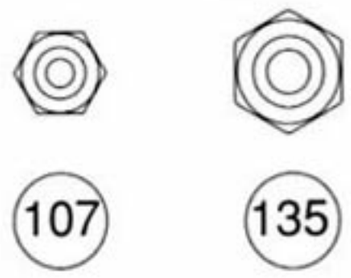


Figure 54

BAG F

Figure 55



❑ Step 1. Inspect the inside of the tires [front (127), rear (128)] for any excess material. If present, trim excess rubber to ensure proper seating of tire on wheel [front (129), rear (130)]. During tire assembly, make sure that all lettering faces to the outside of the wheel *(the side with the ribs).*

** NOTE: Do not set the tires on furniture as they may leave permanent stains.*

❑ Step 2. Insert the front foam tire liners (131) into the front tires (127). Pull the front tires (127) over the front wheels (129) and squeeze the tires (127) to properly seat them into the grooves in the wheels (129). Make sure that the foam insert (131) is not pinched between the tire (127) and the wheel (129).

⊸ Trimming the inside corners off of both sides of the foam inserts can slightly improve tire performance.

❑ Step 3. Insert the rear foam tire liners into the rear tires (132). Pull the rear tires (128) over rear the rear wheels (130) and squeeze the tires (128) to properly seat them into the grooves in the wheels (130). Make sure that the foam insert (132) is not pinched between the tire (128) and the wheel (130).

⊸ Trimming the inside corners off of both sides of the foam inserts can slightly improve tire performance.

❑ Step 4. It is necessary to glue the tires (127), (128) to the wheels (129), (130). This can be done by using a fast curing superglue or cyanoacrylate glue available at your hobby shop. Be sure to follow the manufacturer's warnings on the bottle.

⚠ **IMPORTANT NOTE:** Allow the glue to dry thoroughly before continuing.

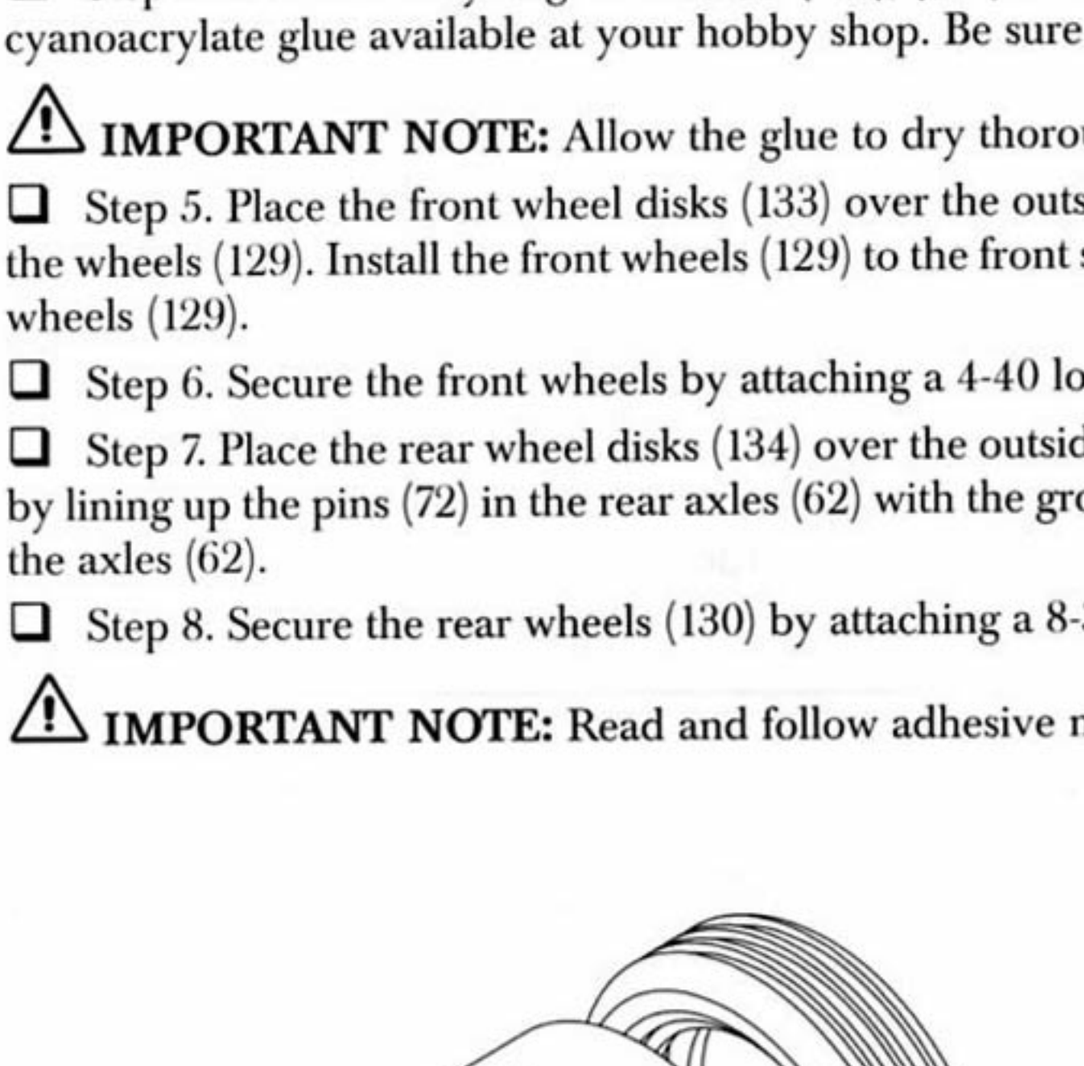
❑ Step 5. Place the front wheel disks (133) over the outside of the front wheels (129) and push the center part of the disk (133) into the wheels (129). Install the front wheels (129) to the front stub axles (17) by lining up the hex on the axles (17) with the hex in the front wheels (129).

❑ Step 6. Secure the front wheels by attaching a 4-40 lock nut (107) to each of the front axle screws (18) and tightening.

❑ Step 7. Place the rear wheel disks (134) over the outside of the rear wheels (130). Install the rear wheels (130) to the rear axles (62) by lining up the pins (72) in the rear axles (62) with the grooves in the rear wheels (130) and pushing the wheels (130) all the way onto the axles (62).

❑ Step 8. Secure the rear wheels (130) by attaching a 8-32 lock nut (135) to each of the the two rear axles (62) and tightening.

⚠ **IMPORTANT NOTE:** Read and follow adhesive manufacturer's safety warnings regarding use.



