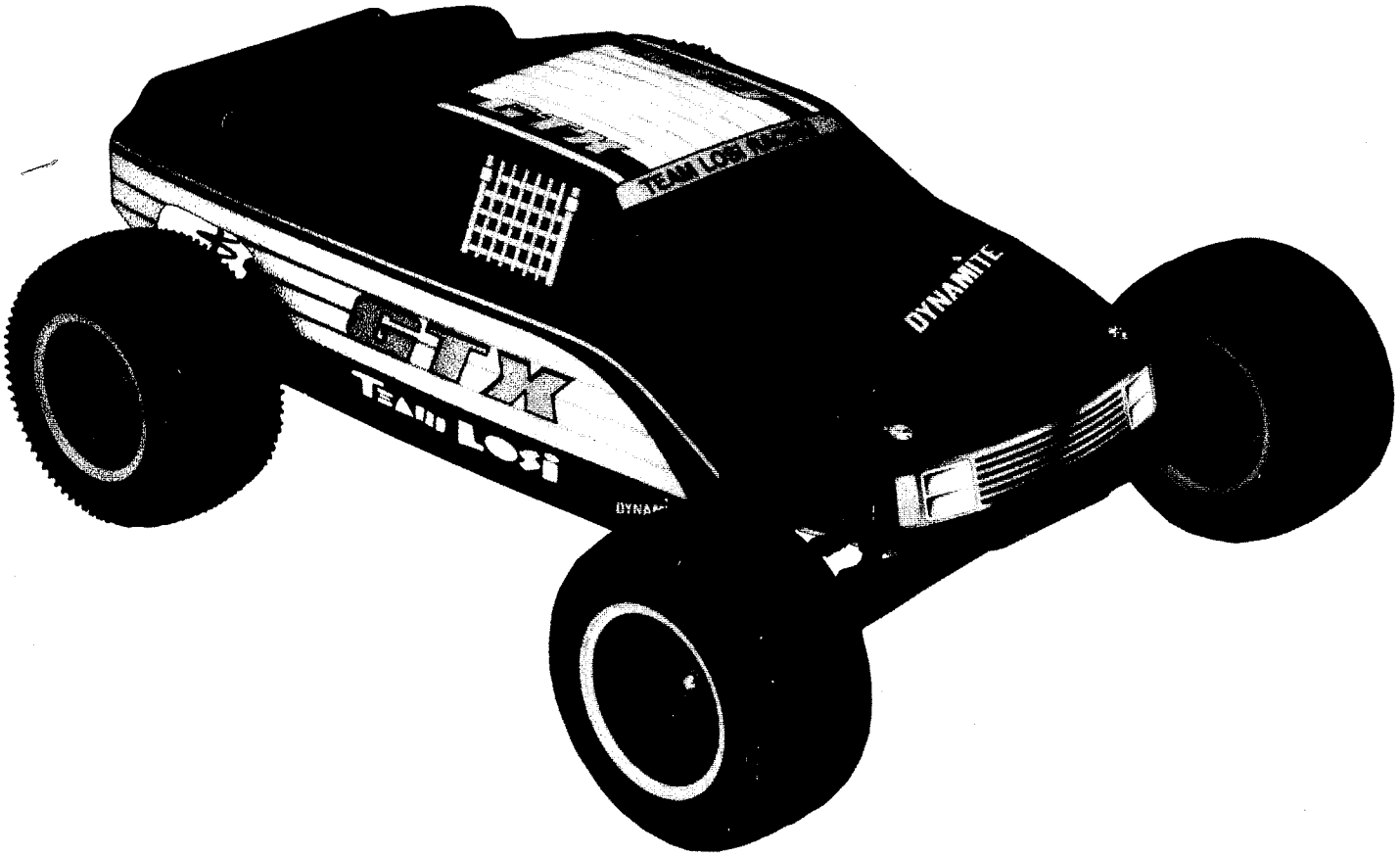
GTX OWNER'S MANUAL

LOS-A0951	**GTX Kit with Bushings & Pull Start Engine**
LOS-A0952	**GTX Pro Kit with Bearings & Pull Start Engine**
LOS-A0953	**GTX Pro Kit with Bearings & Non Pull Start Engine**
LOS-A0954	**GTX Pro Kit with Bearings & No Engine**



- **Carefully read through all instructions to familiarize yourself with the parts, construction, tuning tips, and techniques outlined in this manual. Being able to grasp the overall design of your GTX Gas racing truck before construction will ensure a smooth assembly.**
- **Take your time and pay close attention to detail. Keep this manual for future reference.**

TEAM LOSI Racing

TEAM LOSI INC., CHINO, CA 91710 P/N 800-0070
MADE IN THE UNITED STATES OF AMERICA

WELCOME GTX OWNER!

Thank you for choosing the GTX truck as your vehicle to enjoy the exciting world of fuel powered, all, terrain racing. The GTX is the result of hundreds of hours worth of computer aided design and on-track testing by our engineers and development team. Needless to say, you will soon come to appreciate that the GTX represents the latest in technology and meets the unique demands of fuel powered, off-road racing.

Since fuel powered models tend to require greater mechanical and tuning ability, it is important that you read through the this manual completely before beginning assembly. A little extra time now will save building time and get you running sooner. You will find that our unique bag-by-bag assembly is both quick, and easy to follow. You will also notice that we have included a separate tip section along with helpful hints throughout this manual to help you tune your GTX and maximize your enjoyment of this kit.

Once again, thank you for making a wise choice... the GTX

TEAM LOSI

1. INTRODUCTION

GTX COMPLETED KIT DIMENSIONS

Length: 16-1/2" Front Width: 12-3/4" Rear Width: 12-3/8" Height: 5-3/4"
Wheel base: 11-1/4" All dimensions at ride height. Weight will vary depending on accessories.

NOTES & SYMBOLS USED

* *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 about a certain step in the assembly. Do not ignore these notes!

This wrench designates a performance tip. These tips are not necessary, but can improve the performance of your GTX truck.

KIT/MANUAL ORGANIZATION

The GTX is composed of different bags marked A through H. Each bag contains all of the parts necessary to complete a particular section of the GTX truck. Some of these bags have subassembly bags within them. It is essential that you open only one bag at a time and follow the correct sequence, otherwise you may face difficulties in finding the right part. It is helpful to read through the instructions for an entire bag prior to starting 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 to replace easily lost parts. Different fits have been designed into plastic parts (i.e. press, net, loose). 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 were 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, fuel, or paints that may be used for assembly and operating purposes.
5. Gas powered vehicles should not be operated indoors.
6. Be careful when handling your truck after it has been run for any period of time. The engine and many parts can get extremely hot while operating the truck.

TOOLS REQUIRED

Team Losi has supplied all allen wrenches and a special wrench that is needed for assembly and adjustments. The following common tools will also be required: Small flatblade screwdriver, phillips screwdriver, needle nose pliers, regular pliers, scissors, or other body cutting/trimming tools. 3/16", 1/4", 5/16", 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 of length). The fraction following designates the length of the threads for cap head screws, and the overall length for flathead screws. 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 are attached to.

FUEL

The fuel used to power the GTX truck is a special blend of oils and nitro. This fuel is highly flammable and should be treated as such. Be sure to read any warnings and cautions that may appear on the packaging of the fuel. Because of the exhaust fumes that are produced from running any gas powered vehicle, the GTX should not be operated indoors. Be careful when handling your truck while the engine is running. The exhaust fumes from the tuned pipe can cause irritation and burning of the eyes. Never point the exhaust pipe towards your face. I know this sounds stupid, but we've all had it happen to us and it really isn't a pleasant experience.

There are several different brands of fuel available for the gas powered engines. We have found that the O'Donnel and Blue Thunder fuels are more reliable and perform better than the others. It is not recommended that you use a model airplane or model helicopter fuel in your GTX truck. The fuels for model airplanes and helicopters do not have the proper types, or content of oil in them. Model cars have a much more restricted air flow over the engine, so the oils that are used in the fuel for model cars help to cool the engine. Using a model airplane fuel may cause the engine to run hotter than desired.

FUEL BOTTLE

You will need some sort of a fuel bottle in order to fill the tank in your GTX with fuel. Your local hobby shop should have fuel bottles available.

STARTERS

If you will be installing an engine that is not equipped with a pull start, you will need to have some sort of an electric starter in order to start the engine. There are several hand held electric starters available on the market. There are also a few manufacturers that produce starter boxes. A starter box is easier to use, but is usually more expensive. When attempting to start the engine in your GTX truck with an electric starter, make certain that the engine is being turned the correct direction. Turning the engine over the wrong direction will cause the engine to run backwards.

GLOW IGNITER

You will also need a glow plug igniter in order to start the engine in your GTX truck. There is a wide variety of glow plug igniters available. Check with your local hobby shop.

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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

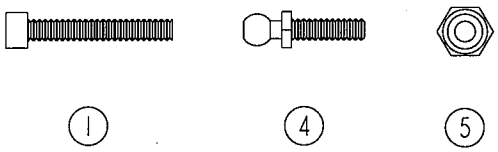

Figure 1.

Step 1. Insert a 4-40 x 3/4" cap head screw (1) through the second hole in from the outside on each side of the front shock tower (2). Thread a top shock mount bushing (3) onto each of the two screws (1).

Step 2. Insert a 3/8" ball stud (4) into the inside of the four camber holes on the bottom of the shock tower (2). Mount the ball studs (4) from the same side of the shock tower (2) as the screws (1) on both sides of the shock tower (2). Secure the ball studs (4) with 4-40 lock nuts (5).

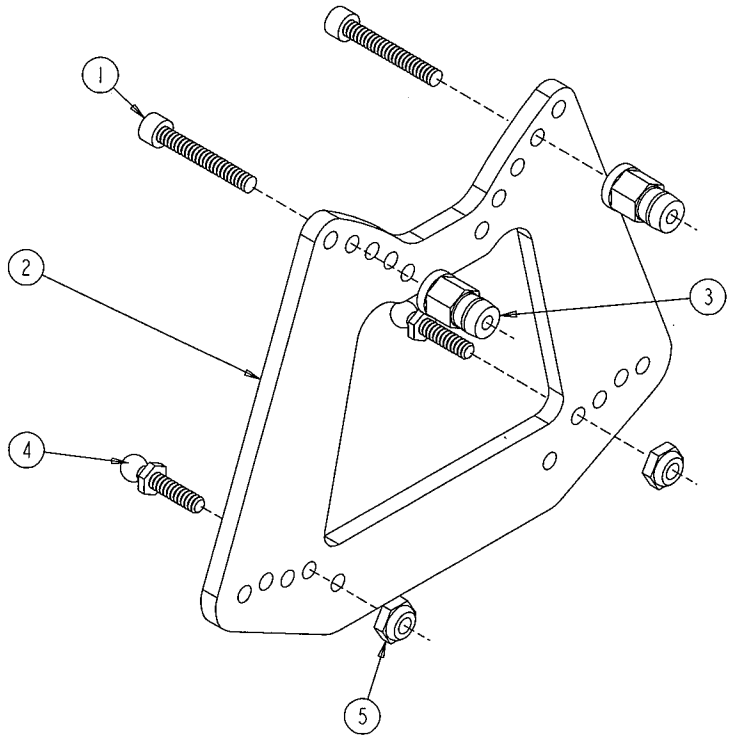

Figure 1

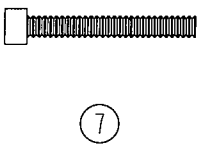

Figure 2.

Step 3. Secure the front shock tower (2) to the front bulkhead (6) with two 4-40 x 7/8" cap head screws (7) as shown. The screws (7) should extend through the front of the bulkhead (6). Be sure that the shock mount bushings (3) face the correct direction as shown in figure 2.

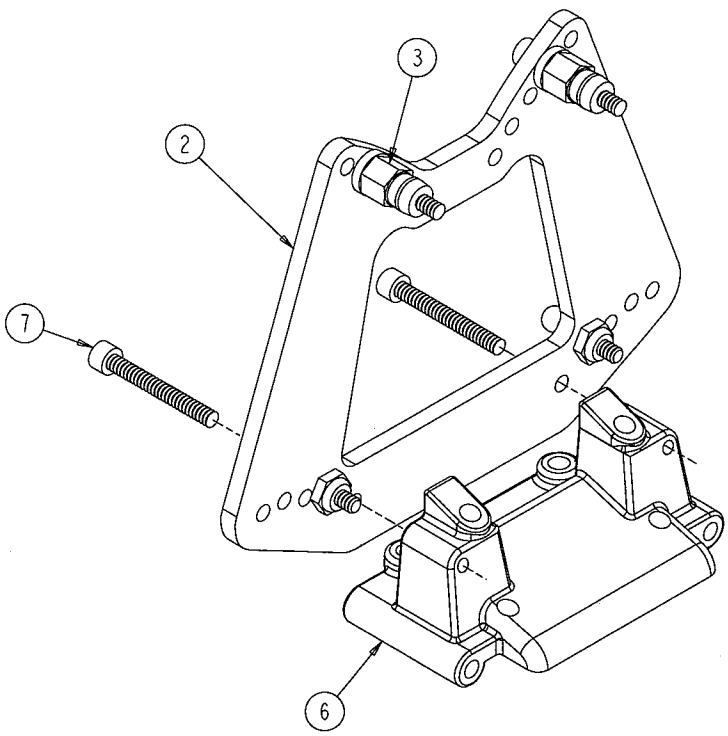

Figure 2

BAG A (Continued)

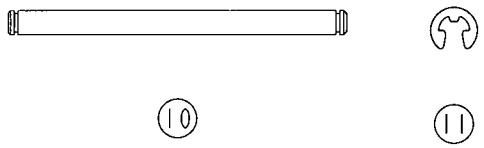

Figure 3.

Step 4. Attach the front suspension arms [left (8), right (9)] to the front bulkhead (6) by sliding a 1/8" inner front hinge pin (10) through the arm (8), (9) and bulkhead (6). Center the hinge pin (10) and secure it with two 1/8" 'E' clips (11).

⚠ **IMPORTANT NOTE:** Be sure that the arms sweep to the rear and the shock mounting area is facing up.

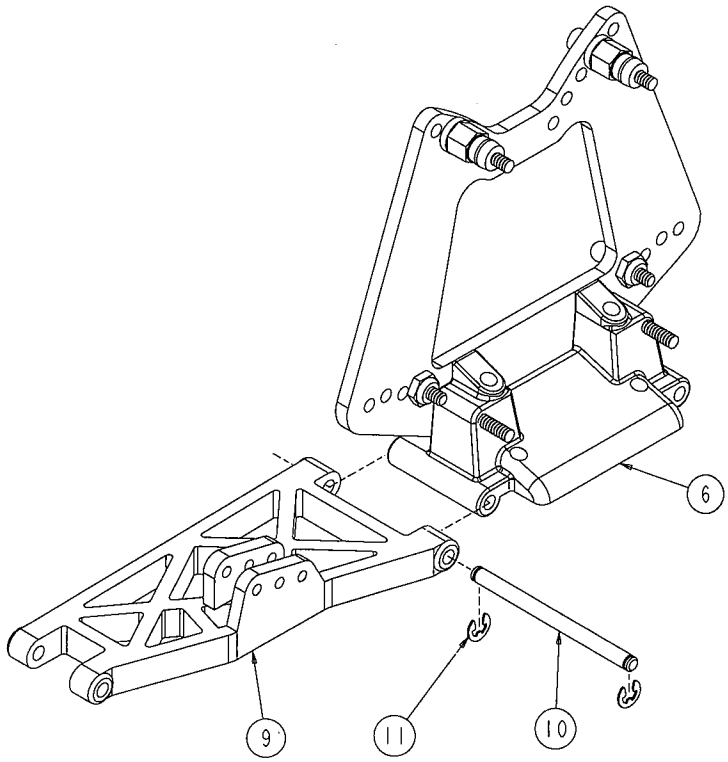

Figure 3

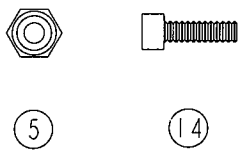

Figure 4.

Step 5. Attach the front body mount slide (12) to the front side of the front body mount support (13) by threading two 4-40 x 3/8" cap head screws (14) into the top hole in the body mount slide (12) (this hole does not go all the way through), through the holes in the body mount support (13) as shown.

Step 6. Place the body mount support (13) over the two screws (7) protruding from the front of the bulkhead (6) so that the body mount support (13) angles forward. Secure the body mount assembly with two 4-40 lock nuts (5).

**NOTE: Assure that the body mount slide (12) angles down, towards the front.*

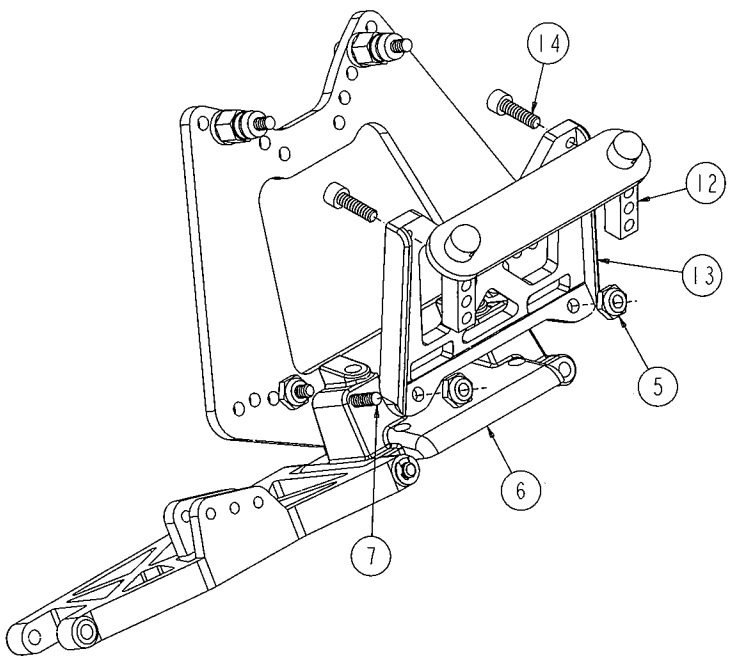

Figure 4

BAG A (Continued)

Figure 5. (4) (18) (19) (20) (21)

Step 7. Slide a front axle (15) into the right spindle (16) so that the hole in the axle (15) lines up with the hole in the spindle (16).

**NOTE: Spindles are marked with 'L' and 'R' to designate left and right.*

Step 8. Place the assembled spindle (16) and axle (15) in the right spindle carrier (17) so that the letter on the spindle (16) faces up. Insert a 1/8" x .960" hinge pin (18) through the spindle carrier (17), spindle (16), and axle (15). Center the hinge pin (18) in the assembly and secure it with two 1/8" 'E' clips (11).

Step 9. Ensure that the hinge pin (18) is centered in the spindle carrier (17) and thread a 5-40 set screw (19) into the rear of the front axle (15). Tighten the set screw against the hinge pin (18) until snug.

Step 10. Place a studded ball washer (20) over a 3/8" ball stud (4) and thread the ball stud into the top hole of the spindle carrier (17), as shown, until snug. Thread a 3/16" ball stud (21) into the spindle from the top until snug.