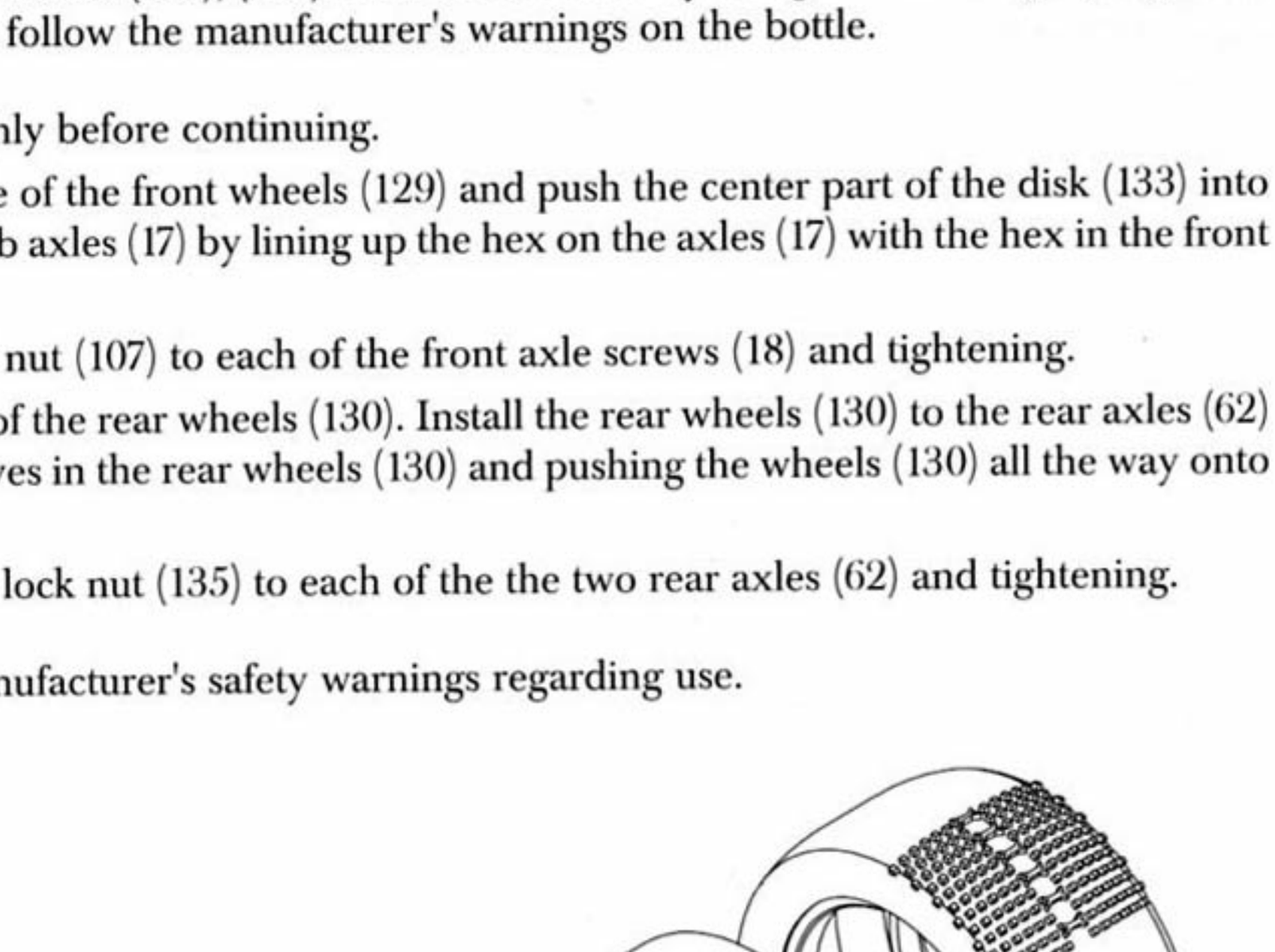
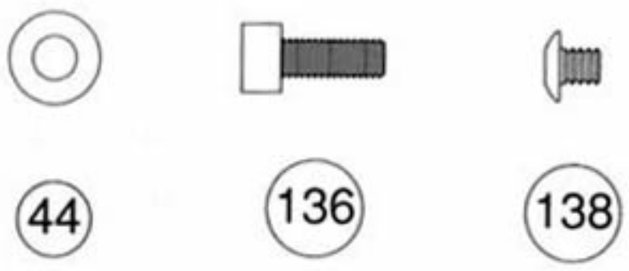
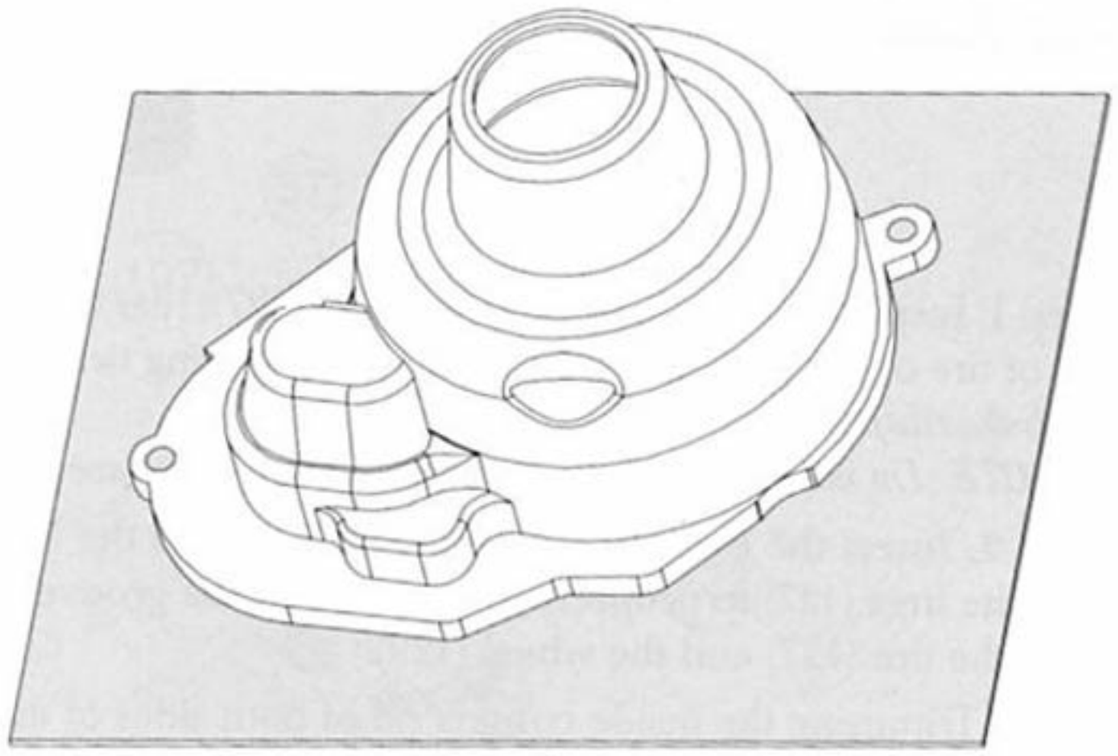


Figure 55

BAG G

Figure 56





❑ Step 1. Attach the motor *(not included)* to the motor plate (99) using two 3mm x 8mm cap-head screws (136) and #4 washers (44).

❑ Step 2. Attach the pinion gear *(not included)* to the motor shaft, adjust gear mesh and tighten motor screws (136).

**NOTE: The gears need some backlash in order to function properly.*

❑ Step 3. Locate the gear cover (137) and cut the back side of it along the trim line. Drill two 1/8" mounting holes in the gear cover (137) at the two locations marked with dimples.

❑ Step 4. Place the trimmed gear cover (137) over the motor plate (99) and secure it with two 4-40 x 1/8" button-head screws (138).

❑ Step 5. Insert the gear cover plug (139) into the large hole in the gear cover (137).

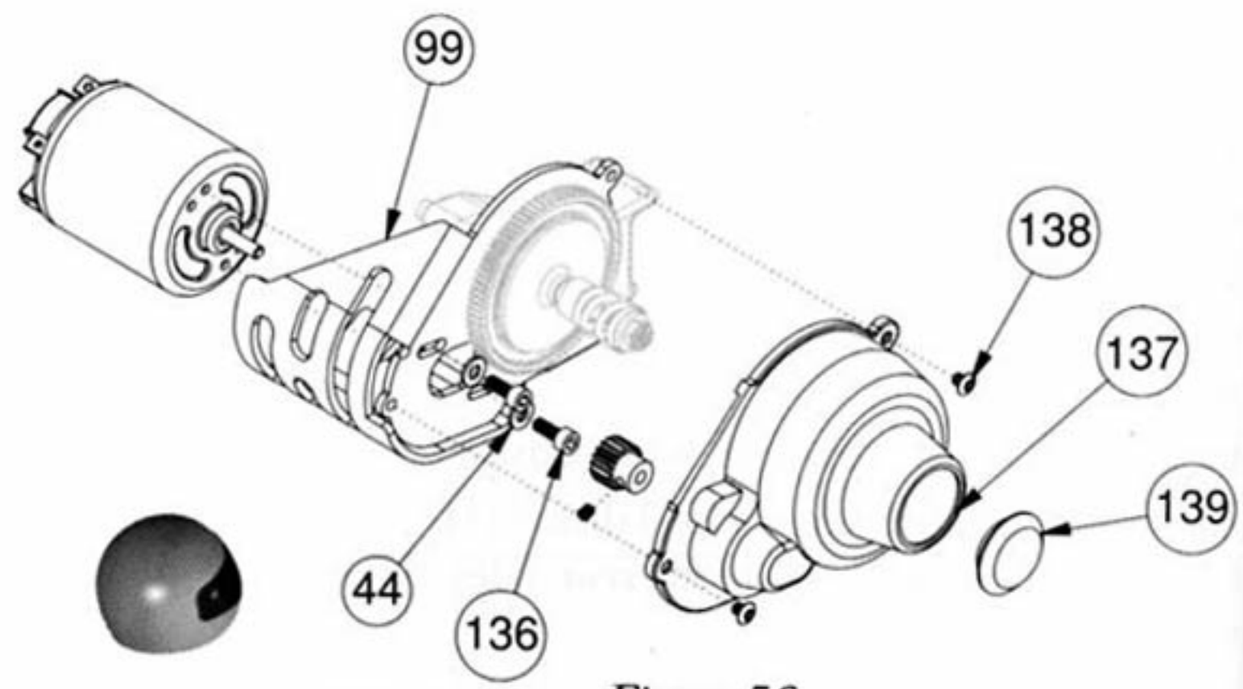
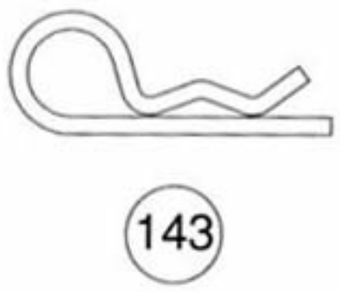
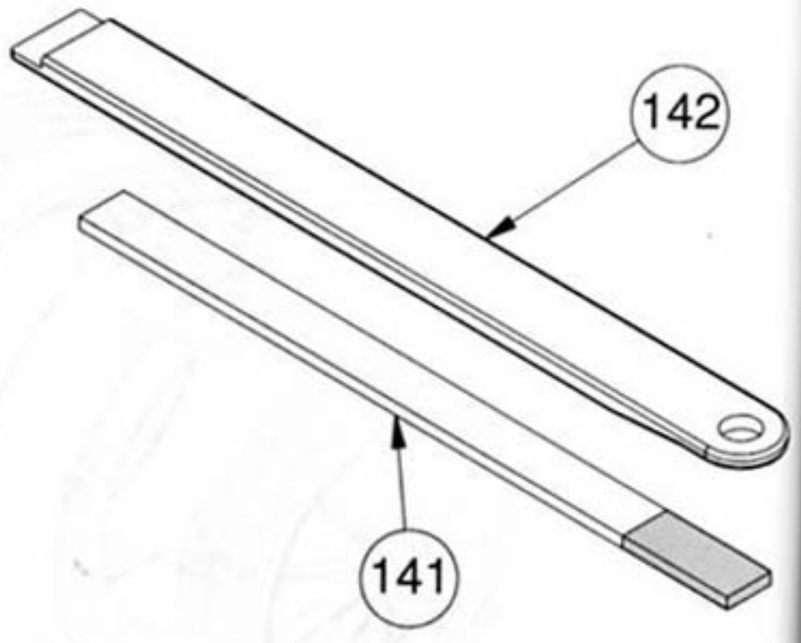


Figure 56

Figure 57





❑ Step 6. Place the battery spacing foam (140) into the rear of the chassis (11) and push it all the way back.

❑ Step 7. Attach the battery strap foam strip (141) to the bottom side of the battery strap (142).

**NOTE: The foam is longer than the strap. The shaded area should be removed.*

❑ Step 8. Once a battery pack (not included) is installed, the plastic battery strap (142) will hold the batteries in place. The battery strap (142) fits under the rear "bridge" of the chassis between the two ribs on the bottom and is secured to the post on the front chassis brace (45) with a body clip (143).

**NOTE: If you plan to use a pre-assembled 6-cell pack in the stick configuration, chances are that there is a plastic end cap on each end of the battery pack. In order for this type of battery to fit correctly, the end cap needs to be removed from the end of the battery that will be placed in the rear of the chassis. If the end cap is not removed, the battery will not fit under the "bridge" in the rear portion of the chassis.*

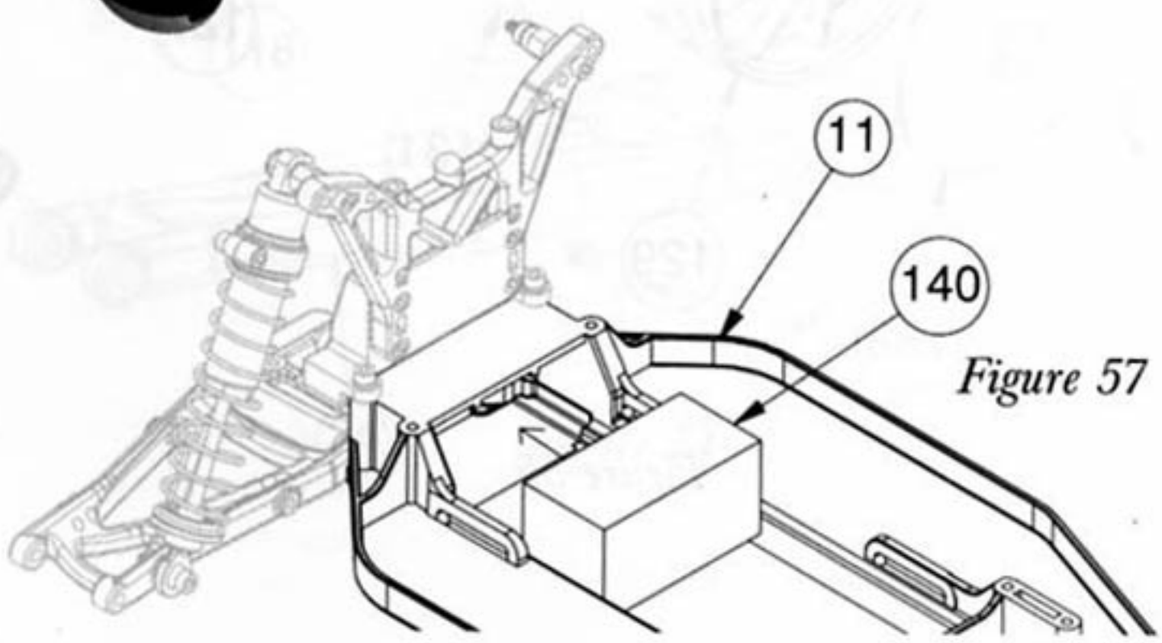


Figure 57

BAG G (Continued)

Figure 58

❑ Step 9. Cut a piece of two-sided tape (144) the same size as the bottom of your receiver *(not included)*. Peel one side of the backing off and stick it to the bottom of the receiver.

❑ Step 10. Make sure that the area on the right side of the chassis (11) is clean. Wipe this area off with a clean cloth or rag.

❑ Step 11. Peel the backing off of the two sided tape (144) and install the receiver to the right side of the chassis (11) all the way against the outside of the chassis (11).

❑ Step 12. Run the antenna wire forward to the antenna post on the chassis (11). Run the wire into the small hole in the bottom of the post, and up through the top of the post.

❑ Step 13. Slide the antenna wire through the antenna tube (145) *(a small drop of oil in the tube will make this easier)* so that the wire comes out the other end.

❑ Step 14. While pulling the wire through the antenna tube (145), slide the antenna tube (145) down and push it firmly into the antenna mounting post on the main chassis (11).

❑ Step 15. Fold the wire down over the antenna tube (145) and place the antenna cap (146) over the tube (145) and excess wire.

** NOTE: If antenna wire is shorter than the tube, remove the tube and cut off enough so that the wire will extend about 3/4" past the end of the tube.*

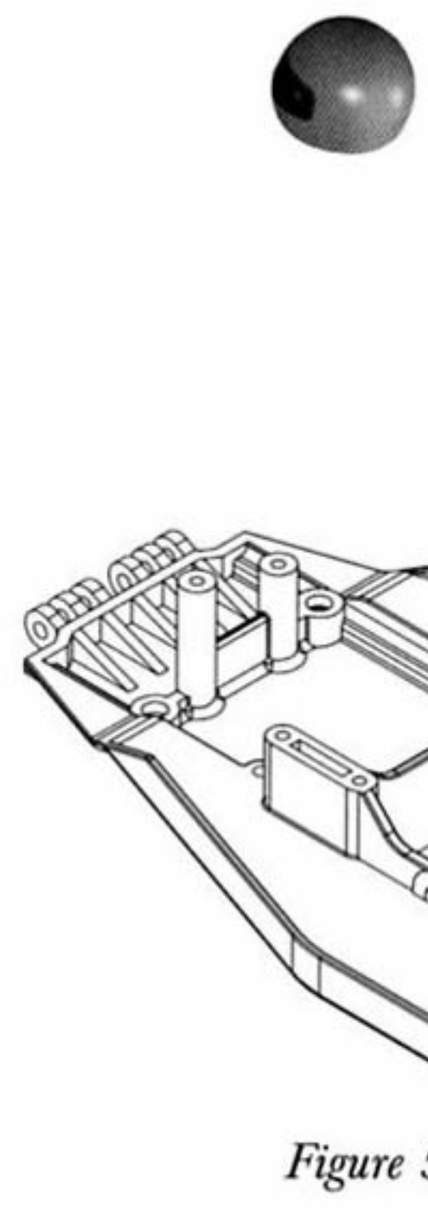


Figure 58

Figure 59

❑ Step 16. Using two sided tape (144), mount the speed control in one of the two locations shown. If mounting it to the chassis, be sure that there is sufficient room for the battery pack *(not included)* to fit in the center of the chassis.

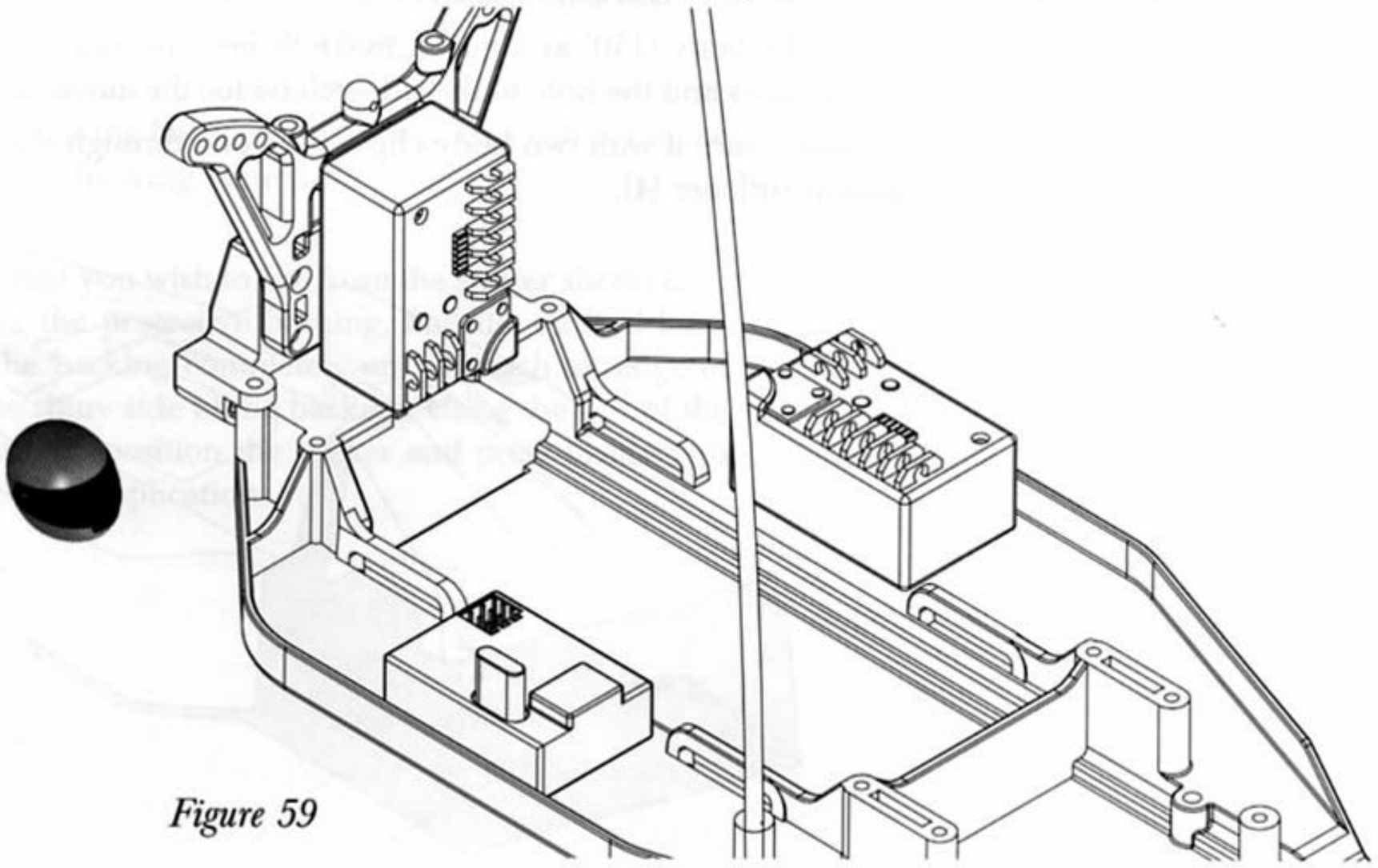
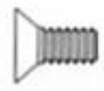