⚠ **IMPORTANT NOTE:** Refer to the illustration and be certain that the spindle carrier and spindle are assembled correctly and the reference letters face the correct direction.

Step 11. Repeat steps 7-10 for the left side parts [left spindle (22), left spindle carrier (23)].

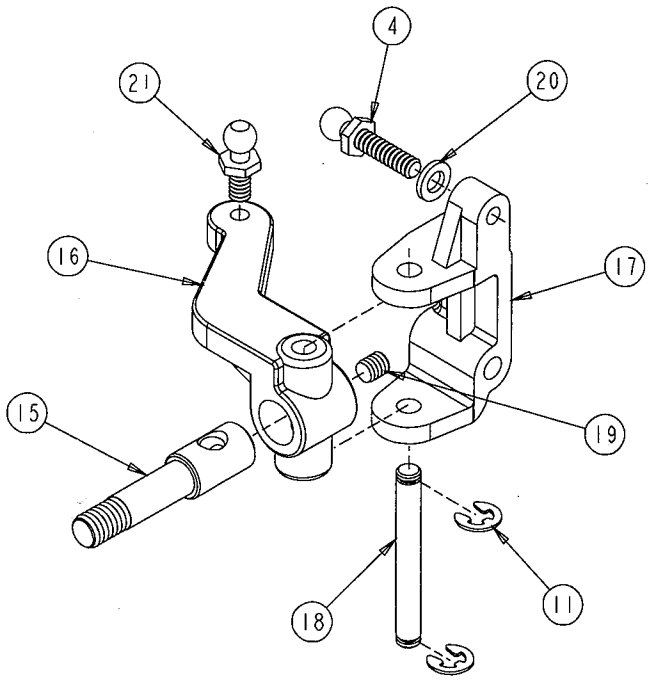

Figure 5

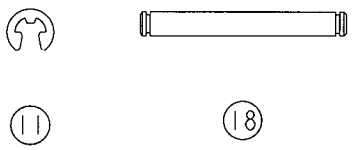

Figure 6.

Step 12. Attach the right spindle carrier assembly to the right suspension arm (9) by sliding a 1/8" x .960" hinge pin (18) through the arm (9) and spindle carrier (17). Center the hinge pin (18) in the arm (9) and secure it with two 1/8" 'E' clips (11).

⚠ **IMPORTANT NOTE:** Make sure that the letter on the spindle faces up.

Step 13. Repeat step 12 for left side.

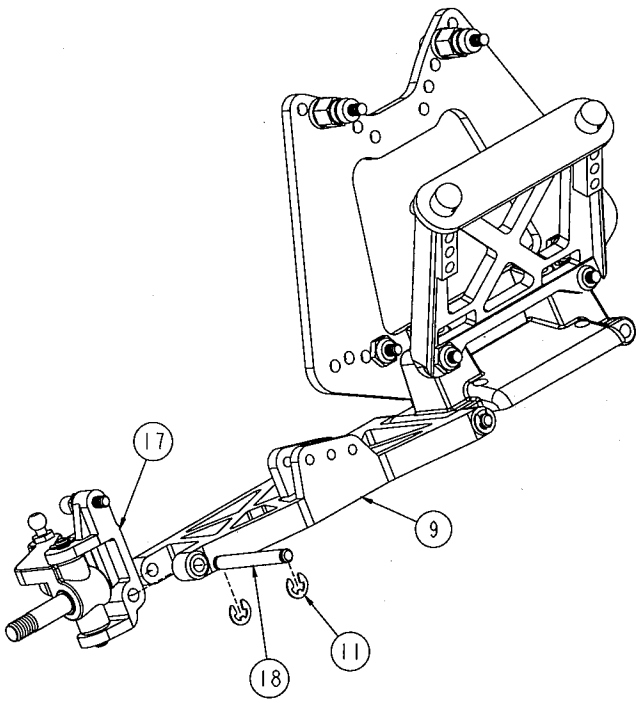

Figure 6

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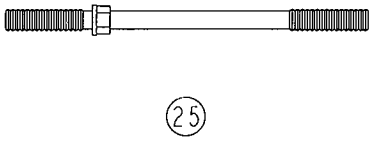

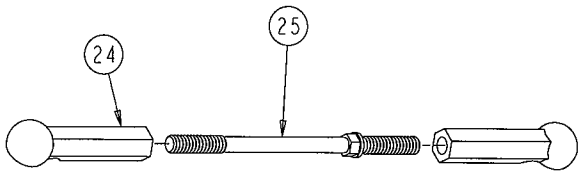

Figure 7

Figure 7.

Step 14. Thread a plastic rod end (24) onto each end of a 1-7/8" turnbuckle (25). Tighten both rod ends equally until the rod is the same length as the rod shown in figure 7A. Make two of the camber rod assemblies.

**NOTE: One end of the turnbuckle has left hand threads.*

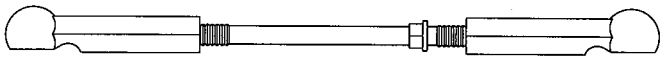

Figure 7A

Figure 8.

Step 15. Place a "foam thing" (26) over each of the ball studs (4) on the spindle carriers (17), (23) and the shock tower (2). Attach one side of each camber rod assembly from step 14 to the ball stud (4) on the shock tower (2) and the other end to the ball stud (4) on the spindle carrier (17), (23). Attach a camber rod to both the left and the right side.

Mount all of the camber rods so that the adjustment hex is to the outside of the truck. This will make future adjustments much easier.

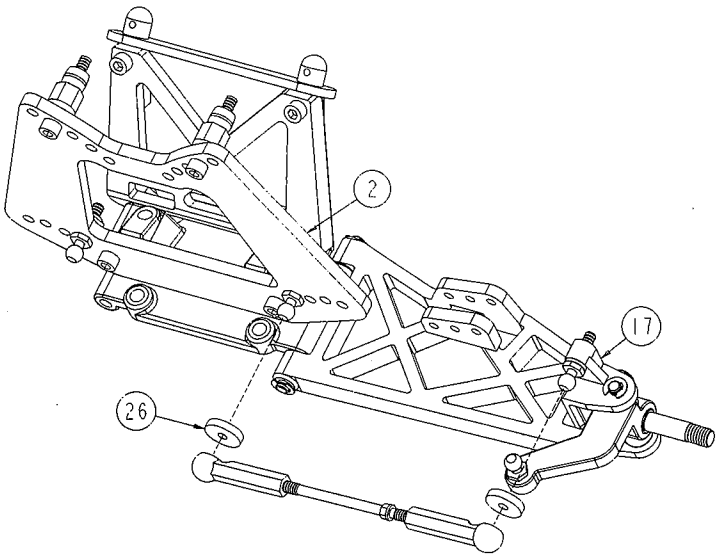

Figure 8

Figure 9.

Step 16. Place the completed front suspension assembly on the front of the main chassis (27). Thread two 8-32 x 1/2" screws (28) through the two rear holes in the front portion of the chassis (27) and into the rear holes in the front bulkhead (6).

Step 17. Align the front bumper (29) with the two forward holes in the bottom of the chassis (27). Secure the bumper (29) to the chassis by threading two 8-32 x 1/2" screws through the bumper (29), the chassis (27), and into the forward holes of the front bulkhead (6). Tighten all four screws (28) until snug.

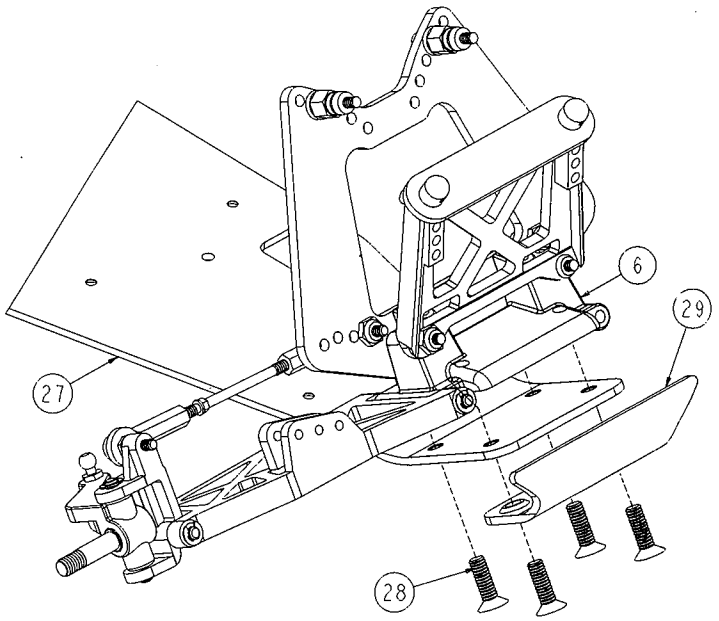

Figure 9

BAG B

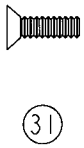

Figure 10.

Step 1. Secure the steering posts (30) to the outer holes in the front of the chassis (27) using two 4-40 x 3/8" flat head screws (31) as shown.

A mild thread locking compound should be used on all screws that are to be threaded into aluminum on this vehicle. If a thread locking compound isn't used, the vibration from the gas powered engine will cause the screws to back out.

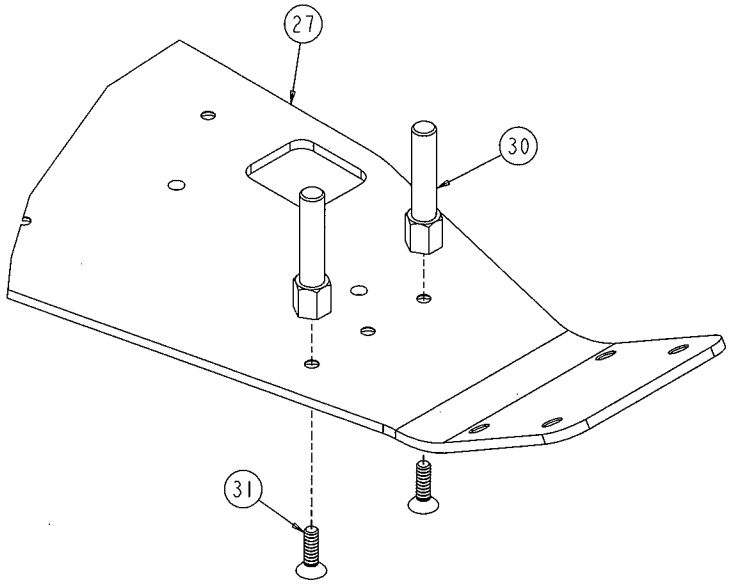

Figure 10

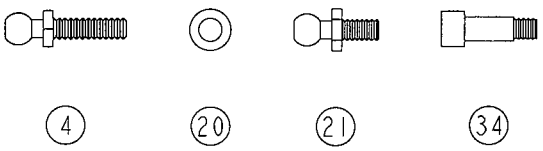

Figure 11.

Step 2. Thread a 3/8" ball stud (4) into the outer hole on the short arm of the steering bellcrank (32) as shown. Tighten until snug. **Do not** over tighten!

Step 3. Place a studded ball washer (20) over each of two 3/16" ball studs (21) and thread one into each of the outer holes in the steering sector arm (33).

IMPORTANT NOTE: When the ball studs face up, the offset hole in the sector arm should face forward and to the left as shown.

Step 4. Attach the steering bellcrank (32) to the sector arm (33) by threading a 4-40 x 1/8" cap head shoulder screw (34) through the bellcrank (32) and into the offset hole in the sector arm (33).

Step 5. Attach the steering idler arm (35) to the sector arm (33) by threading a 4-40 x 1/8" shoulder screw (34) through the idler arm (35) and into the remaining hole in the sector arm (33). Tighten the two shoulder screws (34).

If the bellcrank or idler arm don't rotate freely when the screws are tightened, remove the screw and lightly file the area around the threads on the sector arm. Attach the part again and check for free movement. File the arm slightly until the parts rotate easily. Again, it is a good idea to use a mild thread locking compound in the aluminum sector arm.

Step 6. Place the bellcrank (32) and idler arm (35) over the steering posts (30) as shown.

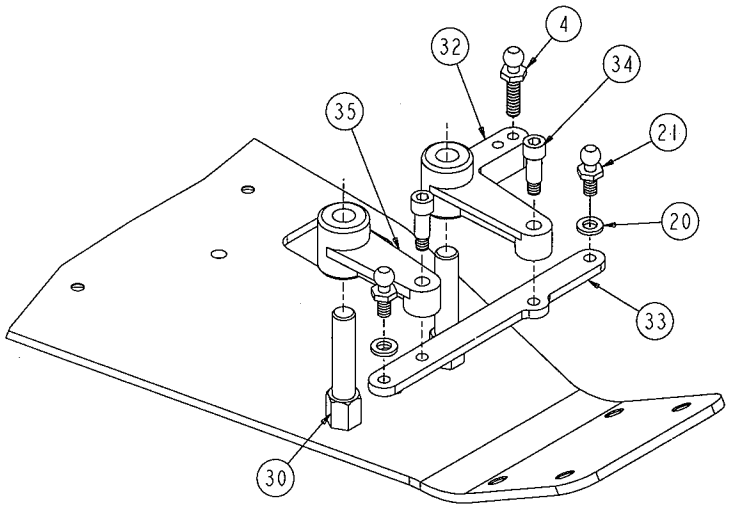

Figure 11

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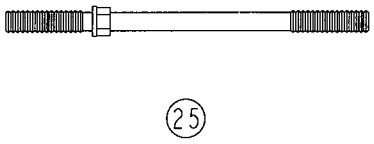


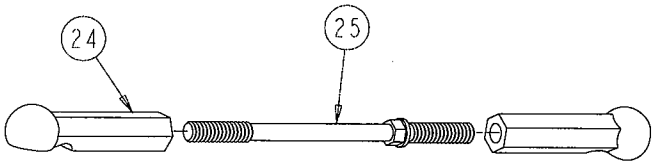


Figure 12.

Step 7. Thread a plastic rod end (24) onto each end of a 1-7/8" turnbuckle (25). Tighten both rod ends equally until the rod is the same length as the rod shown in figure 12A. Make two of the tie-rod assemblies.

Figure 12

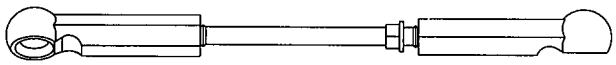


Figure 12A

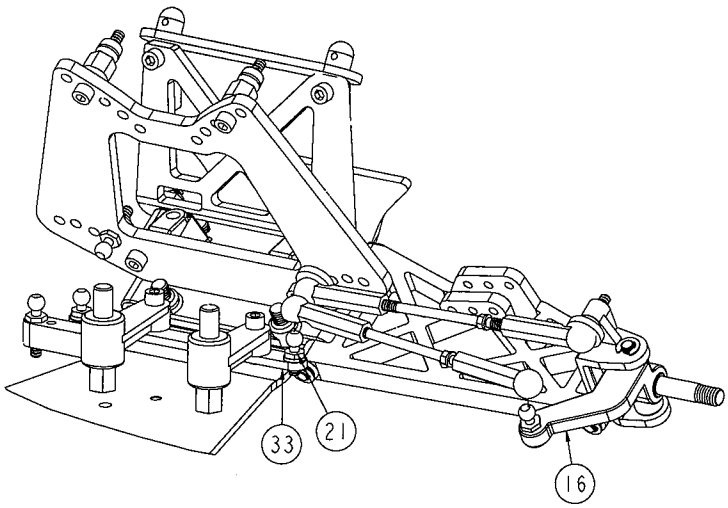


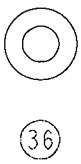
Figure 13.

Step 8. Attach one end of a tie-rod assembly to the ball stud (21) on the right side of the sector arm (33) and the other end to the ball stud (21) on the right spindle (16).

Step 9. Repeat step 8 for the left side.

Mount all of the camber rods so that the adjustment hex is to the outside of the truck. This will make future adjustments much easier.

Figure 13



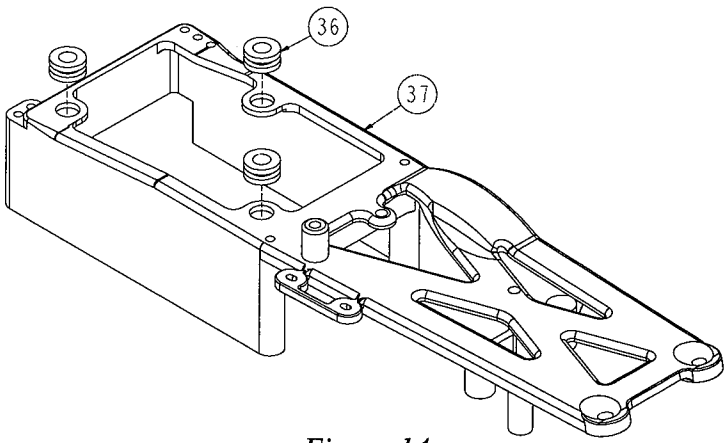


Figure 14.

Step 10. Press a rubber tank mounting grommet (36) into each of the three large holes in the top of the center chassis brace (37) as shown. The grommets (36) should be centered, top to bottom, in the holes of the chassis brace (37).

Figure 14

BAG B (Continued)

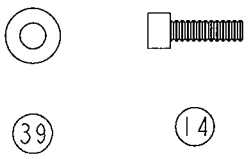


Figure 15.

Step 11. Line up the three posts on the fuel tank (38) with the three holes with grommets in the center chassis brace (37). Install the fuel tank (38) on the center chassis brace (37) from the bottom by pressing the three posts on the tank (38) through the three rubber grommets (36).

Step 12. Place a #4 washer (39) over each of the three 4-40 x 3/8" cap head screws (14). Thread a screw (14) through each of the grommets (36) and into the posts in the fuel tank (38). Hold the tank (38) all the way up against the chassis brace (37). Tighten each of the three screws (14) until the washer (39) just touches the grommet (36).

NOTE: The screws should **not be tightened so that the grommet smashes. By tightening the screws until the washers just touch the grommets, the tank will be "shock mounted". This helps to keep the fuel from foaming while running the truck.*

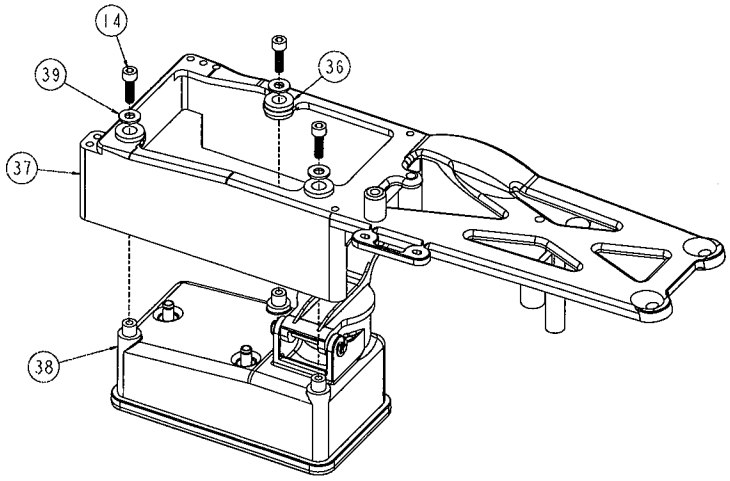


Figure 15

Figure 16.