Figure 59

BAG G (Continued)

Figure 60



148

❑ Step 17. Turn on your radio system and check to make sure that the steering servo is centered and the front wheels are straight. If not, refer to the bag 'B' instructions Step 18 and correct the problem before continuing.

❑ Step 18. Place the front bumper (147) onto the bottom of the front bulkhead (2) and line up the four holes in the bumper (147) with the holes in the bulkhead (2).

❑ Step 19. Attach the bumper by threading four 4-40 x 1/4" flat-head screws (148) into each of the four holes. Tighten all four screws.

If you should need to work on your servo or move a ball stud for the front camber link, first remove the front bumper and then the two screws in the rear of the front chassis stiffener. Once these screws and the front bumper are removed, the front end will swing down and away, allowing easy access to the front suspension components.

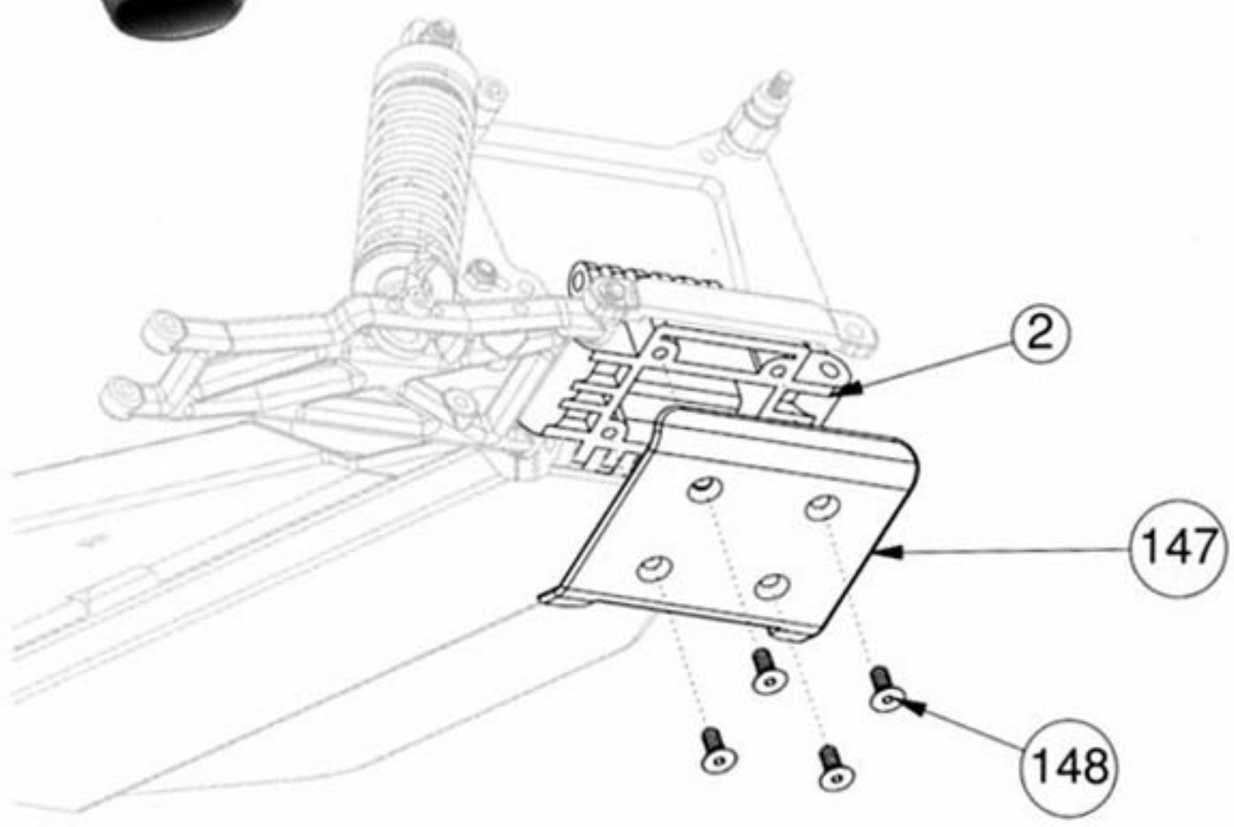


Figure 60

Figure 61

143

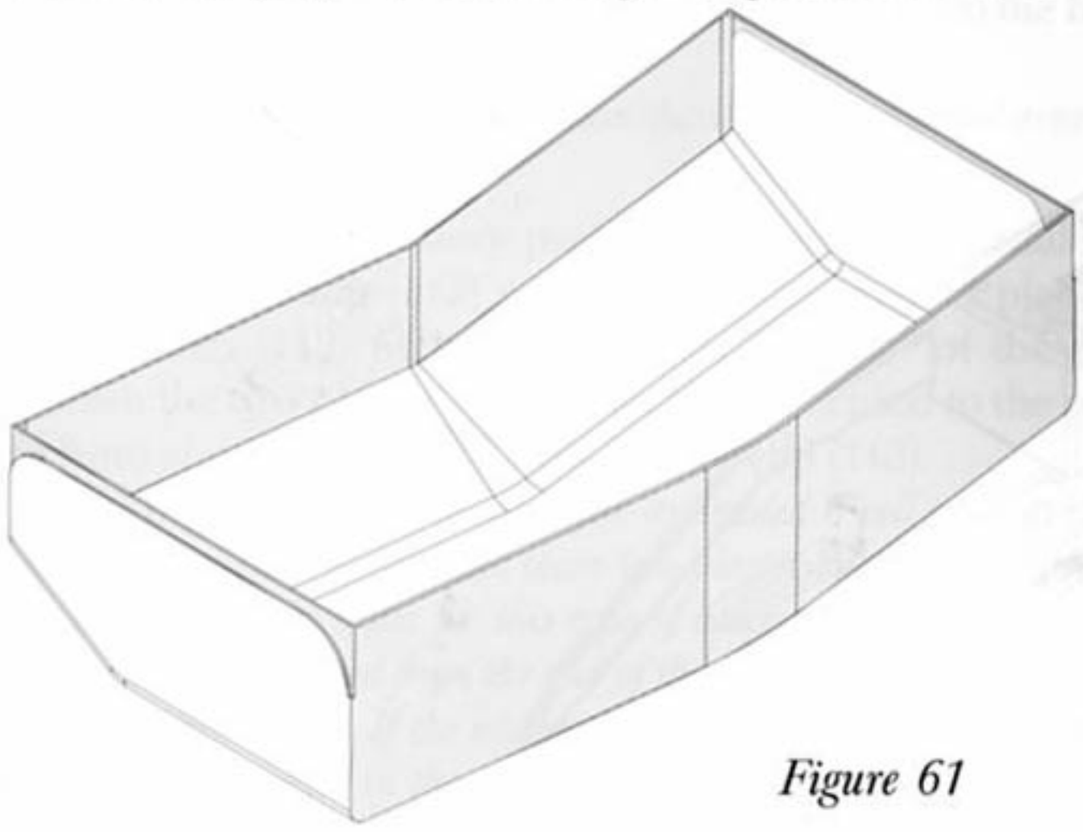
BODY, WING AND GEAR COVER

Prepare the Lexan body shell by washing thoroughly with warm water and liquid detergent. Dry with a clean soft cloth. Use the window masks (149) supplied to cover the windows *from the inside.* A high grade of masking tape should be used on the inside to mask off any stripes, panels, or designs that you wish to paint on the body, wing, or gear cover. Use acrylic lacquer, acrylic enamel, or any other Lexan (polycarbonate) recommended paints. Apply paint to the inside of the parts. Remove the tape for the next color and continue. Try to use the darker colors first. If you use a dark color after a light color, apply a coat of white over the lighter color first.