Step 13. Refer to figures 16A and 16B. These are full size drawings of the steering servo posts mounted in the two different configurations. Hold your servo up to these diagrams and align the mounting ears on your servo with the holes in the posts. This will determine how to mount the steering servo posts (40).

Step 14. Once you have determined the mounting position of the steering servo posts (40), place the posts (40) into the holes in the chassis (27) so that the posts are offset in the correct direction from figure 16A or 16B.

**NOTE: If you do not have your radio system yet, or do not know which servo you will use for steering at this time, mount the posts according to figure 16A and continue. The direction of the posts can be changed once you have determined which servo you will use.*

⚠ **IMPORTANT NOTE:** The 2nd and 5th hole from the bottom in the servo mounting posts are larger than the rest of the holes. These holes should be positioned closest to the chassis.

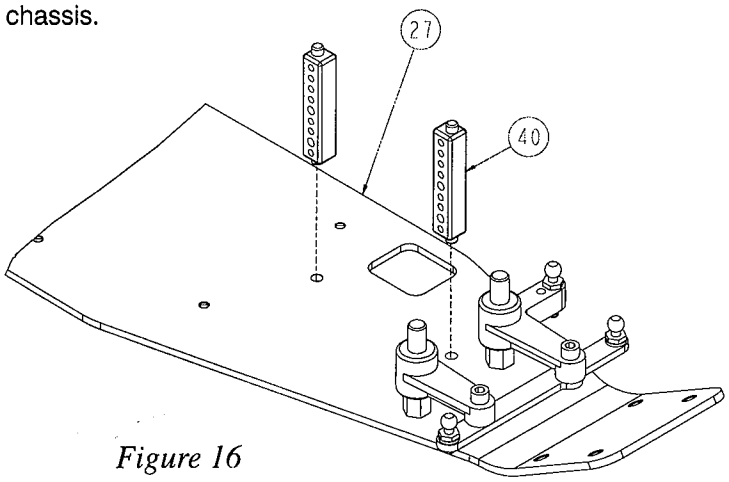


Figure 16

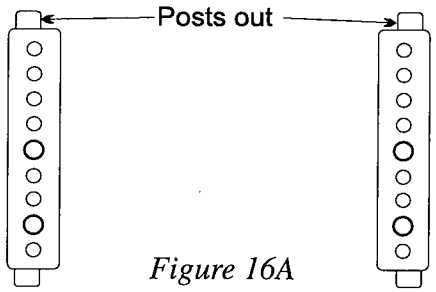


Figure 16A

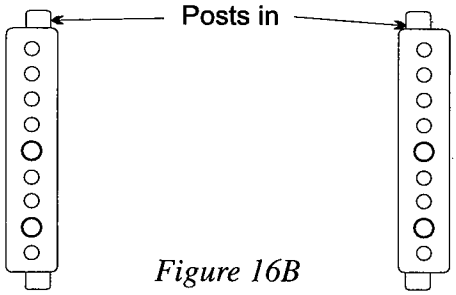


Figure 16B

BAG B (Continued)

(28) (31)

Figure 17.

Step 15. Place the center chassis brace (37) on top of the chassis (27). Pay particular attention to the steering posts (30) and the servo mounting posts (40). The chassis brace has two extensions that fit over the steering posts (30), and the pins in the top of the servo mounting posts (40) should fit into two holes in the chassis brace (37). Once the chassis brace is lined up and in place, secure it to the front bulkhead (6) by threading two 8-32 x 1/2" screws (28) through the forward holes of the chassis brace (37) and into the holes in the top of the front bulkhead (6).

Step 16. Secure the chassis brace (37) to the chassis (27) with five 4-40 x 3/8" flat head screws (31) as shown.

**NOTE: Make sure that the pins on the top and bottom of the steering servo mount stay located in the holes in the chassis and the chassis brace.*

There is an extra 4-40 x 3/8" cap head screw packed in the wrench bag. This screw can be used to tap the threads into all of the "Stiffezell" plastic parts such as the center chassis brace. The larger cap head uses a 3/32" wrench which will make it easier to start threads into the stiff plastic than the small 1/16" wrench used on the flat head screws. The cap head screw should be threaded in about half way and removed from each hole. This will make it easier to install the flat head screws and allow for the last few threads to be tapped when it is installed.

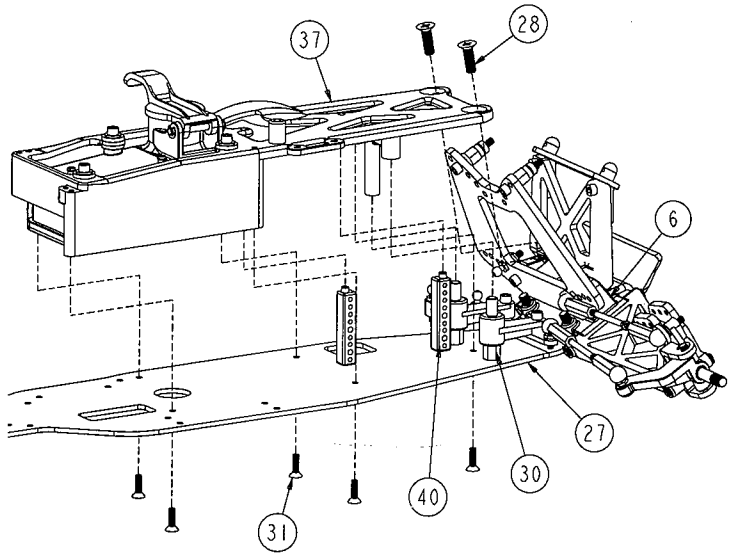


Figure 17

(31)

Figure 18.

Step 17. Refer to figures 18A and 18B. These are full size drawings of the throttle servo mounts (41) attached to the chassis in the two different configurations. Hold your servo up to these diagrams and align the mounting ears on your servo to holes in the mounts. This will determine how to mount the throttle servo mounts (41).

Step 14. Once you have determined the mounting position of the throttle servo mounts (41), attach each mount (41) to the chassis (27) with two 4-40 x 3/8" flat head screws (31) so that the mounts are offset the correct way from figure 18A or 18B.

**NOTE: If you do not have your radio system yet, or do not know which servo you will use for throttle at this time, attach the servo mounts according to figure 18A and continue. The direction of the mounts can be changed once you have determined which servo you will use.*

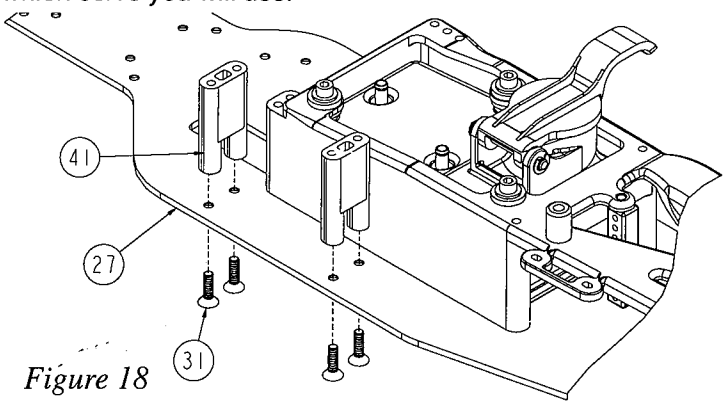


Figure 18

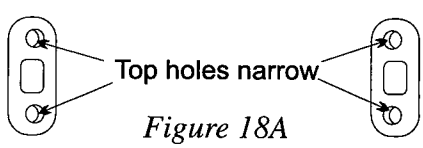


Figure 18A

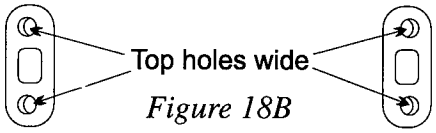


Figure 18B

BAG C

STOP Bag C requires that you pay close attention to the bearings involved in the assembly (disregard this note for kit #A-0951). 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 19.

Step 1. Insert a 4-40 mini lock nut (42) into the hex area of the diff nut carrier (43). The thread locking portion of the nut (42) should face the outside.

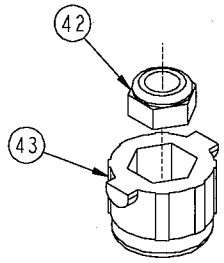


Figure 19

Fig 20.

Step 2. Locate the 5/64" allen wrench (44) supplied with the kit. Place the diff nut carrier (43), nut side first, over the allen wrench.

Step 3. Stack the six beveled washers (45) over the wrench, next to the diff nut carrier (43). The washers (45) should all point the same direction and open away from the nut carrier (43) as shown.

Step 4. Place the diff tube (46) over the wrench, big side first, so that it rests against the beveled washers (45).

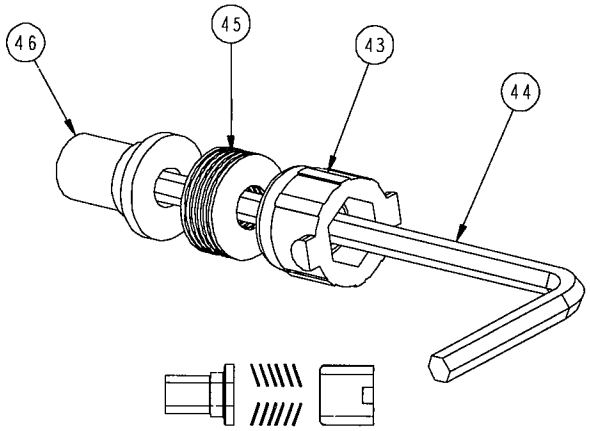


Figure 20

Fig 21.

Step 5. Insert all of the parts that are stacked on the wrench into one of the outdrive/diff halves (47). Line up the tabs on the diff nut carrier (43) with the slots in the outdrive (47). Make certain that the diff tube (46) is pressed all the way into the outdrive/diff half (47), and that it is straight. There is a small shoulder on the diff tube (46) that should be flush with the outer surface of the outdrive (47).

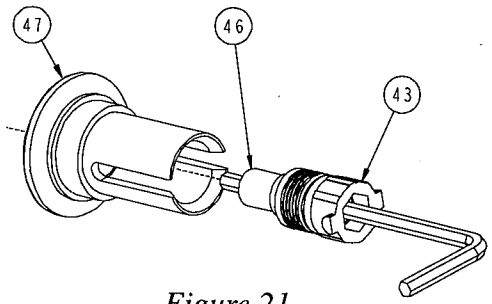


Figure 21

Fig 22.

Step 6. Apply a small amount of diff grease (48) to the outside ring of the outdrive (47). Attach a diff washer (49) to the outdrive (47) by lining up the slot in the washer (49) with the slot in the outdrive (47).

** 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.

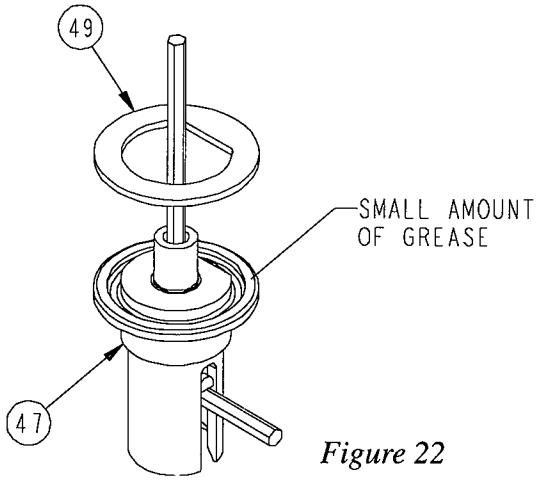


Figure 22

BAG C (Continued)

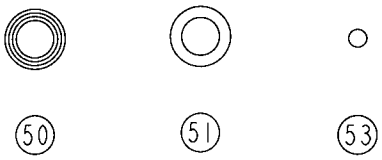


Figure 23.

Step 7. Insert a 5mm x 8mm bearing (50) [5mm x 8mm bushing (51) if assembling kit # A-0951] into the center of the diff gear (52).

Step 8. Press a 3/32" diff ball (53) into each of the small holes in the diff gear (52).

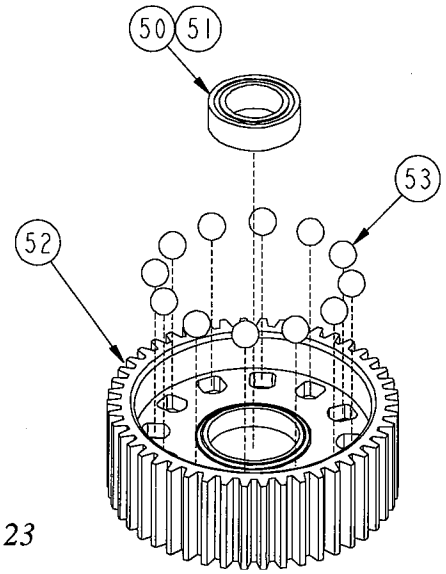


Figure 23

Fig 24.

Step 9. Apply a fairly heavy coat of diff grease (48) to the exposed side of the diff washer (49) that is already attached to the outdrive (47).

Step 10. Carefully place the diff gear (52) over the diff tube (46) so that the diff balls (53) and diff gear (52) rest against the greased diff washer (49).

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

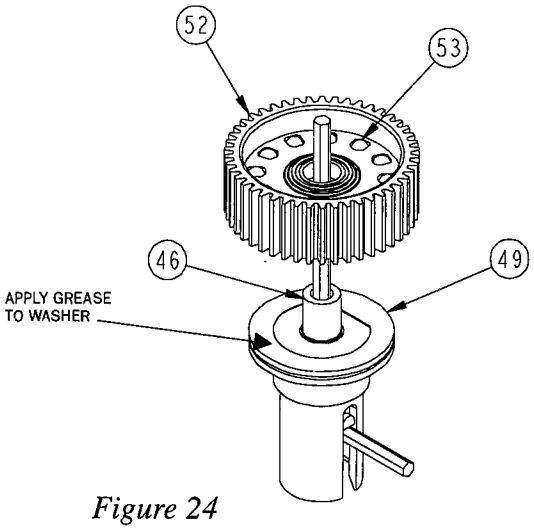


Figure 24

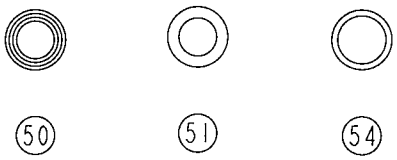


Fig 25.

Step 11. Insert a 5mm x 8mm bearing (50) [5mm x 8mm bushing (51) if assembling kit # A-0951] into the second outdrive/diff half (47). Make sure that the bearing (50) [or bushing (51)] is pushed all the way into the outdrive (47). The handle of a hobby knife (with the blade removed) or a pencil can be used to push the bearing (50) [or bushing (51)] into place.

Step 12. Drop the 1/4" x 5/16" shim (54) into the outdrive (47), on top of the 5mm x 8mm bearing (50) [or bushing (51)]. Make sure that the shim (54) sits flat against the bearing (50) [or bushing (51)].

**NOTE: Be extra careful not to bend this shim!*

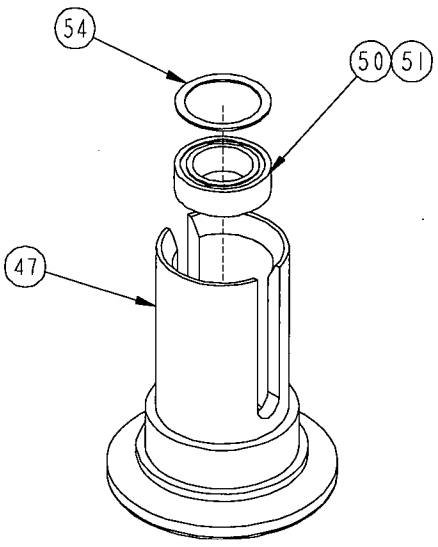


Figure 25

BAG C (Continued)

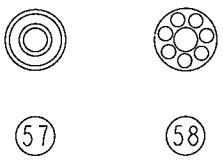


Fig 26.

Step 13. Locate the diff adjusting screw (55) and place the foam thrust bearing seal (56) over the shoulder of the screw (55).

Step 14. Place one of the 3mm x 8mm raced thrust bearing washers (57) over the diff screw (55) so that the groove faces up.

Step 15. Grease the thrust washer (57) well and place the 3mm x 8mm thrust bearing (58) over the screw (55) and next to the washer (57). Grease the exposed side of the thrust bearing (58) well and place the second thrust washer (57) over the screw and against the thrust bearing (58). This time the groove in the thrust washer (57) faces down.

Step 16. Very carefully insert the diff screw (55), with the thrust bearing assembly installed, into the outdrive (47). Be very careful not to bend or pinch the shim (54) while inserting the diff screw (55). Pull the threaded end of the diff screw (55) until the thrust bearing assembly rests against the shim (54), next to the bearing (50) [or bushing (51)], inside the outdrive (47).

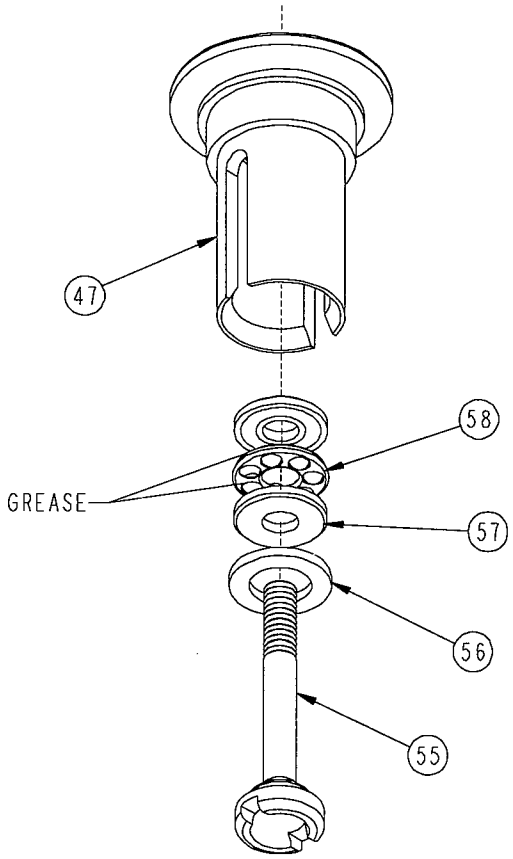


Figure 26

Fig 27.

Step 17. Locate the smallest of the allen wrenches (44) and place it in the slot in the outdrive (47) containing the diff screw (55). Slide the wrench all the way down against the screw (55). By handling the outdrive (47) with the wrench inserted, the diff screw (55) will be held in place while finishing assembly of the diff.

Step 18. Apply a small amount of grease (48) to the outer ring of the outdrive (47). Install the second diff washer (49), again lining up the slots in the outdrive (47) and the washer (49).

Step 19. Apply a fairly heavy coat of diff grease (48) to the exposed side of the diff washer (49).

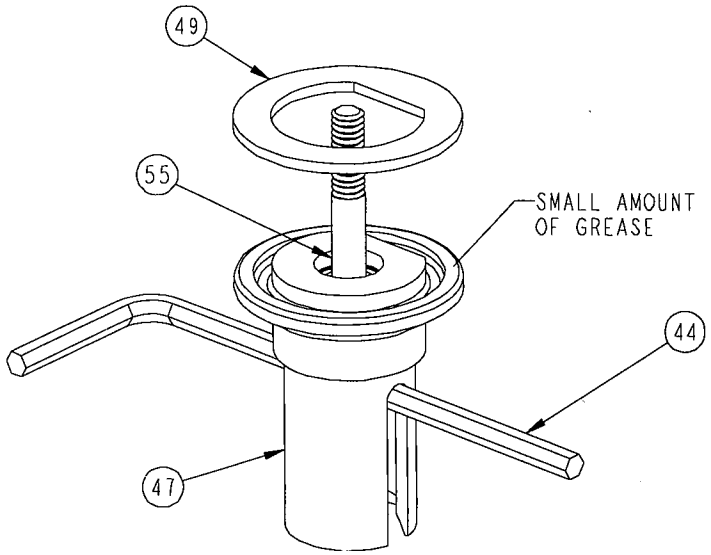


Figure 27

BAG C (Continued)

Fig 28.

Step 20. While holding the diff half (47) with the allen wrench inserted, carefully assemble the two outdrive/diff halves (47).

Step 21. Make sure that the slot in the diff screw (55) is lined up with the slot in the outdrive (47) and the allen wrench is inserted in the diff screw (55).

Step 22. Hold the diff so that the outdrive (47) with the diff nut carrier (43) is pointing up. Slowly turn the top diff half clockwise to thread the diff screw (55) into the 4-40 mini nut (42) in the diff nut carrier (43). 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.*

When tightening the diff, tighten the screw a little and then "work" the diff a little. Then tighten the screw a little more and "work" the diff again. Continue this until the diff is tight. This will ensure that all the parts in the diff assembly are properly seated.

Step 23. Tighten the diff until the gear (52) can not be turned while both of the outdrives (47) are being held firmly. Final diff adjustment should be made after completion of the truck.

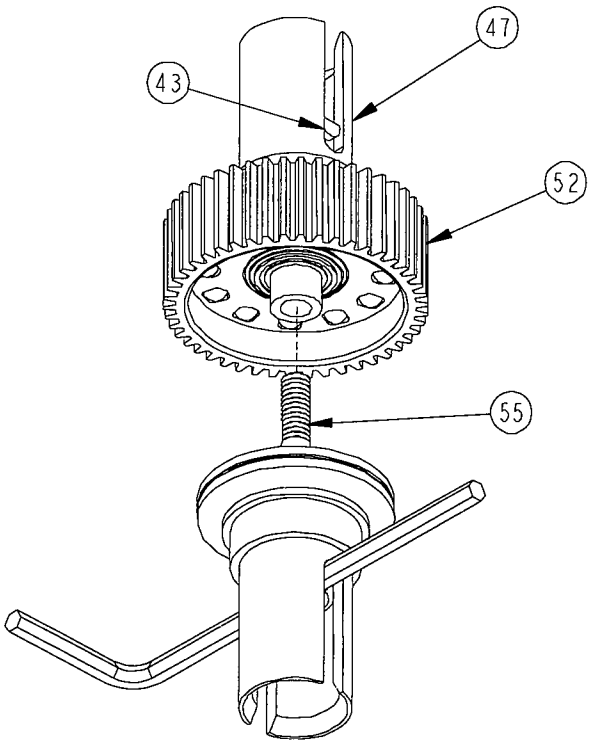


Figure 28

Fig 29.

59

Step 24. Thread the 4-40 x 1" set screw (59) all the way into the threaded side of the slipper shaft (60). Make sure that the set screw (59) is ***TIGHT!***

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

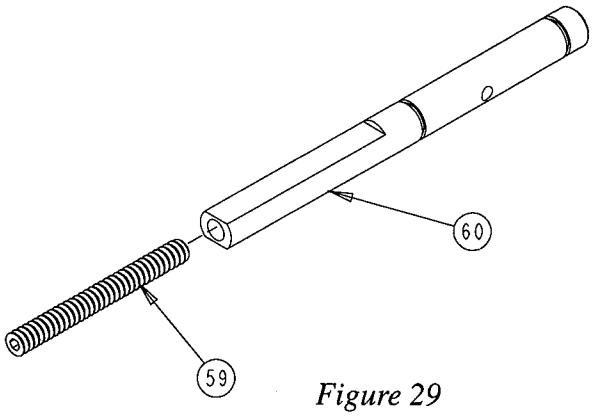


Figure 29

Fig 30.

61 63

Step 25. Press the 1/16" x 5/16" pin (61) into the small hole in the slipper shaft (60) so that it extends evenly from both sides of the shaft (60).

Step 26. Slide the top gear (62) over the slipper shaft (60) from the side opposite the set screw (59). Line up the groove in the gear (62) with the pin (61) and slide the gear (62) over the pin (61).

Step 27. Secure the gear (62) to the shaft (60) by inserting a 3/16" 'C' clip (63) into the groove in the slipper shaft (60).

Step 28. Insert a second 'C' clip (63) into the other groove in the top shaft (60).

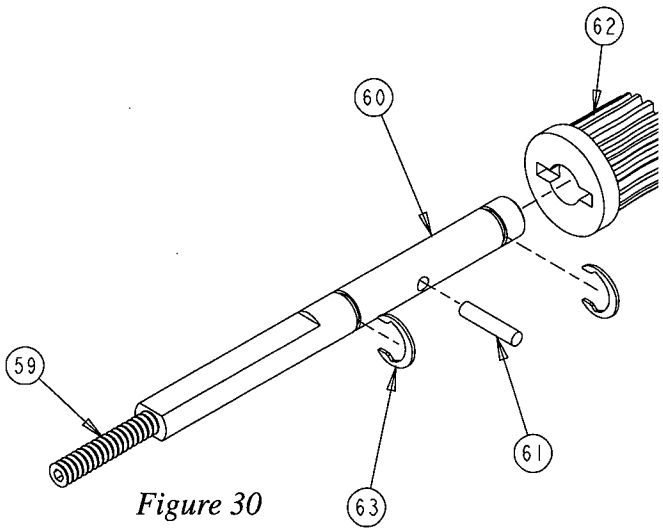


Figure 30

BAG C (Continued)

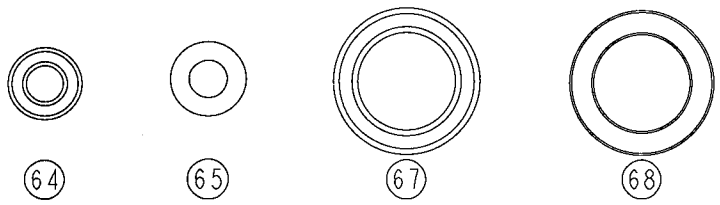


Fig 31.

Step 29. Insert a 3/16" x 3/8" bearing (64) [3/16" x 3/8" bushing (65) if building kit # A-0951] into the top bearing seat of the left gearbox half (66).

Step 30. Insert a 1/2" x 3/4" bearing (67) [1/2" x 3/4" bushing (68) if building kit # A-0951] into the lower bearing seat of the left gearbox half (66).

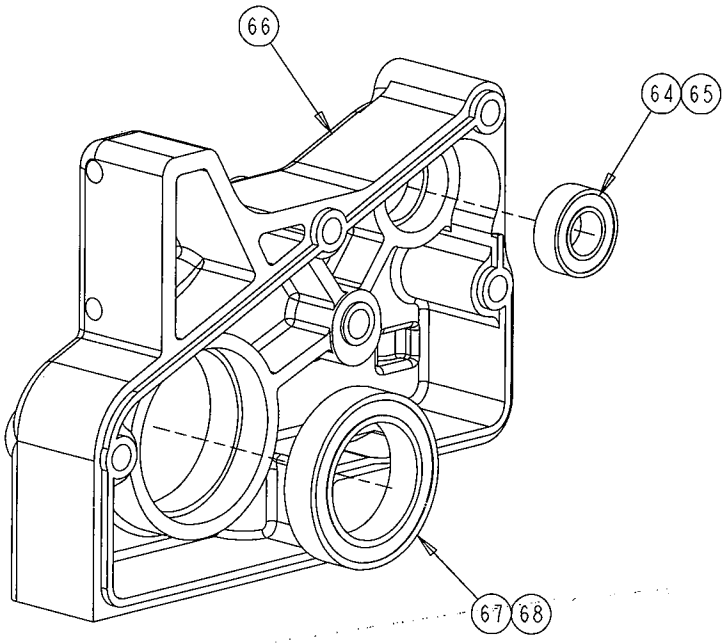


Figure 31

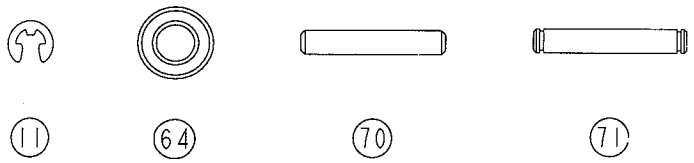


Fig 32.

Step 31. Insert a 3/16" x 3/8" bearing (64) into the top bearing seat of the right gearbox half (69). Carefully push the bearing (64) all the way into the bearing seat using a pen or the handle of a hobby knife (with the blade removed). Care should be taken not to damage the bearing shields.

Step 32. Press, and lightly tap the idler gear shaft (70), into the hole in the center of the right gearbox half (69).

Step 33. Insert a 1/2" x 3/4" bearing (67) [1/2" x 3/4" bushing (68) if building kit # A-0951] into the lower bearing seat of the right gearbox half (69).

Step 34. Attach a 1/8" 'E' clip (11) to one end of the brake arm pin (71) and press the other end through the hole in the right gearbox half (69) as shown. Push the pin (71) all the way in so that the 'E' clip (11) is pushed against the inside of the right gearbox half (69).

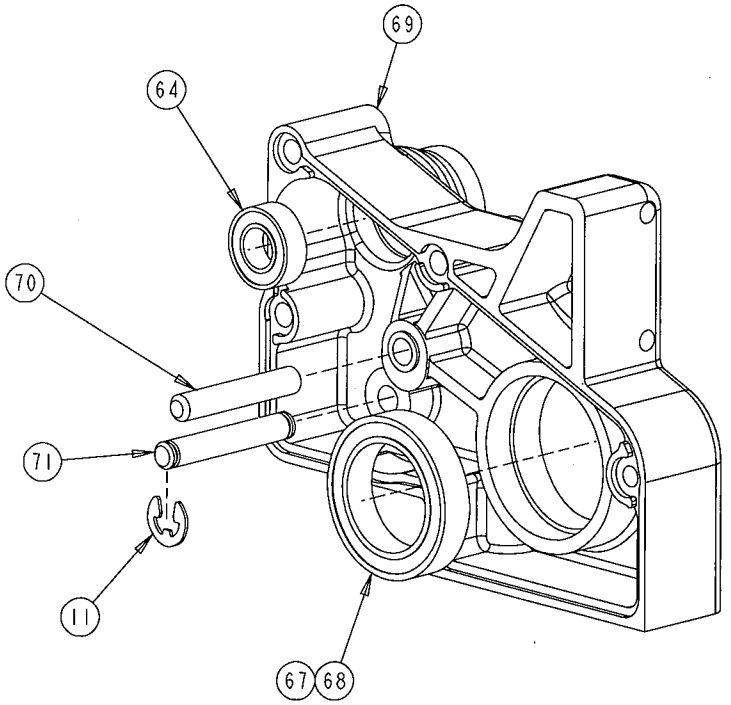


Figure 32

BAG C (Continued)

Fig 33.

Step 35. Slide the slipper shaft (60), threaded side first, through the bearing (64) in the right gearbox half (69).

Step 36. Insert a 1/8" x 3/8" bearing (72) [1/8" x 3/8" bushing (73) if building kit # A-0951] into each side of the idler gear (74). Place the idler gear (74) over the idler gear shaft (70).

Step 37. Insert the differential assembly into the 1/2" x 3/4" bearing (67) [or bushing (68)] in the right gearbox half (69). Insert the differential, diff nut carrier (43) side first.

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

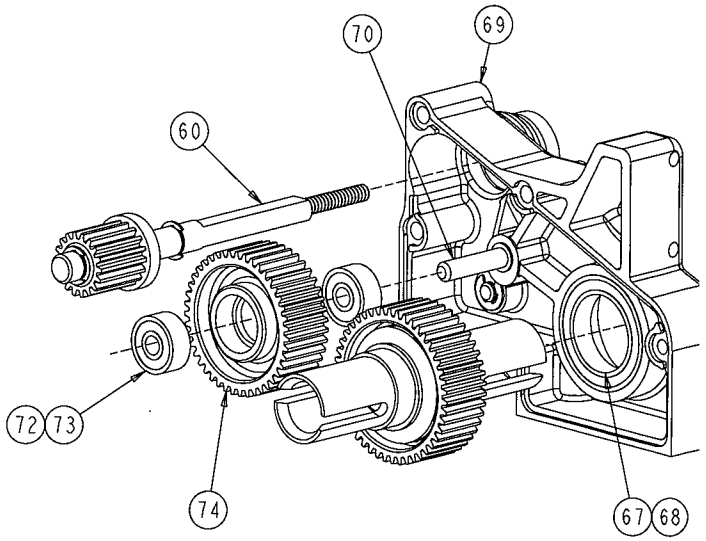


Figure 33

Fig 34. (1) (76) (77)

Step 38. Carefully assemble the left gearbox half (66) to the completed right gearbox half (69).

Step 39. Thread the 4-40 x 3/4" cap head screw (1) into the rear hole in the transmission housing from the left side. *Do not tighten the screw yet. Just snug it up.*

Step 40. Slide the transmission brace (75) over the top shaft and against the right gearbox half (69) so that the three holes in the brace (75) line up with the three holes in the gearbox half (69). Slide a 4-40 x 1-1/8" button head screw (76) through the top, forward hole in the left gearbox half (66) and thread in into the transmission brace (75).

Step 41. Slide a 4-40 x 1-1/8" cap head screw (77) through each of the remaining two holes. Tighten all four transmission screws.

There are outdrive shims (136) included with your kit. These shims can be used, if necessary, to reduce the amount of end play in the differential assembly. After the transmission is assembled and the screws are tightened, check the amount of end play that the differential has. Ideally, there should be about a business card's thickness worth of end play. If there is more end play than that, disassemble the transmission and add shims until the end play is correct. The differential needs to have a little end play. If the differential has no end play the transmission will bind once it heats up from running.

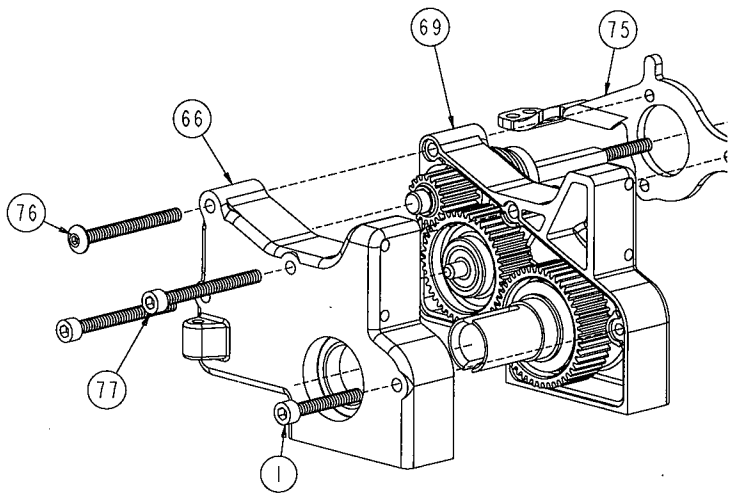


Figure 34

BAG C (Continued)

Fig 35.

Step 42. Glue the brake pad (78) to the brake arm (79) as shown. A good cyanoacrylate glue (super glue ™) should be used to hold the pad (78) in place. The pad (78) should be positioned on the arm (79) so that the edge of the pad (78) is flush with the tab on the arm (79) and the pad (78) should be centered so that it extends over each side of the brake arm (79) equally. Press the pad (78) firmly in place with your thumb while the glue sets. The pad (78) should be pressed into place so that it matches the shape of the brake arm (79). The glue joint should be allowed about 1/2 hour to fully dry before continuing. Now's a good time to read ahead a little in the manual to familiarize yourself with upcoming assemblies.

The slipper back plate/brake drum can be used to hold the brake pad to the brake arm while the glue sets. This will ensure that the brake pad makes full contact with the brake drum once assembly is complete.

Step 43. After the glue joint has been allowed time to set, use a sharp hobby knife to carefully trim the edges of the brake pad (78) so that they are flush with the edges of the brake arm (79).

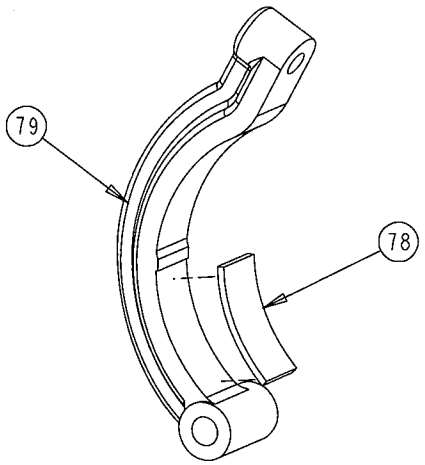


Figure 35

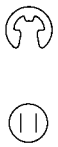


Fig 36.

Step 44. Slide the brake arm/pad assembly over the brake arm pin (71) so that the brake arm forms an arc around the slipper shaft (60). Secure the brake arm (79) with a 1/8" 'E'-clip (11).

IMPORTANT NOTE: The brake arm should be positioned between the differential outdrive and the top shaft.

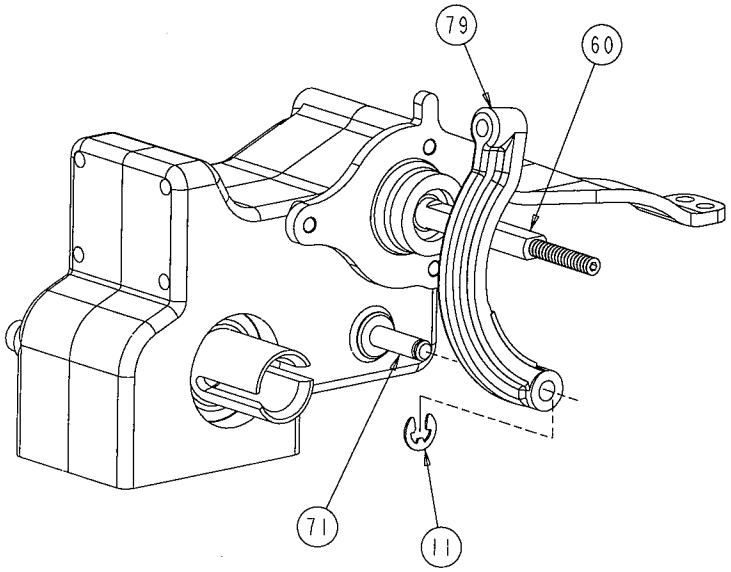


Figure 36

Fig 37.