❑ Step 20. Trim the body (150) and wing (151) along the cut out lines marked on them.

❑ Step 21. Using the dimples at the front, side, and rear of the body (150) as a guide, make three 5/16" diameter holes at these locations. The front and rear holes will be the body mounting holes and the hole to the side will be for the antenna tube.

❑ Step 22. Install the body (150) onto the rolling chassis and secure it with two body clips (143), one through the post in the rear shock tower (57), and one through the post on the front chassis stiffener (4).



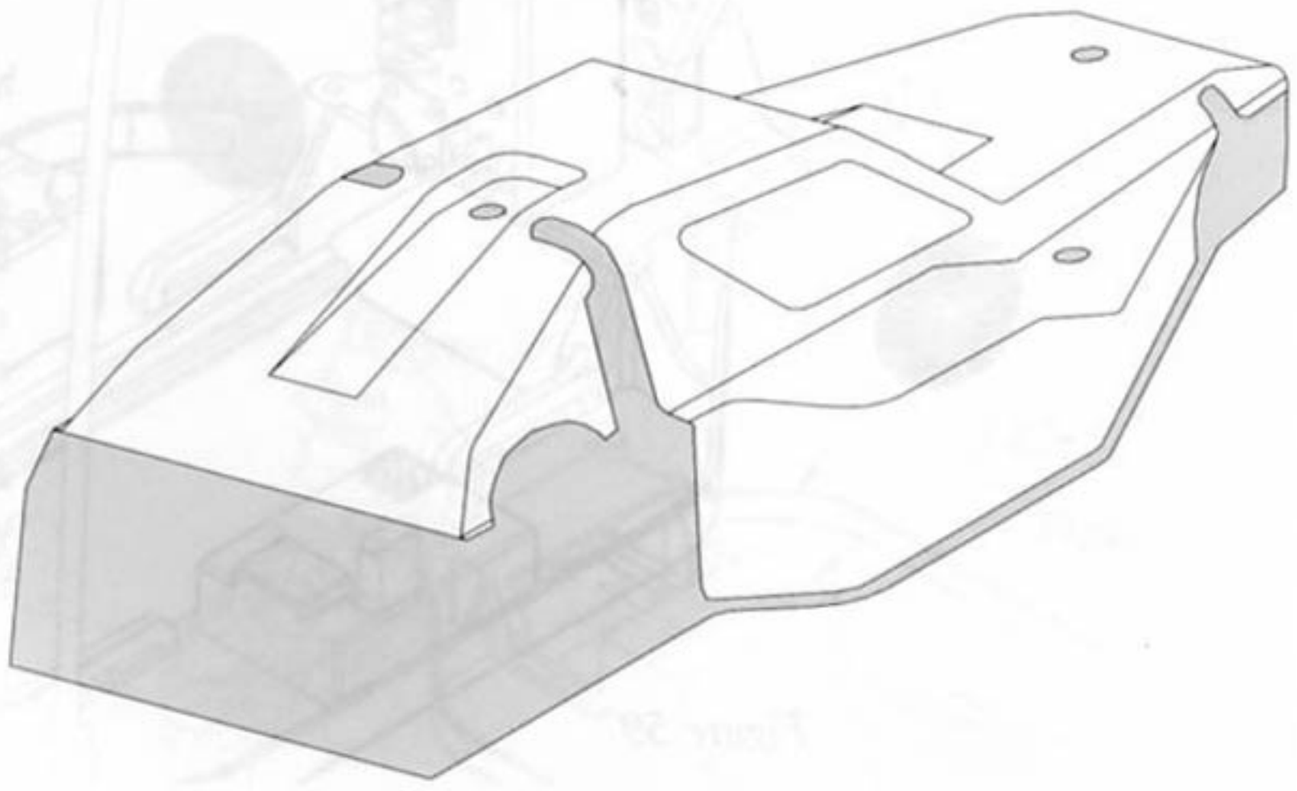
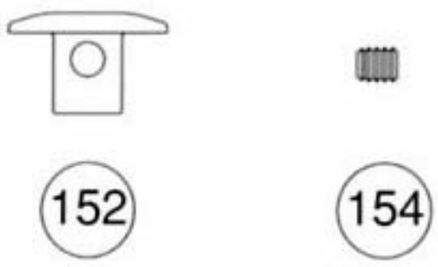


Figure 61

BAG G (Continued)

Figure 62



❑ Step 23. Using the dimples in the wing (151) as a guide, drill two 7/16" diameter holes in the locations marked.

❑ Step 24. Insert a wing button (152) into each of the holes in the wing (151) from the top so that the slot in the wing button (152) is exposed on the bottom side of the wing (151).

❑ Step 25. Slide the wing wire (153) through both of the wing buttons (152) from the rear so that the wire (153) bends towards the bottom of the wing (151).

❑ Step 26. Once the wire (153) is all the way through, thread a 5-40 setscrew (154) into the bottom of each wing button (152).

❑ Step 27. Once the wing (151) is installed on the car, the wing location can be changed by loosening the setscrews (154) and positioning the wing (151). To lock the wing (151) in place, tighten the two setscrews (154).

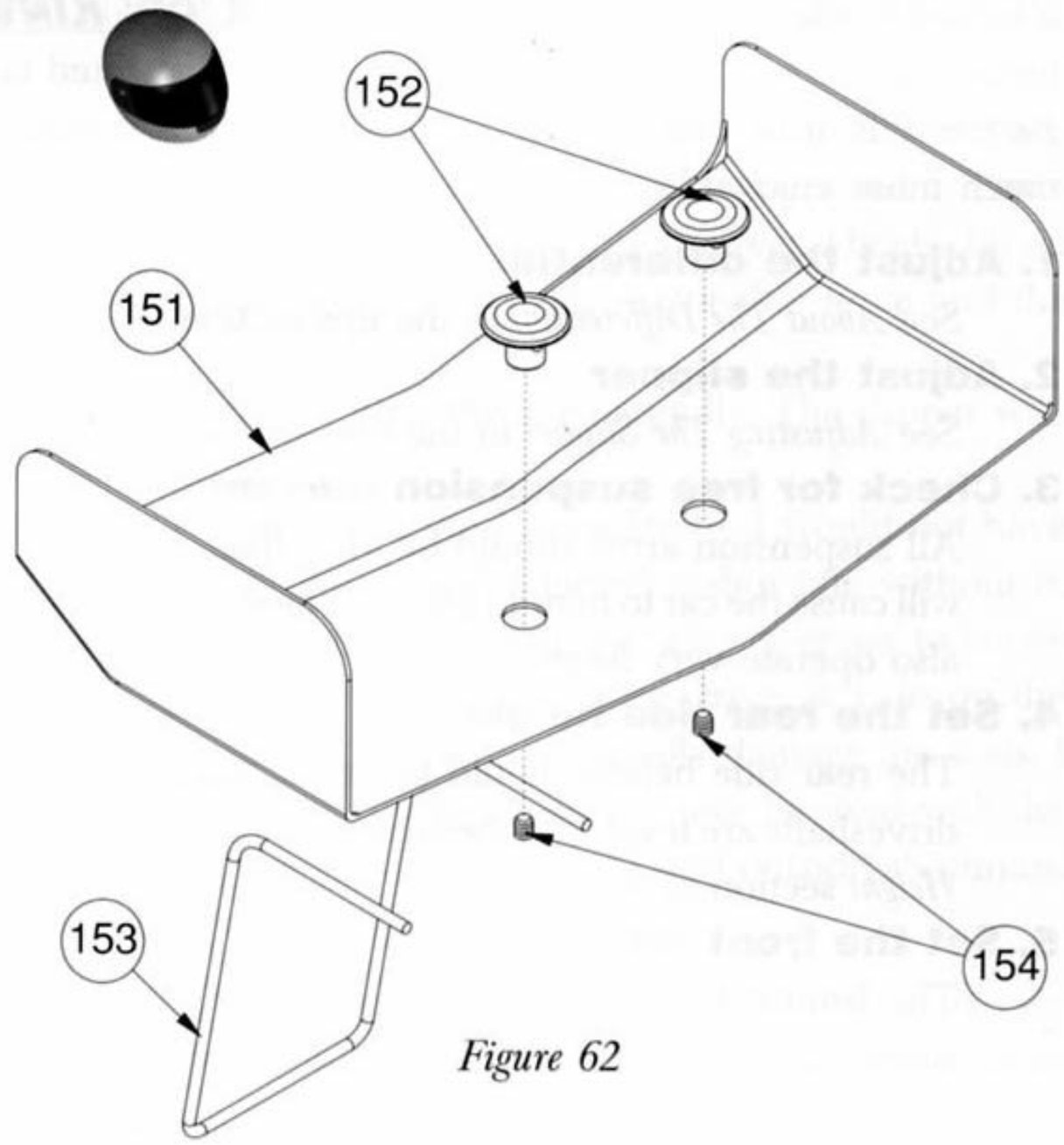


Figure 62

Figure 63

❑ Step 28. The wing angle can be changed by increasing and decreasing the bend in the wing wire (153).

❑ Step 29. Insert the ends of the wing wire (153) into the two small holes in the top of the rear shock tower (57).

The wing can be held in place more firmly by bending a slight "kink" in the bottom of the wire. This will make the wire fit tighter into the wing mount.