Step 45. Press a 3/16" x 5/16" bushing (80) into the center of the spur gear (81) on the side with the three tabs as shown. The bushing (80) will only go in about half way. *Do not try to force it!*

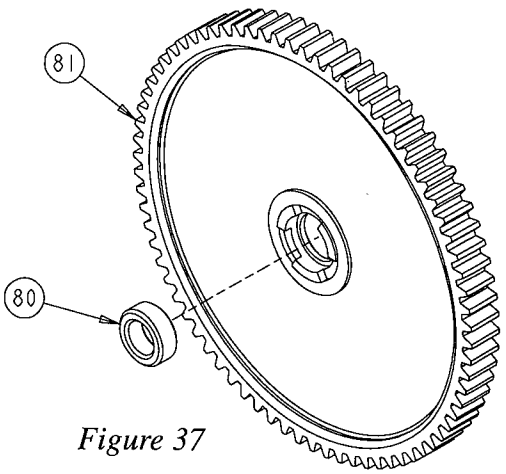


Figure 37

BAG C (Continued)

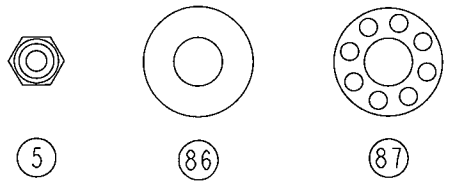


Fig 38.

Step 46. Slide the slipper back plate/brake drum (82) over the slipper shaft (60), aligning the flat sections on the slipper shaft (60) with the flat sections of the back plate/brake drum (82).

Step 47. Place the slipper pad (83) on the slipper gear plate (84) and align the notches on the gear plate (84) with the notches on the slipper pad (83).

Step 48. Place the slipper pad (83) and gear plate (84), pad side first, over the slipper shaft (60) and against the back plate/ brake drum (82). Try to get this assembly as close to center on the shaft (60) as possible.

Step 49. Carefully install the spur gear (81) with the bushing side out. Lightly rotate the spur gear (81) until the three posts line up with the three holes in the gear plate (84). Snap the gear (81) into place being careful to keep the slipper pad (83) aligned with the gear plate (84).

Step 50. Place the slipper spring cup (85), open side out, over the shaft (60) and against the spur gear (81).

Step 51. Insert one 1/4" x 9/16" thrust washer (86) into the spring cup (85), then the 1/4" x 9/16" thrust bearing (87), followed by the second thrust washer (86). All three should be positioned all the way in the cup (85).

Step 52. Slide the slipper spacer (88), long side first, onto the shaft (60). The post on the spacer (88) should fit inside the thrust bearing assembly.

Step 53. Place the gold slipper spring (89) over the shaft (60), followed by the spring retaining washer (90), and secure with the 4-40 lock nut (5).

⚠ **IMPORTANT NOTE:** Before tightening the nut, check to see that the slipper pad is properly aligned with the gear plate. If it is not, correct it before proceeding.

Step 54. Tighten the 4-40 lock nut (5) all the way down, and then back it off one full turn. This is a good starting point for adjustment. Final adjustment can be made later.

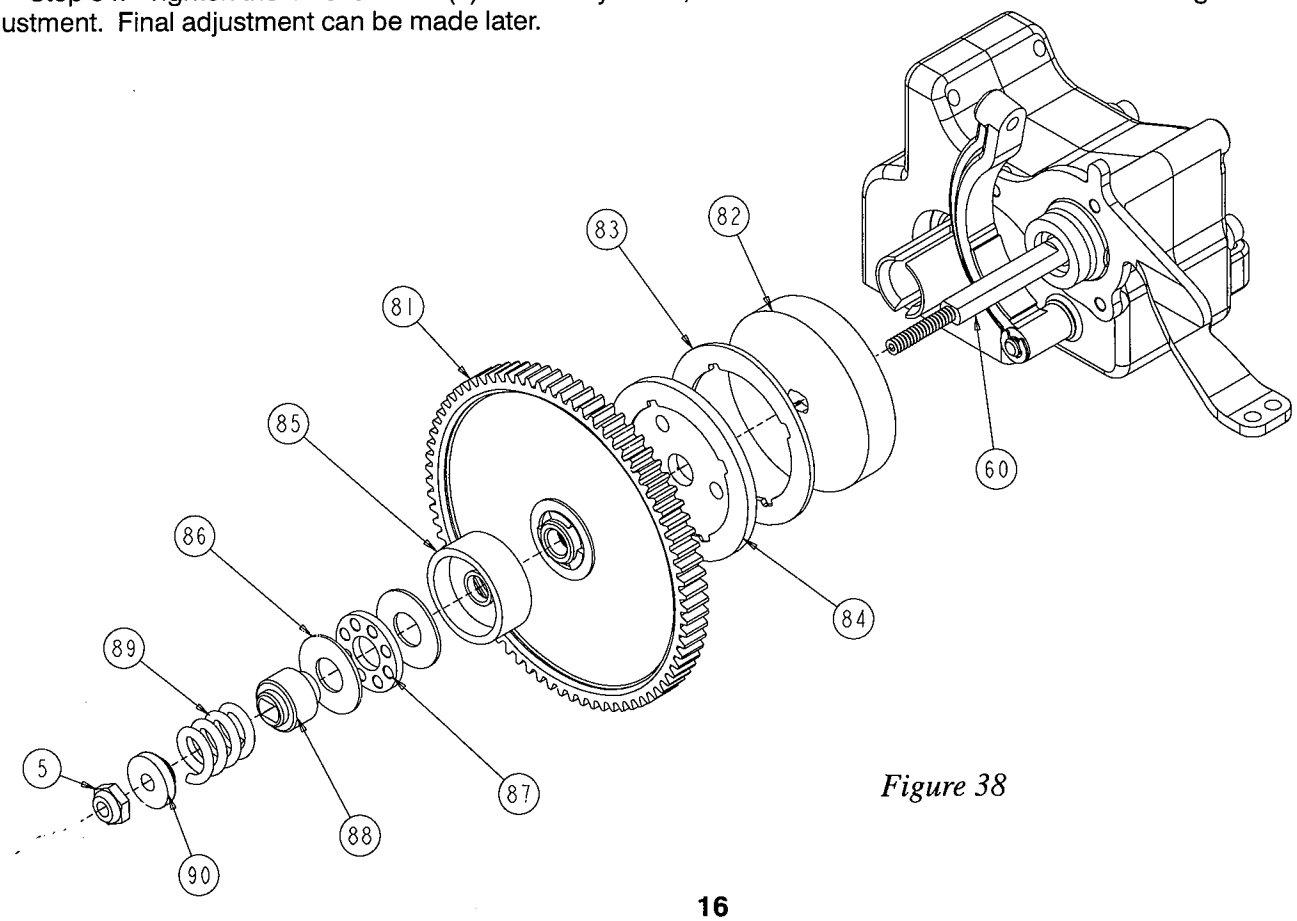


Figure 38

BAG D

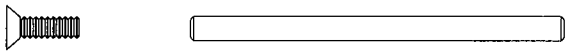


Fig 39. (31) (92)

Step 1. Locate the forward rear suspension pivot (91) (marked with an "F"). Place the suspension pivot (91) on the chassis (27) so that the holes for the hinge pin point to the rear, and the letter "F" is right-side up. Secure the suspension pivot with two 4-40 x 3/8" flat head screws (31).

Step 2. Slide an inner rear hinge pin (92) through the end of each of the two rear suspension arms [right (93) (marked "L"), left (94) (marked "R")] farthest away from the shock mounting holes.

Step 3. Position the two arms (93), (94) as shown so that the shock mounting holes are on the top side. Insert the hinge pins (92) into the forward suspension pivot (91). Place the back rear suspension pivot (95) (marked "R") behind the suspension arms (93), (94) so that the hinge pins (92) fit into the rear suspension pivot (95), and the letter "R" is right-side up. Secure the suspension pivot (95) with two 4-40 x 3/8" flat head screws (31).

⚠ **IMPORTANT NOTE:** The rear suspension arms are marked backwards. This was not a mistake. The arms were originally used on another truck in the other configuration. The GTX optimizes the location of the shocks and enhances the suspension geometry by mounting the arms in the opposite direction. Be sure that the arm marked "L" is on the right side and the arm marked "R" is on the left side.

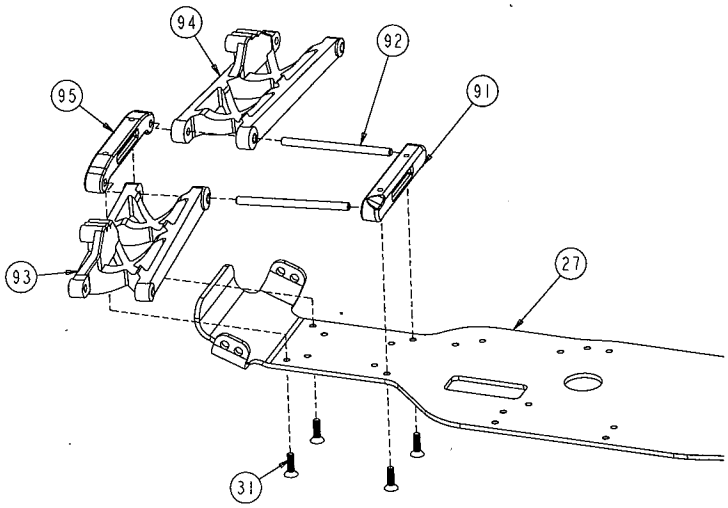


Figure 39

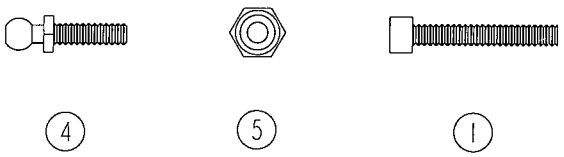


Fig 40.

Step 4. Slide a 3/8" ball stud (4) through the second hole out, on the bottom row, on each side of the rear shock tower (96). Secure the ball studs (4) with 4-40 lock nuts (5). Place a "foam thing" (26) over each ball stud (4).

⚠ **IMPORTANT NOTE:** Refer to figure 40 to ensure that the large hole in the rear shock tower is to the correct side.

Step 5. Slide 4-40 x 3/4" cap head screws (1) through the outside holes in the top of the shock tower (96). The screws (1) should be inserted from the same side as the ball studs (4). Thread a top shock mount bushing (3) onto each of the two screws (1) and tighten.

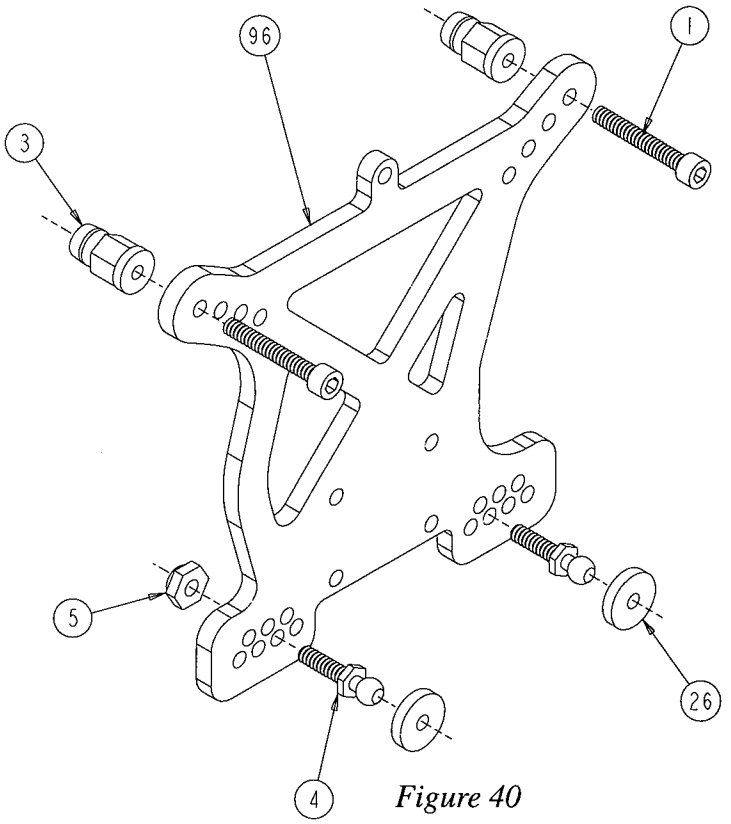


Figure 40

BAG D (Continued)

(14)

Fig 41.

Step 6. Attach the rear shock tower (96) to the back of the transmission with four 4-40 x 3/8" cap head screws (14). The shock mount bushings (3) should face the rear as shown.

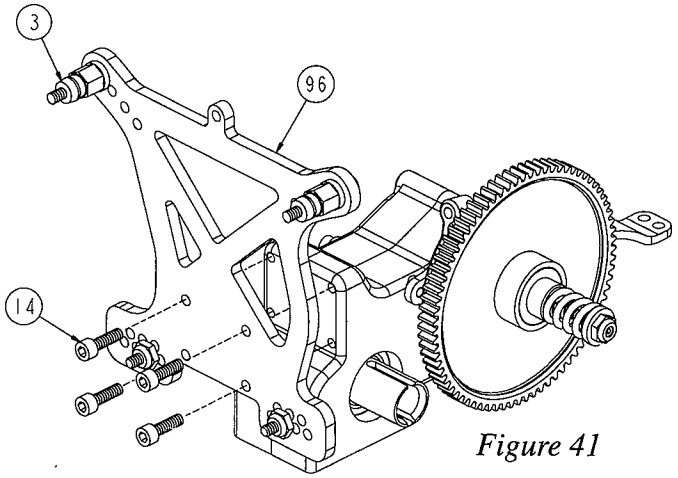


Figure 41

(14) (31)

Fig 42.

Step 7. Place the completed transmission between the rear suspension pivots (91), (95) as shown.

Step 8. Secure the transmission to the chassis (27) with four 4-40 x 3/8" flat head screws (31).

Step 9. Attach the transmission brace (75) to the center chassis brace (37) with two 4-40 x 3/8" cap head screws (14).

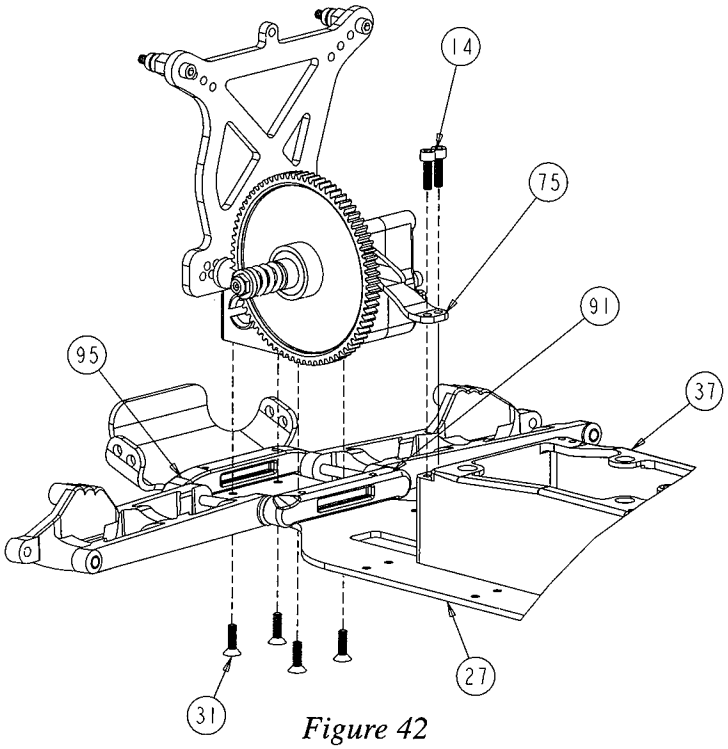


Figure 42

(14)

Fig 43.

Step 10. Attach the dog bones (97) to the plastic universal yokes (98) by lining up the slot on the dog bone (97) with the groove in the universal yoke (98). Secure the two pieces with a 4-40 x 3/8" cap head screw (14).

A small amount of thread lock compound on the threads of the 4-40 x 3/8" screws will help keep them tight.

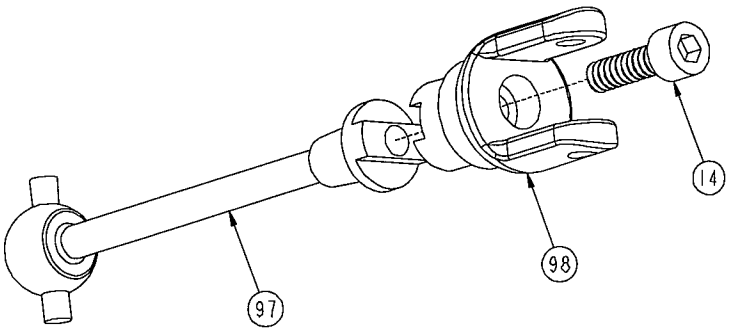


Figure 43

BAG D (Continued)

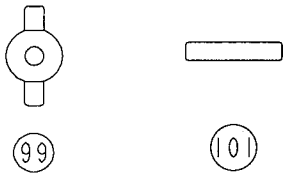


Fig 44.

Step 11. Position the universal pivot (99) in the rear axle (100) so that the holes in both are aligned.

Step 12. Using pliers, carefully push a 3/32" x 1/2" spirol pin (101) through the rear axle (100) and universal pivot (99) until the pin (101) extends evenly from both sides of the rear axle (100).

The pin can be made to press in tighter. This will ensure that it stays firmly in place. To do so *SLIGHTLY* crimp the center of the pin with heavy duty wire cutters. When inserting the pin, be careful not to smash the ends of the pin, or the universal may not operate freely.

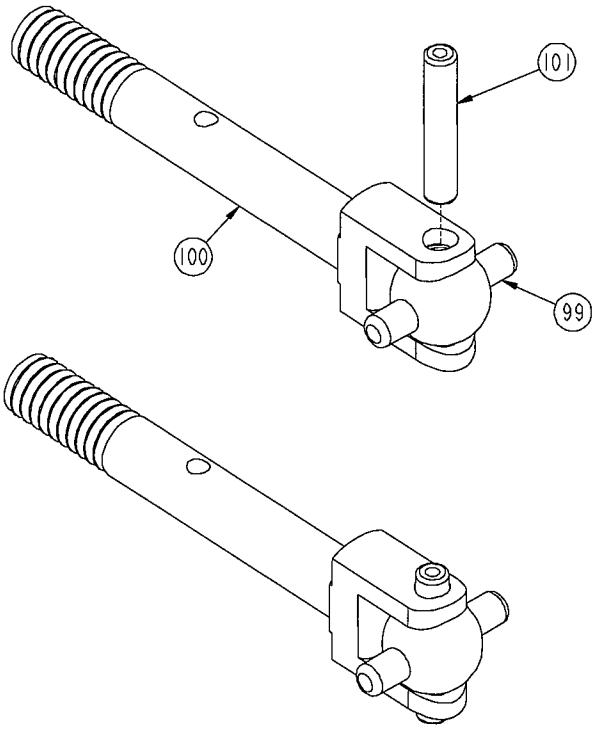


Figure 44

Fig 45.

Step 13. Using the small end of the assembly wrench (102) supplied with your kit, pry the pins on the universal pivot (99) into the holes in the plastic universal yoke (98).