STICKERS

Cut the stickers that you wish to use from the sticker sheet (155). Before removing the protective backing, find the desired location. Remove the backing completely and reattach an edge of the sticker to the shiny side of the backing. Using the rest of the backing as a handle, position the sticker and press firmly into place to complete its application.

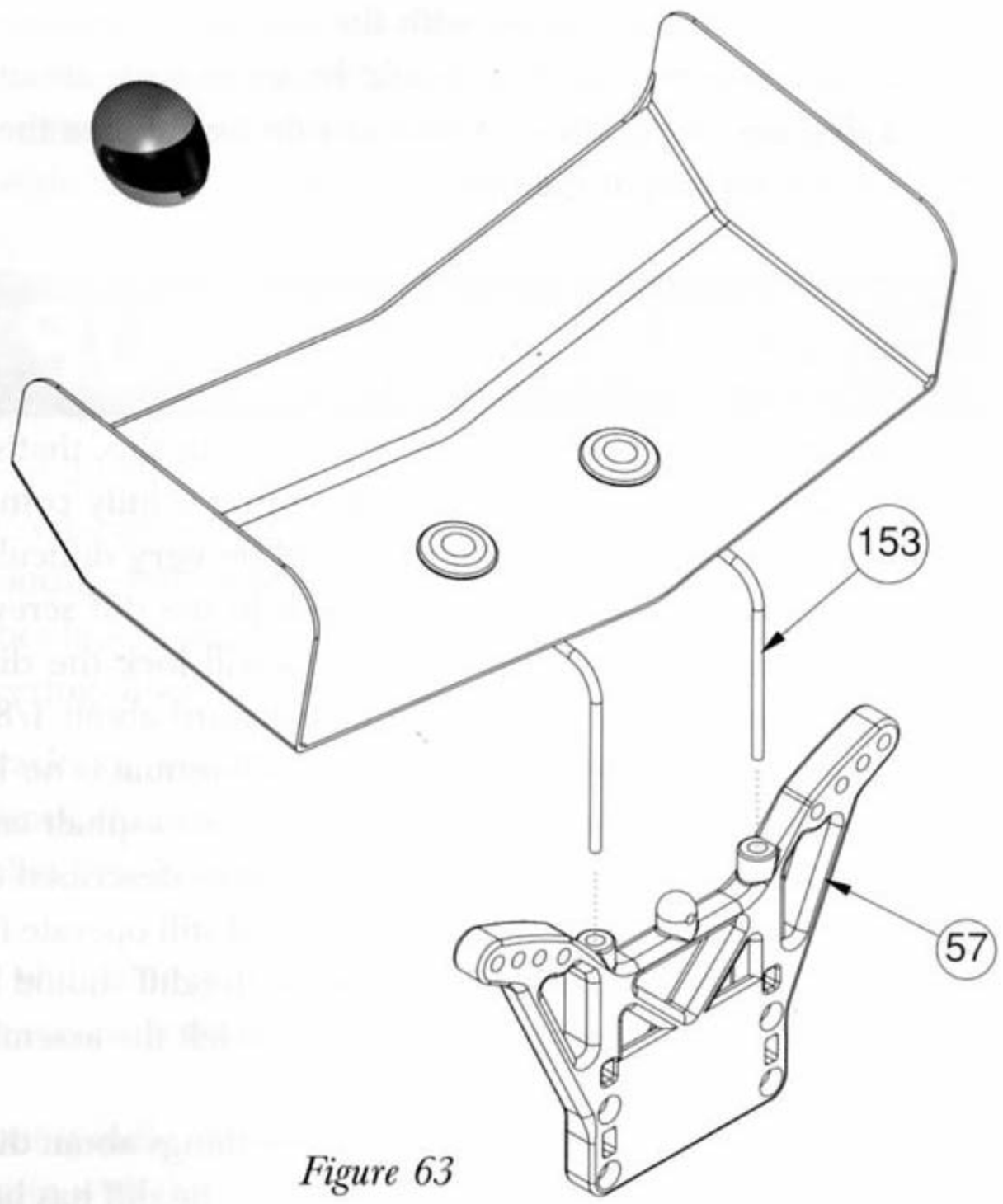


Figure 63

FINAL CHECKLIST

BEFORE RUNNING YOUR DOUBLE-X 'CR' *KINWALD EDITION* for the first time, you should run down the following checklist – in order – and complete the listed tasks. I'm sure you're anxious to get out and run your *Kinwald Edition* 'CR' now that it's built, but following this simple checklist will help to make your first run with your new car much more enjoyable.

1. Adjust the differential

See *About The Differential* in the tips section.

2. Adjust the slipper

See *Adjusting The Slipper* in the tips section.

3. Check for free suspension movement

All suspension arms should be very free. Any binds will cause the car to handle poorly. The steering should also operate very freely.

4. Set the rear ride height

The rear ride height should be set so that the CVD driveshafts are level with the surface. See the *Rear Ride Height* section of the tips.

5. Set the front ride height

The front ride height should be set so that the front suspension arms are level with the surface. See the *Front Ride Height* section of the tips.

6. Adjust the camber

The front camber should be set to 1-1/2 degrees of negative camber (top of tire points in) at ride height. Adjust the front camber with the tire turned straight ahead. The rear camber should be set to have about 2 degrees of negative camber at ride height. See the *Camber* section of the tips.

7. Set the front toe-in

Adjust the front tie rods so that, when the steering is straight on the transmitter, the front tires are both pointing in just slightly *(toe-in)*. It is recommended that you start with about 1/2 degree of toe-in at each front tire.

8. Charge a battery pack

Charge a battery pack as per battery manufacturer's and/or charger manufacturer's instructions so that radio adjustments can be made.

9. Adjust the speed control

Following the manufacturer's instructions, adjust your speed control and set the throtlle trim on your transmitter so the the car does not creep forward when not applying throttle. Make sure that there is not too much brake being applied when the trigger/stick is in the neutral position.

10. Set transmitter steering trim

The steering trim tab on the transmitter should be adjusted so that the car rolls straight when you are not touching the steering wheel/stick.

BRIAN'S SETUP TIPS AND HINTS

About The Differential I never let my diff slip; that's what the slipper is for. Before trying to adjust your diff, you have to tighten up the slipper until the spring is fully compressed. Next, hold the spur gear and right rear tire, then try turning the left rear tire forward. It should be **very** difficult to turn the left rear tire. If the tire turns easily, the diff is too loose. To tighten the diff, line up the slot in the diff screw with the groove in the left outdrive. Place the 1/16" Allen wrench through both of these slots. This will lock the diff screw and the outdrive together. While holding the Allen wrench in place, turn the right rear tire forward about 1/8 turn. Check the differential adjustment again and repeat the tightening process as necessary until the differential is no longer slipping. The final differential adjustment check should be made by placing the car on carpet, grass, or asphalt and punching the throttle. The differential should not slip. If it does, tighten the diff in 1/8-turn increments as described above until the slippage stops.

Once the diff has been adjusted, it should still operate freely and feel smooth. If the diff screw starts to get tight before the diff is close to being adjusted properly, the diff should be disassembled and inspected; you may have the bearings in the diff installed in the wrong locations. Consult the assembly instructions for locations of various sizes of bearings in the differential.

Over the years I have discovered a few things about differentials. First, when rebuilding your diff, you should always replace the small 4-40 locknut. Second, after the diff has been built for a couple of hours, or been run a time or two, it is not uncommon for the balls to seat into the rings and create a slightly loose adjustment. So, after your first run, check the

adjustment to avoid slippage. Third, remember: Never let the diff slip. Doing so can damage the diff balls, rings, and gear. Always make sure that the slipper will slip before the diff.

Adjusting the Slipper should be done after the diff is properly adjusted. If you have just finished adjusted the differential, loosen the slipper adjustment nut four full turns (i.e., 360 degrees x 4) to return the adjustment to the setting originally described in the assembly instructions. To make the final adjustments, place your car on the racing surface and give the car full throttle. The slipper should slip for one or two feet at the most. If the slipper slips for more than two feet, you'll need to tighten the adjustment nut. If it doesn't slip for at least one foot, back off the adjustment nut 1/8 turn and retry. If you can't hear the slipper when you punch the throttle, hold the front of the car with the rear wheels still on the track surface and give the car full throttle. The car should push against your hand with reasonable force and the slipper should slip slightly.

Don't expect the slipper to make up for poor driving. You still have to use your throttle carefully. The slipper will, however, give you a little help coming off corners and landing jumps.

When the track is really rough, rutty, or has a lot of killer jumps, I like to run the Hydra-Drive. I would not have made the A-Main at the 1993 IFMAR World Championships or won my first World Championship title without it. When using the Hydra-Drive, the slipper adjustment should be set a bit looser so that the spur gear is easier to rotate while holding the right rear tire. I use the same method of checking adjustment on the Hydra-Drive as I do on the standard friction slipper. Do not run the Hydra-Drive too loose; it will build up heat and eventually damage the seals. I usually run the standard fluid in my Hydra-Drive. This kit has a different type of slipper that cannot be used with the Hydra-Drive as it sits. However, a Hydra-Drive unit can be fit to the shaft by replacing the gear and outside aluminum slipper backplate with the Hydra-Drive spur gear, gear plate, Hydra-Drive unit, spring, etc.