The dog bones should rotate freely. If they do not, the ears of the universal yoke can be squeezed slightly with a pair of pliers. Squeezing the ears will press the outside of the hole in the ears against the pin in the universal pivot. This will cause the hole to enlarge slightly, helping the dog bone to rotate freely.

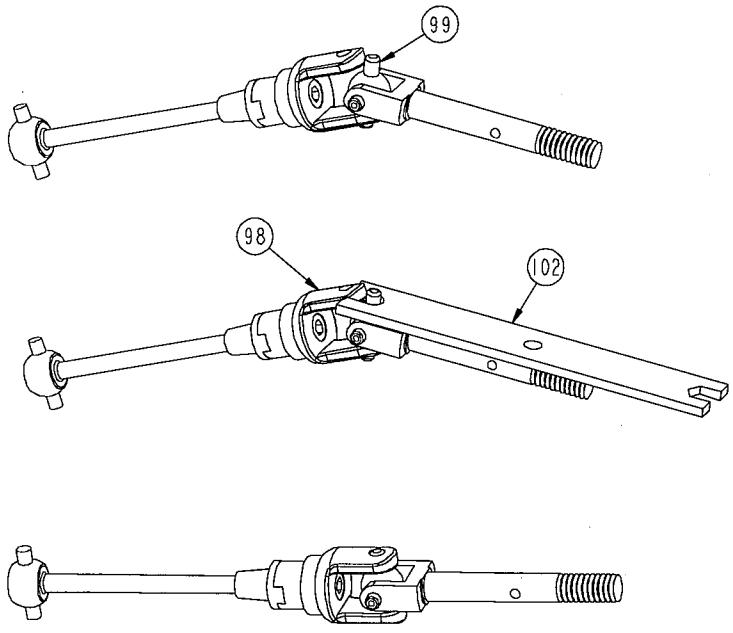


Figure 45

BAG D (Continued)

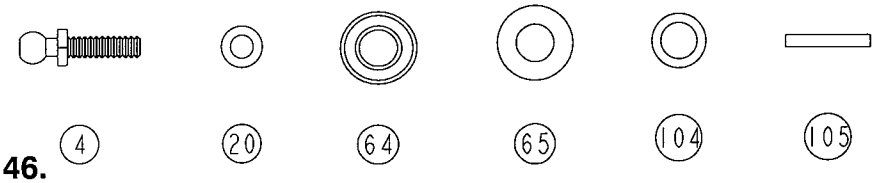


Fig 46.

Step 14. Press a 3/16" x 3/8" bearing (64) [3/16" x 3/8" bushing (65) if building kit # A-0951] into each side of a rear hub (103).

Step 15. Place a studded ball washer (20) over a 3/8" ball stud (4). Thread the ball stud (4) into the #4 hole (shown in figure 46A) in the rear hub (103). Place a "foam thing" (26) over the ball stud (4).

Step 16. Repeat steps 14-15 for the other side.

⚠ **IMPORTANT NOTE:** Make sure that the ball studs are attached to opposite sides of the rear hubs so that when the hubs are installed the ball studs will face the same direction.

Step 17. Slide a rear axle (100) through the bearings (64) [or bushings (65)] in each rear hub (103) from the inside as shown.

Step 18. Place a rear axle spacer (104) over each rear axle (100), against the outside bearing (64) [or bushing (65)].

Step 19. Secure the rear axle (100) and spacer (104) by pressing a 1/16" x 7/16" pin (105) through the small hole in each of the rear axles (100). The pin (105) should be centered in the rear axle (100).

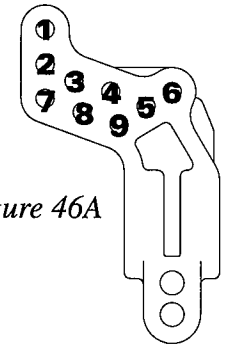


Figure 46A

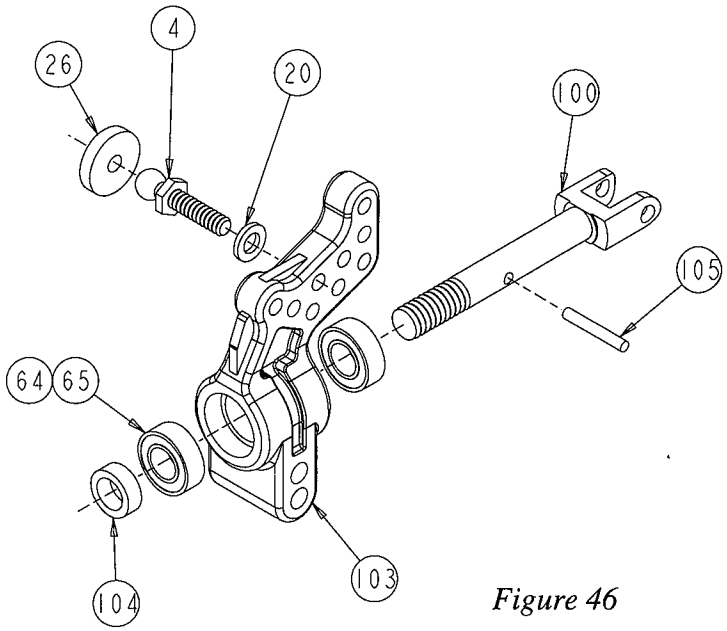


Figure 46

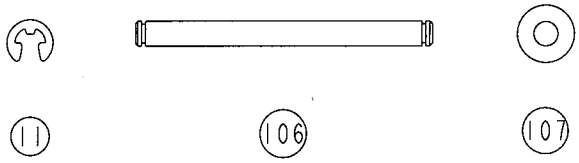


Fig 47.

Step 20. Slide an outer rear hinge pin (106) partially through the outside of the right rear suspension arm (93) from the rear. Slide a rear hub spacer (107) over the pin (106) and against the rear portion of the suspension arm (93).

Step 21. Place the right rear hub (103) (ball stud (4) facing rearward) between the outer rails of the suspension arm (93), against the rear hub spacer (107). Slide the hinge pin (106) partially through the hub (103).

Step 22. Insert another rear hub spacer (107) between the rear hub (103) and the forward rail of the suspension arm (93). Slide the hinge pin (106) through both sides of the suspension arm (93), the rear hub (103), and both rear hub spacers (107). Secure the hinge pin with two 1/8" 'E'-clips (11).

Step 23. Repeat steps 20-22 for the left suspension arm (94) and left hub (103).

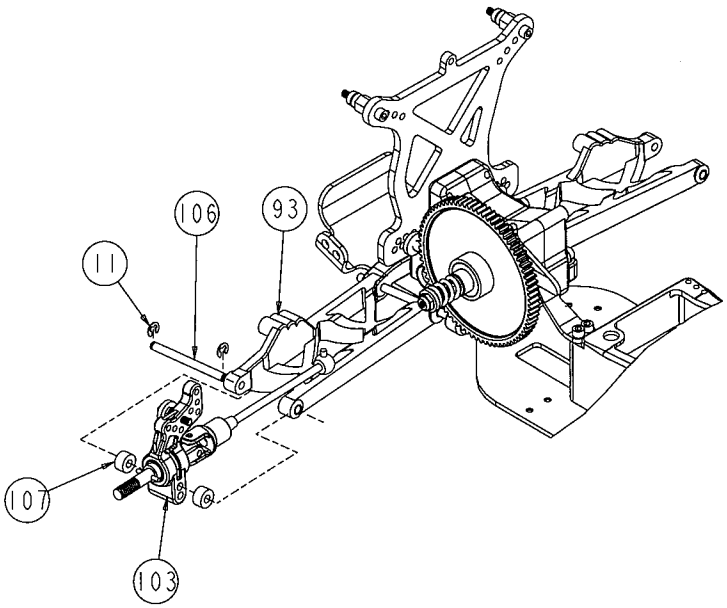
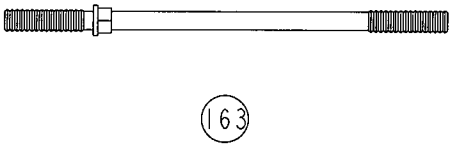


Figure 47

BAG D (Continued)



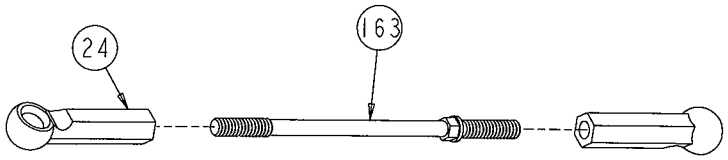


Figure 48

Fig 48.

Step 24. Thread a plastic rod end (24) onto each end of a 2-1/4" turnbuckle (163). Tighten both rod ends (24) evenly until the rod is the same length as the one shown in figure 48A.

**NOTE: Make two of these camber link assemblies.*

Figure 48A

Fig 49.

Step 25. Attach one end of a rear camber link from figure 48 to the ball stud (4) in the rear hub (103).

Step 26. Insert the end of the dog bone (97) into the right differential outdrive (47) by lining up the pin on the dog bone (97) with the slot in the outdrive (47). Attach the free end of the camber link to the ball stud (4) in the rear shock tower (96).

Step 27. Repeat steps 25 and 26 for the left side.

Remember to mount all of the camber rods so that the adjustment hex is to the outside of the truck. This will make future adjustments much easier.

**NOTE: It's a good idea to leave your truck sitting on a flat surface until the shocks are assembled and installed. This will keep the dog bones in place.*

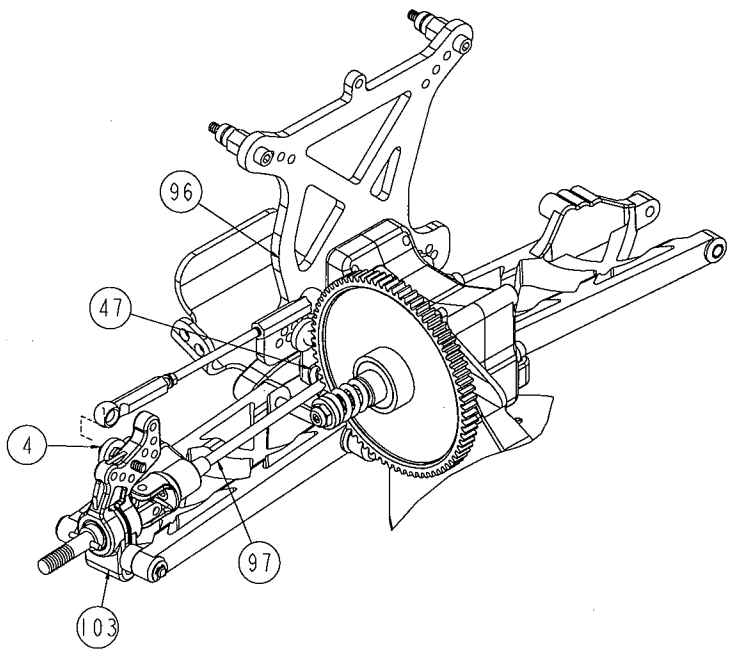


Figure 49

BAG E

Fig 50.

Step 1. Place one shock 'O' ring (108) into the cartridge body (109), making sure that the 'O' ring (108) sits flat on the bottom of the cartridge body (109).

Step 2. Insert the cartridge spacer (110) into the cartridge body (109) followed by a second 'O' ring (108).

Step 3. Once the second 'O' ring (108) is inserted, and is flush with the top of the cartridge body (109), "snap" the cartridge cap (111) onto the cartridge body (109).

Step 4. Make four cartridge assemblies.

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

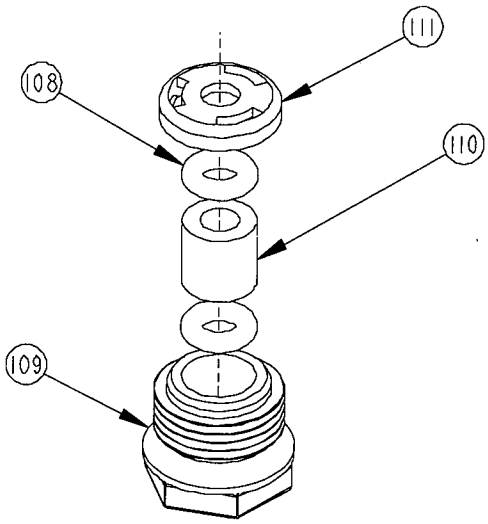


Figure 50

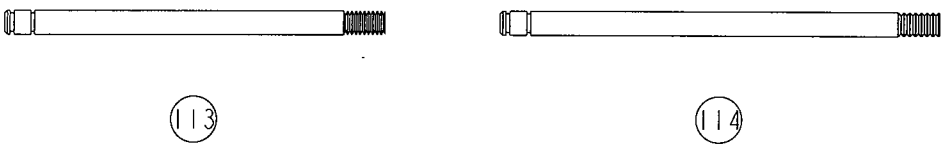


Fig 51.

Step 5. Place a drop of shock fluid (112) on the grooved end of each shock shaft [front (113), rear (114)] and slide a cartridge, hex end first, down the shock shaft (113), (114) toward the threads.

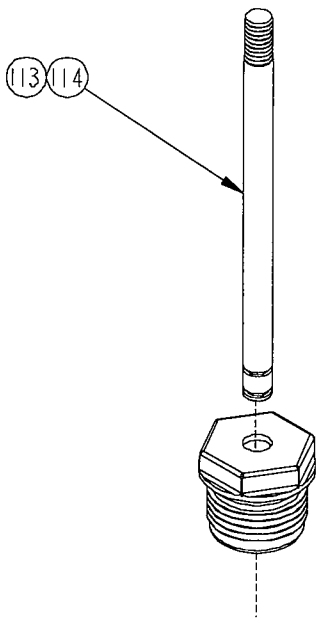


Figure 51

BAG E (Continued)

Fig 52.

Step 6. Using needle nose pliers, or small vise grips, grasp the front shock shaft (113) between the grooves and thread a shock end (115) onto the shaft (113). Thread the shock end (115) all the way onto the shaft (113).

Step 7. Repeat step 6 for the second front shaft (113) and both rear shafts (114).

Step 8. Carefully snap a 1/4" swivel ball (116) into each of the shock ends (115) on the four shock shafts (113), (114).

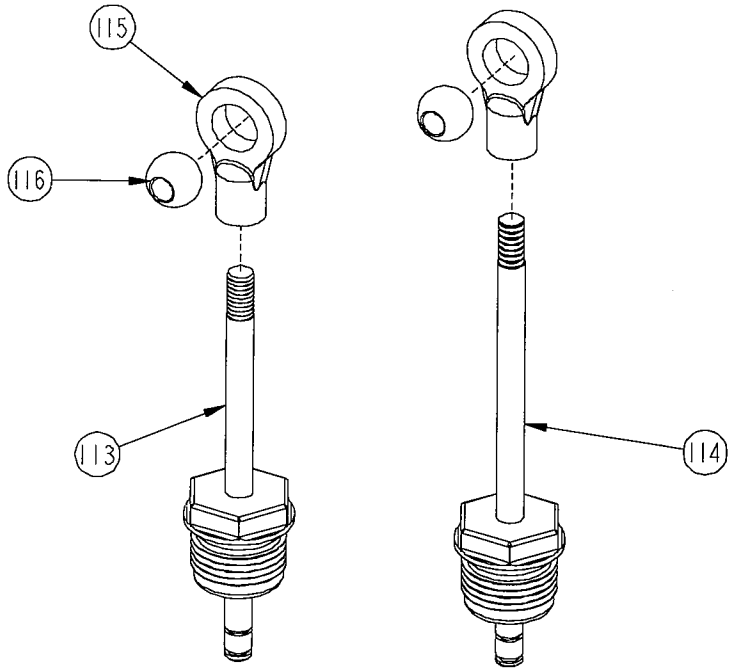


Figure 52

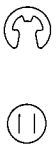


Fig 53.

Step 9. Snap a 1/8" 'E'-clip (11) into the groove closest to the cartridge on both rear shock shafts (114).

Step 10. Before installing the 'E'-clip to the front shock shafts (113), slide an 'A' shock spacer (117) *(the smaller of the two spacers, marked 'A')* over the shaft (113) next to the cartridge. Once the spacers are in place, snap a 1/8" 'E' clip (11) into the groove closest to the cartridge on both front shock shafts (113).

** Note: Shock spacers are only used on the front shock shafts in this step.*

Step 11. Slide a shock piston (118) onto each of the four shafts (113), (114) until it rests against the 'E'-clip (11). Secure the pistons (118) to the four shafts (113), (114) with a second 'E'-clip (11).

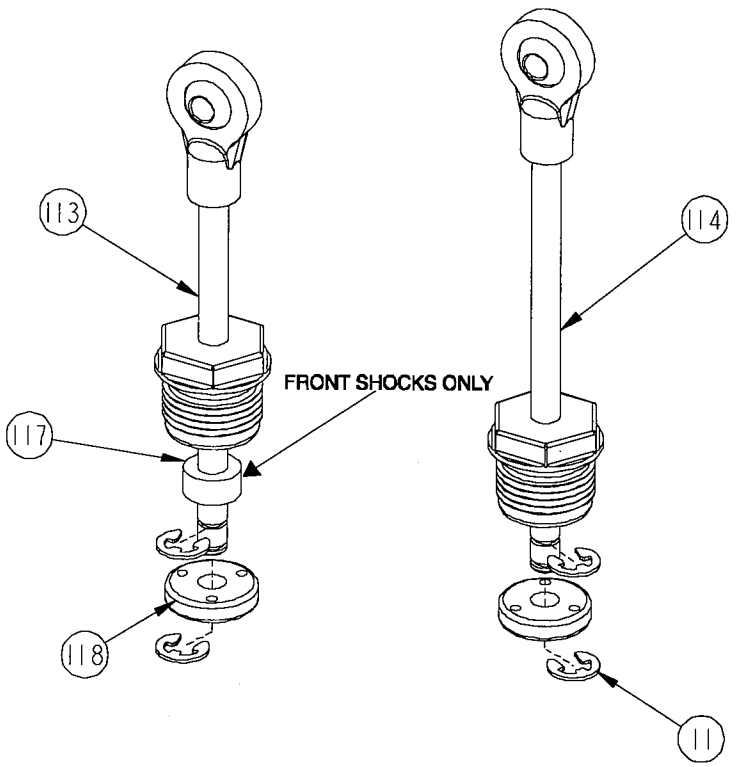


Figure 53

BAG E (Continued)

Fig 54.

Step 12. Match the short, front shock bodies (119) to the short, front shafts (113), and the long, rear shock bodies (120) to the long, rear shafts (114).

Step 13. Fill the shock body (119), (120) with shock fluid (112) up to the bottom of the threads.

Step 14. Insert the shaft assembly into the shock body (119), (120) with the cartridge against the shock piston (118). Slowly tighten the cartridge approximately two full turns. With the cartridge still slightly loose, slowly push the shock shaft (113), (114) into the shock body (119), (120). This will bleed the excess fluid out of the shock. Once the shaft (113), (114) is all the way in, hand tighten the shock cartridge the rest of the way.

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

Step 15. Now, with the shaft (113), (114) 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 (113), (114) 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, tighten the cartridge more.*

Step 16. Repeat steps 13 - 15 for all four shocks.

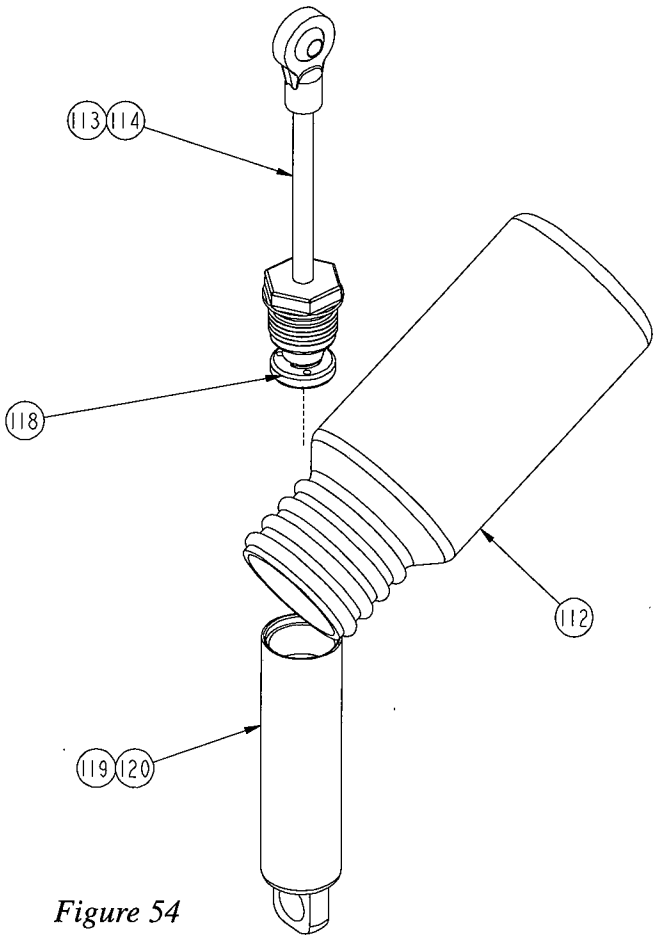


Figure 54

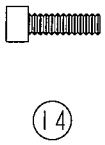


Fig 55.

Step 17. Snap a shock spring cup (121) onto each of the four shafts (113), (114) and around the shock end (115).

Step 18. Slide a shock spring (122) over each of the four shocks so that it rests on the spring cup (121).

** Note: All four springs are the same.*

Step 19. Insert a 4-40 x 3/8" cap head screw (14) into the larger hole of each of the four shock collars (123) and thread it into the smaller hole.

Step 20. With the collar (123) loose, slide it over the top of each shock body (119), (120) and against the spring (122). Tighten the collar (123) to hold it in place. *Do not over tighten!*

** Note: Final adjustment will be made later in the ride height section in the tips portion of the manual.*

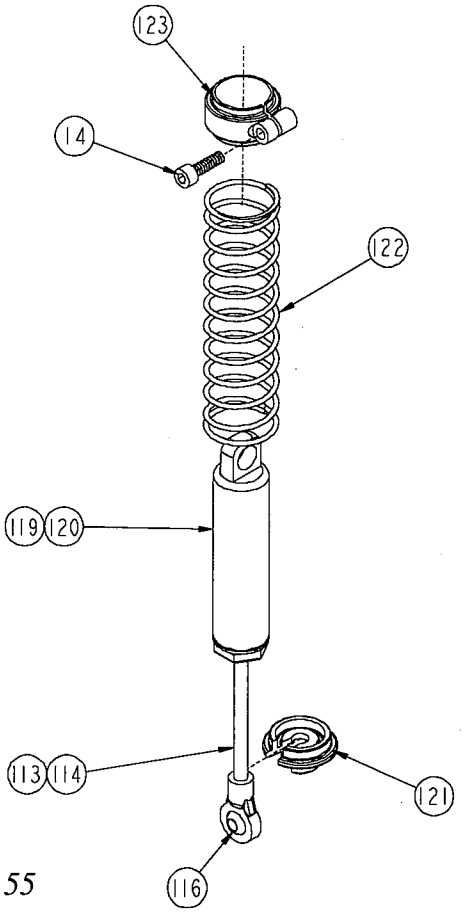


Figure 55

BAG E (Continued)

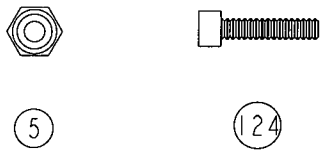


Fig 56.

Step 21. Make sure that the dog bones (97) are in the outdrives (47) before continuing.

Step 22. Insert a 4-40 x 1/2" cap head screw (124) into the hole in the swivel ball (116).

Step 23. Attach the bottom of the shock to the rear arm (93), (94) by threading the 4-40 x 1/2" cap head screw (124) into the outside shock mounting hole of the arm (93), (94).

Step 24. Place the top of the shock body (120) over the shock mount bushing (3) on the rear shock tower (96) and secure it with a 4-40 lock nut (5).

** Note: Before attaching the top of the shock, make sure that the dog bone is in place in the outdrive.*

Step 25. Repeat steps 22 - 24 for the second rear shock.

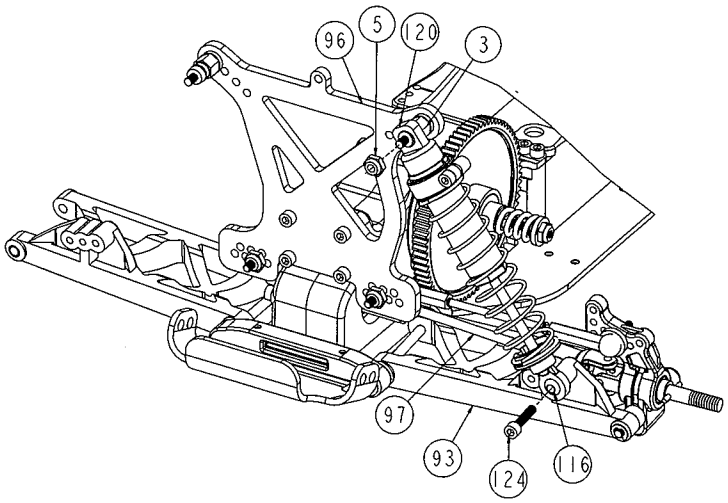


Figure 56

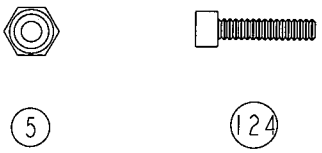


Fig 57.

Step 26. Insert the shock end (115) of a front shock between the shock mounting rails of the front suspension arm (8), (9) and line up the hole in the swivel ball (116) with the middle hole in the arm (8), (9).

Step 27. Attach the shock end (115) to the front arm (8), (9) by threading a 4-40 x 1/2" cap head screw (124) all the way into the arm (8), (9).

Step 28. Place the top of the shock body (119) over the shock mount bushing (3) on the front shock tower (2) and secure it with a 4-40 lock nut (5).

Step 29. Repeat steps 26 - 28 for the second front shock.

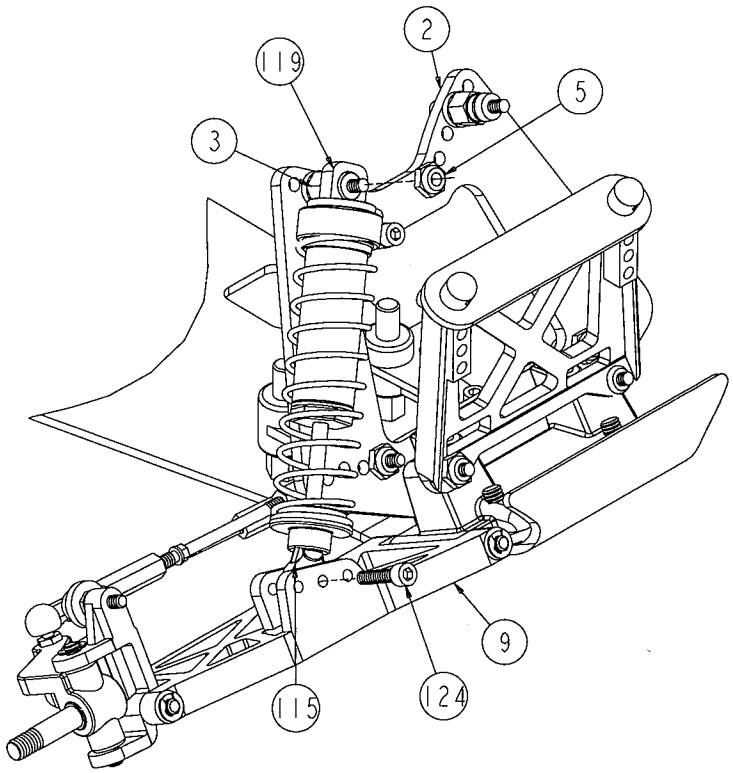


Figure 57

BAG F

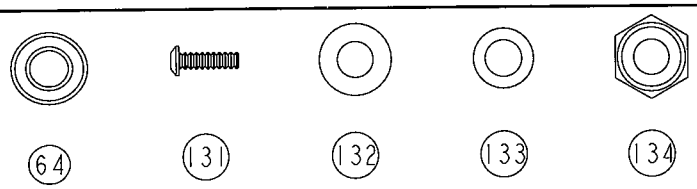


Fig 58.

Step 1. Inspect the inside of the tires [front (125), rear (126)] for any excess material. If present, trim excess rubber to ensure proper seating of the tire on the wheel [front (127), rear (128)]. During tire assembly, make sure that all lettering faces to the outside of the wheel *(the side with the spokes)*.

* *Note: Do not set tires on furniture as they may leave permanent stains*

Step 2. Pull the front tire (125) over the front wheel (127) and squeeze the tire (125) to properly seat it in the grooves of the wheel (127).

Step 3. Insert the foam tire liners (129) into the rear tires (126). Pull the rear tire (126) over the rear wheel (128) and squeeze the tire (126) to properly seat it in the grooves of the wheels (128). Make certain that the foam liners (129) are not pinched between the tires (126) and the wheels (128).

Step 4. The tires (125), (126) should now be glued to the wheels (127), (128). This can be done by using a fast curing super glue TM or cyanoacrylate glue available at your hobby shop. Be sure to follow the manufacturers warnings on the bottle.

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

Step 5. Attach the front wheel discs (130) to the outside of the front wheels (127), and line up the holes in the disc (130) with the holes in the wheel (127). Secure a front wheel disc (130) to each front wheel (127) with two 2-56 x 5/16" button head screws (131).

Step 6. Press a 3/16" x 3/8" bearing (64) [3/16" x 3/8" plastic bushing (132) if building kit # A-0951] into each side of both front wheels (127).

Step 7. Place a front axle spacer (133) over each front axle (15). Slide the front wheels (127) over the front axles (15) so the wheel discs (130) face the outside. Secure the front wheels (127) by threading a 10-32 lock nut (134) onto the front axle (15) and tightening.

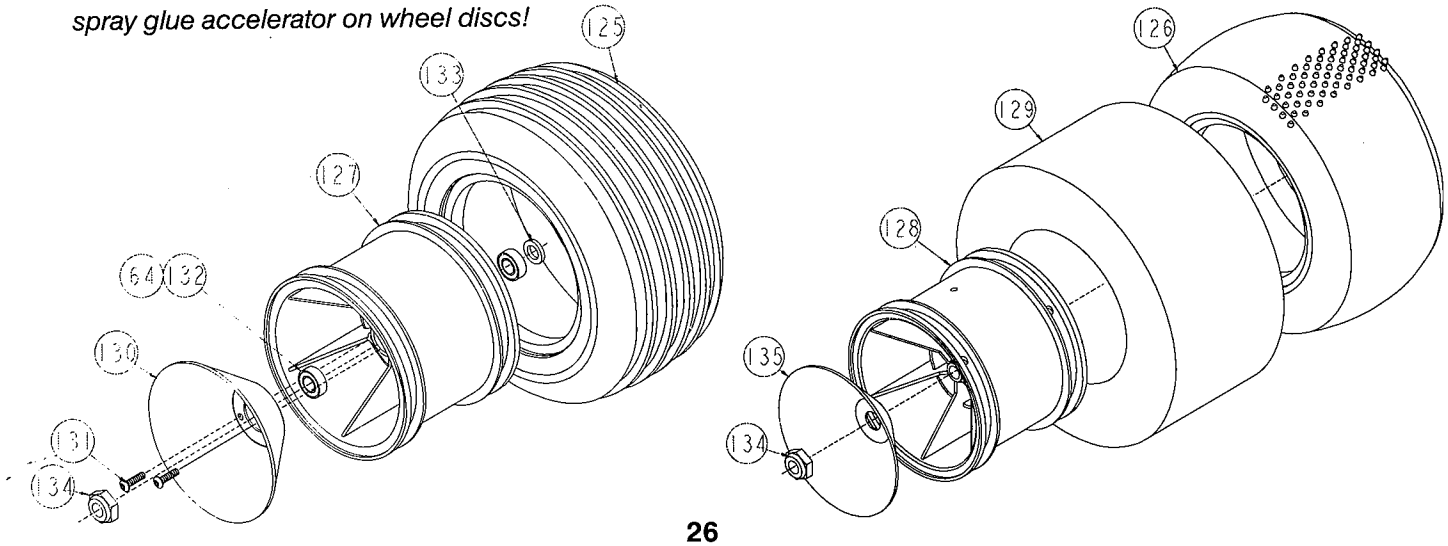
⚠ **IMPORTANT NOTE:** Do not over tighten the front wheel nuts. The front tire should rotate freely.

Step 8. Insert the rear wheel discs (135) into the outside of the rear wheels (128).

Step 9. Mount the rear wheels (128) to the rear axles (100) by lining up the pin (105) in the rear axle (100) with the groove in the rear wheel (128) and pushing the wheel (128) all the way onto the axle (100).

Step 10. Secure the rear wheels (128) by attaching 10-32 lock nuts (134) to the rear axles (100) and tightening.

⚠ **IMPORTANT NOTE:** Read and follow the manufacturers safety warnings regarding the use of the adhesives . *DO NOT spray glue accelerator on wheel discs!*



ENGINE INSTALLATION

Fig 59.

Step 1. Thread a clutch pin/screw (137) into each of the small holes in the flywheel (138) and tighten with a .050" allen wrench (44). The screws should be inserted from the rear as shown.

A small amount of thread locking compound should be used on the threads of the clutch pins.

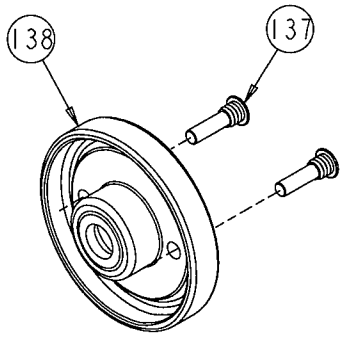


Figure 59

Fig 60.

Step 2. Remove any hardware that came installed on your engine. This includes all nuts, washers and prop hubs.

**NOTE: If your engine did not come with a glow plug you will need to purchase one. Use a glow plug wrench, or a 5/16" nut driver to install the glow plug into the head of the engine. Most glow plugs come with a brass washer. Make sure that this washer is placed on the glow plug before it is installed. The glow plugs that we have had the most success with are the Dynamite #DYN2508, Dynamite #DYN2509, or the OS Max #8. These plugs have a good heat range for use in engines for gas powered trucks.*

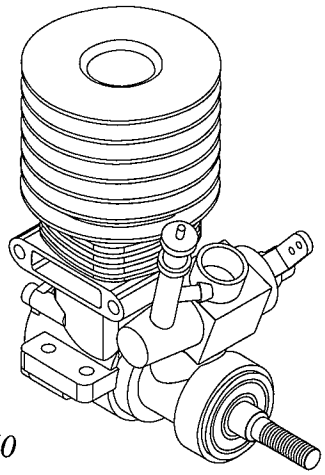


Figure 60

Fig 61.

Step 3. Slide a flywheel shim (139) over the crank shaft, and against the front bearing on the engine. Slide the flywheel collet (140), large side first, over the crank shaft and next to the shim (139).

There are two shims included in the kit. If the flywheel interferes with the case of the engine, add a second shim. If after the engine is installed, the gears don't line up properly, a second shim can be added to help correct the alignment.

Step 4. Slide the flywheel (138), pins (137) out, over the crank shaft. The flywheel (138) should be seated over the collet (140). Thread the clutch nut (141) onto the crank shaft and tighten it using a 1/8" allen wrench (44).

⚠ **IMPORTANT NOTE:** The clutch nut should be very tight. Hold the flywheel with a rag in order to get a good grip while tightening the clutch nut. There are special tools available for inserting in the head of the engine to keep it from turning over while tightening the clutch nut. Other than these special tools, *nothing should ever be inserted in the head of the engine to keep it from turning over!*

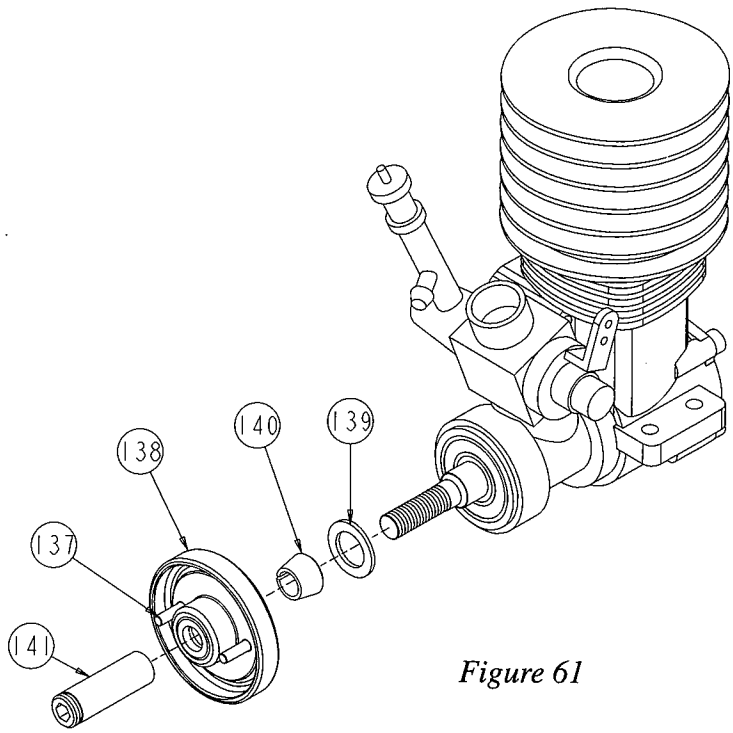


Figure 61

ENGINE INSTALLATION (Continued)

Fig 62.

Step 5. Attach both of the clutch springs (142) to the clutch shoes (143) as shown. The easiest way to do this is to attach the first spring (142) to both shoes. Once the first spring (142) is attached to both shoes (143), attach one side of the second spring (142) to one of the shoes (143). Now, attach the remaining end to the second shoe (143).

⚠ **IMPORTANT NOTE:** Make sure that the clutch shoes are facing the correct direction as illustrated.

LIGHTLY sanding the surface of the clutch shoes can improve their performance. Sand the shoes using a 400 grit, or finer sandpaper. Sand the shoe surface length wise, not across the shoe sideways. DO NOT use a sanding block, or lay the sandpaper on a flat surface. Too much sanding may cause flat spots to develop on the shoes.