Ride Height is an adjustment that affects the way your car jumps, turns, and goes through bumps. To check the ride height, drop one end (front or rear) of the car from about a 5-6 inch height onto a flat surface. Once the car settles in to a position, check the height of that end of the car in relationship to the surface. To raise the ride height, lower the shock collars on the shocks evenly on the end (front or rear) of the car you are working on. To lower the ride height, raise the spring collars. Both left and right collars should be adjusted evenly.

I like to start with the front ride height set so that the front suspension arms are level. Occasionally, I'll raise the front ride height to get a little quicker steering reaction, but be careful as this can also make the car flip over more easily. I like to run the rear ride height set so that the car comes to a rest at a height that is right in between having the arms level and the dogbones level with the surface. Every driver likes a little different feel and should try small ride height adjustments to get the feel he likes. Personally, I have found that ride height is really a minor adjustment. I play with it last after everything else has been dialed in. Do not use ride height adjustment as a substitute for a spring rate. If your car needs a softer or firmer spring, change the spring. Do not think that simply moving the shock collar will change the stiffness of the spring; it won't!

Camber Location is best set according the settings described in this manual. I usually leave the rear inner location at #6 and start with the 'A' location in the rear hub. I will move to the 'B' location in the hub for a slightly stiffer feel. The 'B' location seems to have a bit more roll resistance than the 'A' location, but tends to give you slightly less steering out of the corners. I like to start with the front camber link in the outside hole in the front shock tower as this is a pretty good starting point for most tracks. Occasionally, I'll move the camber link in one hole if I feel there is too much steering when entering a turn. The longer camber link tends to calm the steering down a little down.

Kingpin Balls are really handy on extremely high-bite tracks or when the steering response feels too "snappy". I really liked the kingpin balls on the high-speed, blue-groove track at the Ranch pit Shop for the 1997 World Championships. Under most track conditions I prefer the standard camber link location. This is why the setup that I recommend in this kit did not use the kingpin balls.

Generally, the kingpin balls are used on outdoor tracks with blue-groove conditions. The kingpin balls will take some of the "snappy" steering response away. One thing I do recommend if you decide to run with the kingpin balls is to go to a slightly stiffer front spring.

To install the kingpin balls, you will need to modify the front spindle carriers. File, or sand the top ball stud mounting area off of both front spindle carriers. Replace the 3/32" kingpin with the kingpin ball, placing two gold washers on the top, just under the ball stud area. Fill up the space between the E-clip groove on the bottom of the kingpin ball and the

bottom of the spindle carrier with another two gold washers. Secure the kingpin ball with a 3/32" E-clip at the bottom. Adjustments can be made to the height of the kingpin ball by moving washers from the top to the bottom, or visa-versa. I usually run two washers on the top.

Front Shock Location can be adjusted easily by simply moving top of the shock to another hole in the shock tower. The stock location (outside hole on the tower) works best for me on most tracks. I have found that on tight, indoor tracks moving the top of the shock in one hole can give the car more low-speed steering. I almost always run the bottom of the shock in the center hole in the arm.

Rear Shock Location can be changed just as easily as the front. Again, the stock location is the best place to start for most tracks. Moving the top of the shock out on the shock tower can help the car land better on big jumps, but may also make the car drive "square" with more forward traction and less cornering speed and side bite. I almost always run the bottom of the shocks in the outside hole of the arm. Try the inside hole if you're on a really rough track, but be aware that there is usually less cornering traction.

Rear Toe-In and Anti-Squat are two more things you should try and need to adjust based on what you feel is most comfortable to you. The standard kit setup is usually the best. The stock setup has two degrees of anti-squat. You can change this to zero degrees by changing the rear pivot block ¾ another neat thing about the Double-X 'CR.' Less anti-squat will help the car accelerate through the bumps, but may also decrease rear traction and steering through the corners. More importantly, I find that less anti-squat is usually more predictable under braking or while de-accelerating, which on some tracks makes a big difference.

The rear toe-in is set stock at three degrees per side, or six degrees total. This helps the car accelerate straighter, and this setting works well on nearly all tracks.

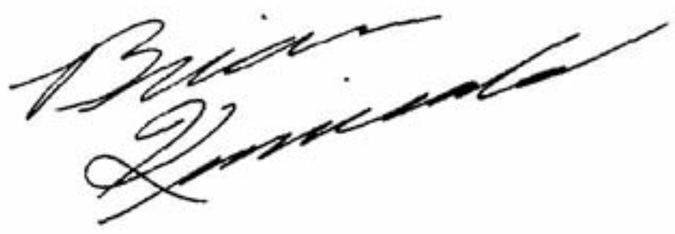
Rear Hub Spacing can be adjusted by moving the spacers at the front and rear of the hub carrier. I normally find that the middle (stock) location works best on just about every track. Spacing the hub back might help on large, high-speed, outdoor tracks. Spacing the hub forward might help on tight, indoor tracks.

Battery Location is sometimes overlooked. I always run the battery spaced 1/4"-3/8" back from the front brace. I keep coming back to this position because it gives me the best "feel", or balance. As the track changes, the balance tends to stay the same. This location may or may not work for you, but give it a try.

The Secret to winning is realizing that there are no magic pieces or secret setups that are going to make you faster. There is no substitute for practice and experimenting with different things. I keep referring to the feel of the car. The feel is different for every driver. The only way you will get the right feel for you and your car is to make adjustments and note the effects that those adjustments have on your car's handling. The more adjustments you try, the more you will learn about the car and how it reacts. Make notes about the track conditions and which changes produced good or bad results. You may have to sacrifice a tenth of a second to get a car that is comfortable to drive fast and consistent.

I have found the Double-X 'CR' to be the most versatile and easiest car to drive fast with great consistency. With practice you can, too. I hope this information helps you to enjoy your Double-X 'CR' *Kinwald Edition* and racing as much as I do.

Good Luck,



SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
1	Front shock tower	A-1106	*Kinwald Edition* Front Shock Tower
2	Front bulkhead	A-1101	Front Bulkhead
3	4-40 x 3/8" cap-head screw	A-6206	4-40 x 3/8" cap-head screws
4	Front chassis stiffener	A-9900	Graphite/Composite Chassis Brace Set
5	1/8" upper bulkhead/outer rear hinge pin	A-2164	1/8" Upper Bulkhead /Outer Rear Pin
6	1/8" E-clip	A-6100	1/8" 'E' Clips
7	1/4" ball stud	A-6006	Ball Studs w/Rod Ends 4-40 x 1/4"
8	4-40 mini lock nut	A-6306	4-40 Aluminum Mini Nuts
9	4-40 x 3/4" cap-head screw	A-6205	4-40 x 3/4" Cap-Head screw
10	Top shock mount bushings	A-5008	Upper Shock Mount Bushings
11	Main chassis	A-9902	Graphite/Composite Chassis w/braces
12	1/8" lower bulkhead hinge pin	A-1141	Pin Set for Front Bulkhead (Upper/Lower)
13	2-56 x 5/16" button-head screw	A-6225	2-56 x 5/16" Button-Head Screws
14	3/16" x 5/16" sealed bearing	A-6911	3/16" x 5/16" Teflon Sealed Bearings
15	Right spindle	A-1121	25° Front Spindles and Carriers
16	Left spindle	A-1121	25° Front Spindles and Carriers
17	Front stub axle	A-1131	'XX' Front Stub Axles and Screws
18	4-40 x 13/16" front axle screw	A-1131	'XX' Front Stub Axles and Screws
19	Right spindle carrier	A-1121	25° Front Spindles and Carriers
20	Left spindle carrier	A-1121	25° Front Spindles and Carriers
21	3/32" hinge pin	A-1146	Front Outer & King Pin 3/32" (XX)
22	3/32" E-clip	A-6103	'E' Clips 3/32"
23	3/16" ball stud	A-6001	Ball Studs w/Rod Ends 4-40 x 3/16"
24	Front suspension arm	A-9701	Graphite/Composite Front Arms (XX)
25	1/8" inner front hinge pin	A-2007	Hinge Pin - Front Inner XXT, XX 'CR'
26	Front hinge pin brace	A-1102	XXT, XX 'CR' Front Inner Hinge Pin/Bulkhead Brace
27	Plastic rod end	A-6005	H.D. 30° Plastic Rod Ends
28	1-7/8" titanium turnbuckle	N/A	Lunsford Racing Titanium Turnbuckle 1.785"
29	Foam things	A-6003	Foam Things (Linkage Rings)
30	Servo saver bottom	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
31	Servo saver post	A-1610	Steering Hardware Set (XX, XX-T)
32	Servo saver top	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
33	Servo saver spring	A-1610	Steering Hardware Set (XX, XX-T)
34	Servo saver spring cap	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
35	6-40 lock nut	A-1610	Steering Hardware Set (XX, XX-T)
36	Steering idler arm	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
37	1-3/4" titanium turnbuckle	N/A	Lunsford Racing Titanium Turnbuckle 1.75"
38	Short plastic rod end	A-1615	Short Ball Cups & Threaded Rods
39	1-1/8" turnbuckle	A-2005	Rear Camber Link w/Ends 1-1/8"
40	3/32" x 3/16" bearings	A-6912	3/32" x 3/16" Bearings
41	Steering brace	A-4110	Chassis Brace Set (XX, XX-T)
42	Servo arms (23S, 23L and 25L)	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
43	Servo mounting posts	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
44	#4 washer	A-1601	Steering/Servo Mount Assembly (Molded) (XX, XX-T)
45	Chassis brace	A-9900	Graphite/Composite Chassis Brace Set
46	4-40 x 1/2" cap-head screw	A-6204	4-40 x 1/2" Cap-Head Screws
47	Gold washer	A-6215	#4 Narrow Washers (Gold)
48	4-40 x 5/8" threaded rod	A-1615	Short Ball Cups & Threaded Rods
49	4-40 x 7/8" cap-head screw	A-6216	4-40 x 7/8" Cap-Head Screws
50	1/8" x 1/4" washer	A-6350	#4 and 1/8" Hardened Washers
51	Rear pivot block	A-2112	'CR' Rear Pivot Block - 0°
52	Right rear suspension arm	A-2131	'CR' Rear Suspension Arms (XX)
53	Left rear suspension arm	A-2131	'CR' Rear Suspension Arms (XX)
54	Inner rear hinge pin	A-2162	'CR' Inner Rear Hinge Pins
55	Rear pivot plate	A-2107	'CR' Rear Pivot Plate
56	4-40 x 3/8" flat-head screw	A-6210	4-40 x 3/8" Flat-Head Screws

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
57	Rear shock tower	A-9813	Graphite/Composite Rear Shock Tower (XX)
58	Rear bulkhead	A-2101	Rear Bulkhead
59	3/8" ball stud	A-6000	Ball Studs w/Rod Ends 4-40 x 3/8"
60	White thrust bearing/assembly grease	A-3066	Teflon™ Assembly Grease
61	CVD yoke	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
62	CVD rear axle	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
63	CVD dogbone	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
64	.1/16" x .7/16" (solid) pin	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
65	4-40 setscrew	A-6227	4-40 x 1/8" Hardened Setscrews
66	Thread lock compound	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
67	Right rear hub	A-2126	'CR' Rear Hub Set
68	Left rear hub	A-2126	'CR' Rear Hub Set
69	3/16" x 3/8" bearing	A-6903	3/16" x 3/8" Ball Bearing
70	Inner rear axle spacer	A-9941	Bearing Spacer/Wheel Washer Set
71	Outer rear axle spacer	A-9941	Bearing Spacer/Wheel Washer Set
72	1/16" x 7/16" (spirol) pin	A-6401	Pins, Wheel & Gear
73	Rear hub spacer	A-2126	'CR' Rear Hub Set
74	1-5/8" titanium turnbuckle	N/A	Lunsford Racing Titanium Turnbuckle 1.625"
75	Diff nut carrier	A-3078	Differential Screw, Hardware, and Seal
76	Allen wrenches	N/A	N/A
77	Beveled washers	A-3078	Differential Screw, Hardware, and Seal
78	Diff tube	A-3072	Differential Tube
79	Outdrive/diff half	A-3073	Outdrive Cup/Diff Half
80	Diff grease (clear)	A-3065	Silicone Differential Compound
81	Diff washer	A-3070	Differential Drive Rings
82	5mm x 8mm bearing	A-6907	5mm x 8mm Ball Bearings
83	Diff gear	A-3074	Differential Gear Only (2.19:1)
84	3/32" diff balls	A-6951	3/32" Carbide Diff Balls
85	1/4" x 5/16" shim	A-6230	Shim Assortment - 3/16", 1/4", 1/2"
86	Diff adjusting screw	A-3078	Differential Screw, Hardware, and Seal
87	Foam thrust bearing seal	A-3078	Differential Screw, Hardware, and Seal
88	3mm x 8mm thrust bearing washer	A-3098	Differential Thrust Bearing w/Carbide Balls (Molded)
89	3mm x 8mm thrust bearing	A-3098	Differential Thrust Bearing w/Carbide Balls (Molded)
90	4-40 x 1" setscrew	A-9930	Aluminum Gear/Slipper Shaft 2.19:1 Ratio
91	Aluminum top gear/slipper shaft	A-9930	Aluminum Gear/Slipper Shaft 2.19:1 Ratio
92	Left gearbox half	A-3058	Transmission Case Set (2.19:1)
93	1/2" x 3/4" bearing	A-6908	1/2" x 3/4" Ball Bearings w/Teflon Seal
94	Right gearbox half	A-3058	Transmission Case Set (2.19:1)
95	Idler gear shaft	A-3075	Upper Gear and Hardware (2.19:1)
96	1/8" x 3/8" bearing	A-6909	1/8" x 3/8" Ball Bearings
97	Idler gear	A-3079	Idler Gear 2.19:1
98	2-56 x 5/8" cap-head screw	A-3061	Transmission Screw Set
99	Motor plate	A-3063	Motor Plate
100	4-40 x 1" cap-head screw	A-6223	4-40 x 1" Cap-Head Screws
101	Slipper back plate	A-3132	Slipper Backing Plate (XX, XX-T)
102	Slipper pad	A-3123	Slipper Pad
103	Spur gear 84 tooth	A-3930	84T 48 Pitch Spur Gear (XX-4)
104	Slipper spring spacer	A-3124	Slipper Spring, Cup, Spacer, Bushing, and Washer
105	Gold slipper spring	A-3124	Slipper Spring, Cup, Spacer, Bushing, and Washer
106	Spring retaining washer	A-3124	Slipper Spring, Cup, Spacer, Bushing, and Washer
107	4-40 aluminum lock-nut	A-6305	4-40 Aluminum Lock-Nuts, Low Profile
108	4-40 x 1/2" flat-head screw	A-6220	4-40 x 1/2" Flat-Head Screws
109	Shock O-ring	A-5015	Double O'Ring Shock Cartridge
110	Shock cartridge body	A-5015	Double O'Ring Shock Cartridge
111	Shock cartridge spacer	A-5015	Double O'Ring Shock Cartridge
112	Shock cartridge cap	A-5015	Double O'Ring Shock Cartridge

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
113	Shock fluid	A-5224	SILATECH Competition Shock Fluid 350/30 wt
114	Front shock shaft	A-5004	Shock Shaft Front (Short) .6"
115	Rear shock shaft	A-5022	X-Long Shock Shaft 1.2"
116	Shock end	A-5023	Spring Clamps & Cups
117	Shock spacers	A-5015	Double O'Ring Shock Cartridge
118	1/4" swivel ball	A-2006	Swivel Suspension Balls .250
119	Black shock piston	A-5047	Teflon Shock Pistons #57, Black
120	Red shock piston	A-5046	Teflon Shock Pistons #56, Red
121	Front shock body	A-5029	.6" Shock Body, Hard Anodized/Coated
122	Rear shock body	A-5031	1.2" Shock Body, Hard Anodized/Coated
123	Shock spring cup	A-5023	Spring Clamps & Cups
124	2" front shock spring	A-5134	2" Spring 3.8 Rate (Blue)
125	2.5" rear shock spring	A-5150	2.5" Spring 2.3 Rate (Pink)
126	Shock collar	A-5023	Spring Clamps & Cups
127	Front tire	A-7202S	Front WIDE BODY Rib (Silver) w/Foam Liners
128	Rear tire	A-7369S	2.2 Rear "X-2000" (Silver) w/Foam Liners
129	Front wheel	A-7031	'XX' Front Wheels w/Disks - Neon Yellow
130	Rear wheel	A-7125	2.2 Rear Disk Wheels - Neon Yellow
131	Front foam tire liners	A-7299	Buggy Front Foam Liners
132	Rear foam tire liners	A-7399	Buggy Rear Foam Liners
133	Front wheel disks	A-7039	XX Front Wheel Disks
134	Rear wheel disks	A-7128	2.2" Rear Wheel Disks
135	8-32 lock nut	A-9923	MIP CVD Driveshafts w/Blue Nuts (*Kinwald Edition*)
136	3mm x 8mm cap-head screws	A-6201	3mm x 8mm Socket Head w/Washers
137	Gear cover	A-3064	'XX' Gear Cover & Plug
138	4-40 x 1/8" button-head screw	A-6212	4-40 x 1/8" Button-Head Screws
139	Gear cover plug	A-3045	Slipper Gear Cover Plug (4)
140	Battery spacing foam	A-4015	Foam Battery Block Set (XX, XXT)
141	Battery strap foam strip	A-4113	Battery Hold-Down Strap Std. (XX)
142	Battery strap	A-4113	Battery Hold-Down Strap Std. (XX)
143	Body clips	A-8200	Body Clips
144	Two-sided tape	A-4004	Servo Tape
145	Antenna tube	A-4002	Antenna Kit
146	Antenna cap	A-4003	Antenna Caps
147	Front bumper	A-4130	Front Bumper (XX, XX-T)
148	4-40 x 1/4" flat-head screw	A-6213	4-40 x 1/4" Flat-Head Socket Screw
149	Window masks	A-8042	X-Celerator Body w/Masks
150	Body	A-8042	X-Celerator Body w/Masks
151	Wing	A-8107	Wide 'V' Wing
152	Wing button	A-8120	Machined Aluminum Wing Buttons
153	Wing wire	A-8106	XX Wing Wire
154	5-40 setscrew	A-6228	5-40 x 1/8" Hardened Setscrews
155	Sticker sheet	A-8340	XX 'CR' *Kinwald Edition* Sticker Sheet