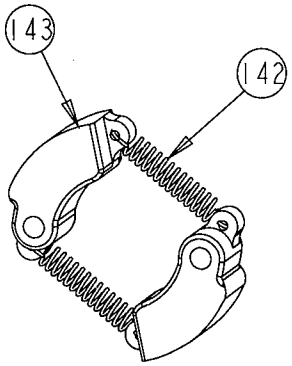


Figure 62

Fig 63.

Step 6. Slide the clutch shoe assembly over the clutch nut (141), spring side first. Place each shoe (143) over a clutch pin (137) and slide the shoes (143) all the way against the flywheel (138). In order for the shoes (143) to slide over the clutch nut (141), they will have to be pulled apart slightly, stretching the springs (142).

⚠ **IMPORTANT NOTE:** Make sure that the clutch shoes are facing the correct direction as illustrated.

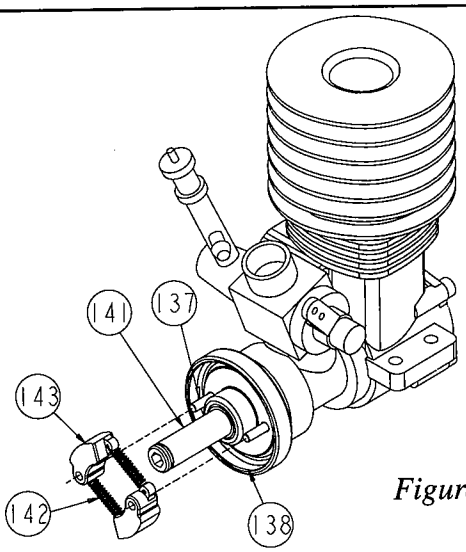


Figure 63

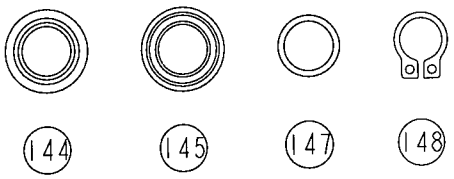


Fig 64.

Step 7. Insert a 1/4" x 3/8" clutch bearing (144) [1/4" x 3/8" bushing (145) if assembling kit # A-0951] into each side of the clutch bell (146).

Step 8. Slide the clutch bell (146) over the clutch nut (141) so that the gear faces out. Push the clutch bell (146) all the way against the clutch assembly.

Step 9. Place the clutch spacer (147) over the clutch nut (141) and against the clutch bell (146). Secure the assembly by pushing the 1/4" clutch nut clip (148) over the end of the clutch nut (141) and into the groove in the clutch nut (141).

⚠ **IMPORTANT NOTE:** The bearings used in the clutch contain a special grease that does not migrate. It is important that these bearings only be replaced with Team Losi's replacement clutch bearings. It is also important not to oil the bearings in the clutch. Any oil that is put on the bearings can find its way into the clutch assembly and cause the clutch to slip.

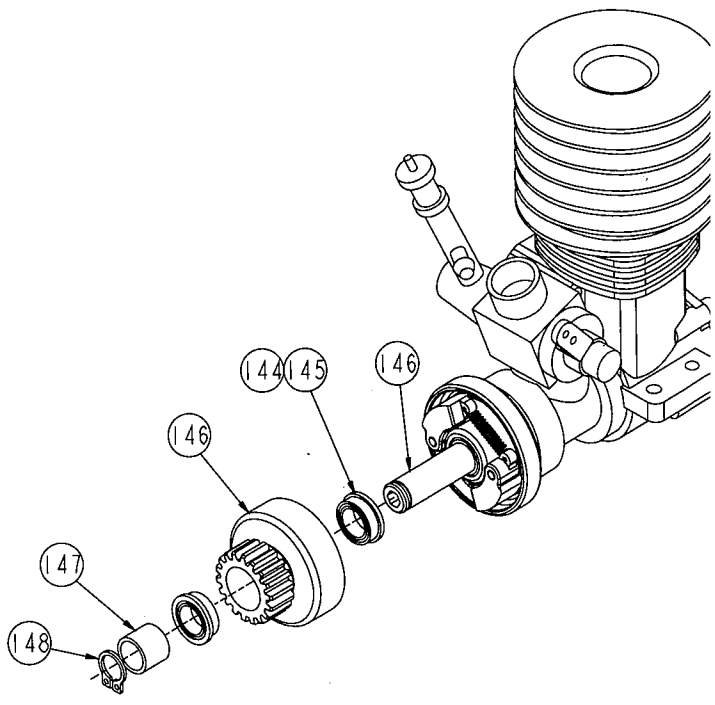


Figure 64

ENGINE INSTALLATION (Continued)

Pull start engines

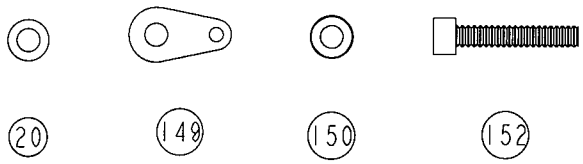


Fig 65.

Step 10. Slightly bend the throttle return spring eyelet (149) as shown in figure 65. Place a studded ball washer (20) over the four 4-40 x 5/8" cap head screws (152). Insert a 4-40 x 5/8" cap head screw (152) through the three holes in the engine as illustrated. Place the bent throttle return spring eyelet (149) over a fourth 4-40 x 5/8" cap head screw (152) and insert it through the fourth hole in the engine as shown.

Step 11. Place an engine mount spacer (150) over each of the four screws (152). Attach the engine to the engine mounts (151) by threading the four screws (152) into the four holes shown. Do not fully tighten the screws yet.

**NOTE: The two engine mounts should be positioned differently on each side of the motor as shown in figure 65.*

⚠ **IMPORTANT NOTE:** Make sure that the engine mounts are installed correctly as indicated in figure 65. The four screws should be threaded into the holes which do not pass all the way through the engine mounts.

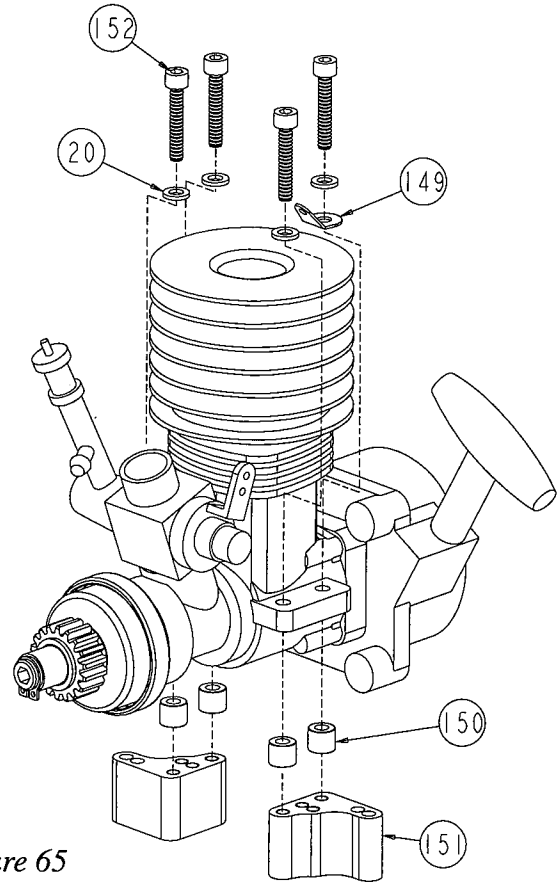


Figure 65

Non-Pull start engines

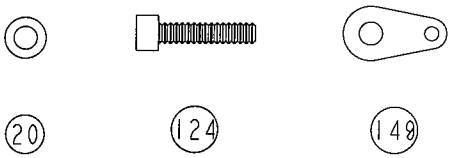


Fig 66.

Step 10. Slightly bend the throttle return spring eyelet (149) as shown in figure 66. Place a studded ball washer (20) over the four 4-40 x 1/2" cap head screws (124). Insert a 4-40 x 1/2" cap head screw (124) through the three holes in the engine as illustrated. Place the bent throttle return spring eyelet (149) over a fourth 4-40 x 1/2" cap head screw (124) and insert it through the fourth hole in the engine as shown.

Step 11. Attach the engine to the engine mounts (151) by threading the four screws (124) into the four holes shown. Do not fully tighten the screws yet.

**NOTE: The two engine mounts should be positioned differently on each side of the motor as shown in figure 65.*

⚠ **IMPORTANT NOTE:** Make sure that the engine mounts are installed correctly as indicated in figure 66. The four screws should be threaded into the holes which do not pass all the way through the engine mounts.

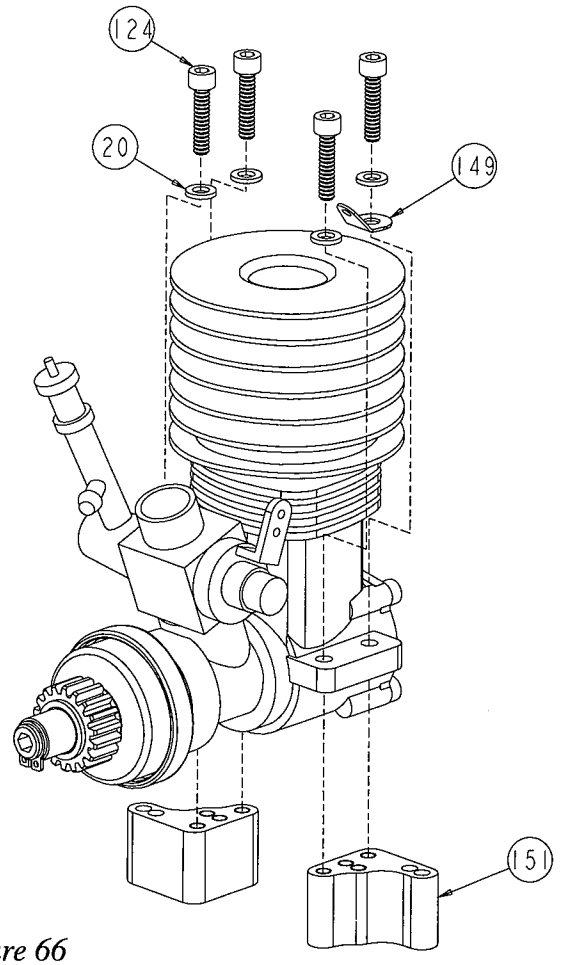


Figure 66

ENGINE INSTALLATION (Continued)

Fig 67.

Step 12. Install the carburetor to the engine as per the instructions supplied with the engine. The carburetor throttle arm should be on the same side as the throttle return spring eyelet (149).

Step 13. Attach one end of the throttle return spring (153) to the return spring eyelet (149). Attach the opposite end of the spring (153) to the lower hole (center hole if your carburetor has three holes) in the carburetor throttle arm.

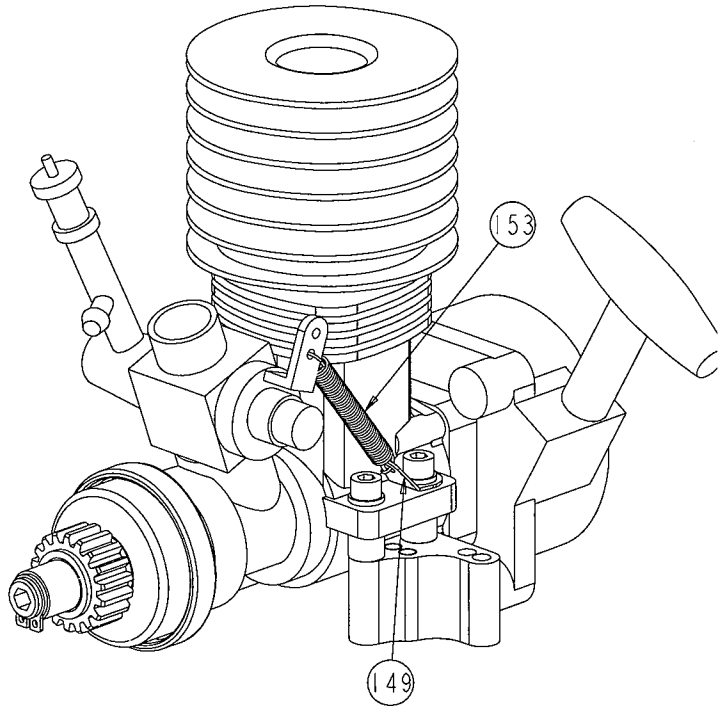


Figure 67

Fig 68.

Step 14. Press the paper air filter element (154) into the large end of the air filter boot (155). Be sure that the side of the paper element (154) with the hole in it is inserted into the boot (155).

Step 15. Slide the foam pre-filter (156) over the paper filter (154).

Air filter oil can be applied to the foam pre filter if you plan to run in a dusty area. Filter oil can be purchased at any motorcycle shop. ***Do not apply filter oil to the paper filter element.***

Step 16. Attach the air filter boot (155) to the carburetor. Secure the boot (155) to the carburetor with a 4" tie-strap (157). Tighten the tie strap (157) and cut any excess material off of the tie-strap (157).

**NOTE: The locking portion of the tie strap should be positioned away from the fuel fitting on the carburetor. This will keep the tie strap from interfering with the fuel line.*

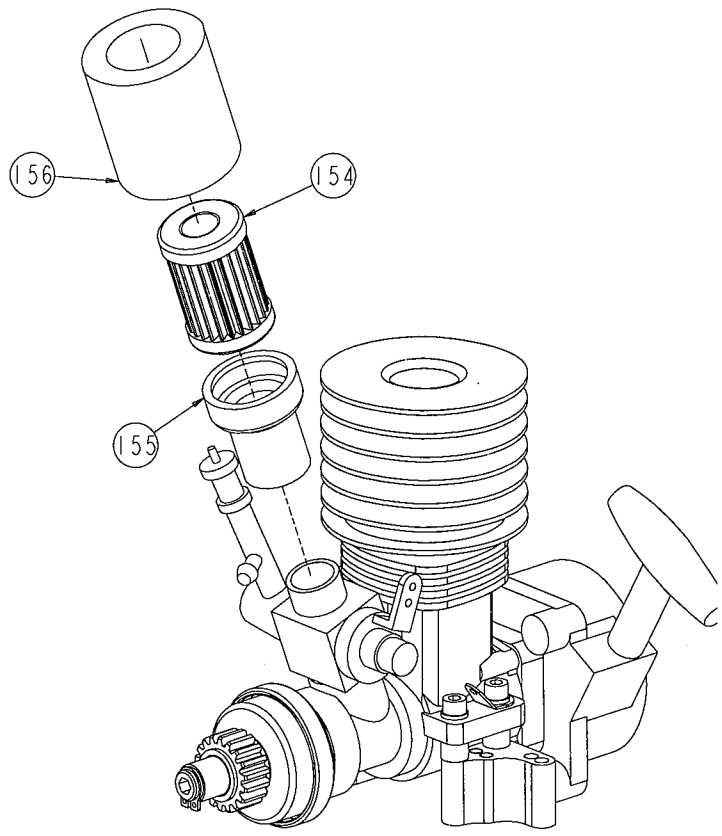


Figure 68

ENGINE INSTALLATION (Continued)

Fig 69. (31) (158)

Step 17. Loosen the left, rear screw in the center chassis brace (37), and the two forward screws in the transmission, so that the engine can be installed. Slide the engine into place from the left side of the chassis. The rear engine mount (151) should fit under the transmission, and the front engine mount (151) should fit under the center chassis brace (37).

Step 18. There are two sets of holes in the engine mounts (151). If you are installing an engine with a pull start, the holes in the chassis (27) should be lined up with the rear set of holes in the engine mounts (151). This will mount the engine farther forward. If you are installing an engine without a pull start, the holes in the chassis (27) should be lined up with the front set of holes in the engine mounts (151). This will mount the engine farther back.

Step 19. Insert a 4-40 x 3/8" flat head screw (31) into each of the two holes in the engine mounts (151) that are closest to the center of the engine.

Step 20. Insert a 4-40 x 7/8" flat head screw (158) into the front and rear holes in the engine mounts (151). These two screws (158) pass through the engine mounts (151) and thread into the transmission housing and center chassis brace (37).

Step 21. Tighten all four engine mount screws (31), the screw in the center chassis brace (37), and the two screws in the transmission that were loosened earlier.

It's a good idea to use a thread locking compound on the threads of the screws in the engine mounts.

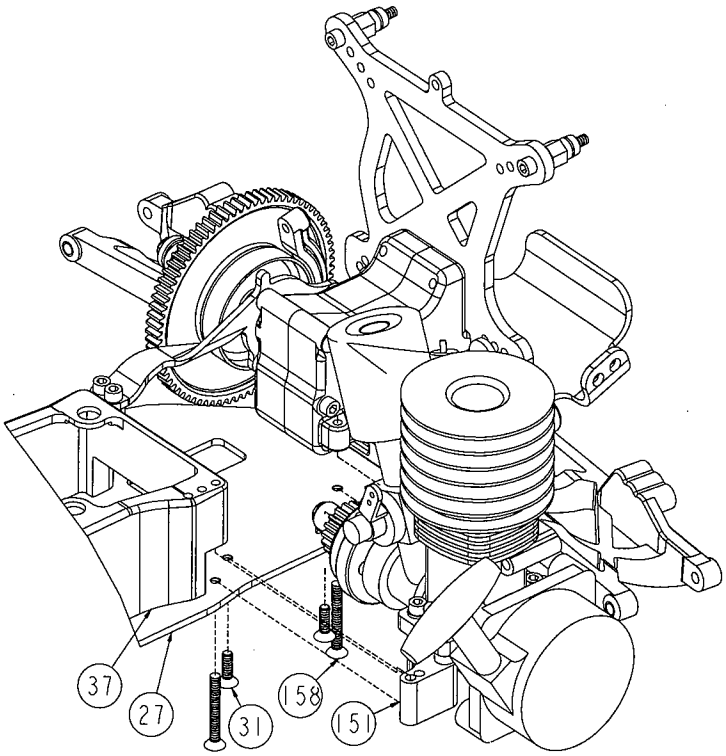


Figure 69

Fig 70.

Step 22. Once all of the screws in the bottom of the engine mounts (151) are tight, check the gear mesh between the clutch bell gear (146) and the spur gear (81). If the gear mesh is extremely tight, and you are using a pull start motor, chances are that you installed the engine mounts (151) using the wrong set of holes. If the gear mesh is extremely loose, and you are using a non-pull start motor, you've probably used the wrong holes in the engine mounts (151). If you are having one of the two problems mentioned, return to figure 68 and install the engine mounts (151) to the chassis (27) using the other set of holes.

Step 23. With the four screws holding the engine to the engine mount loose, make your final alignment of the clutch bell (146) to the spur gear (81). The motor can be moved slightly because the 4-40 screws are slightly smaller than the metric size holes in the engine. Once the alignment is correct (a small amount of gear backlash is necessary), tighten all of the screws (124), (152) except for the one with the eyelet (149). Now, tighten the screw with the eyelet (149) attached, making sure that the eyelet remains facing towards the carburetor when the screw (124), (152) is tight.

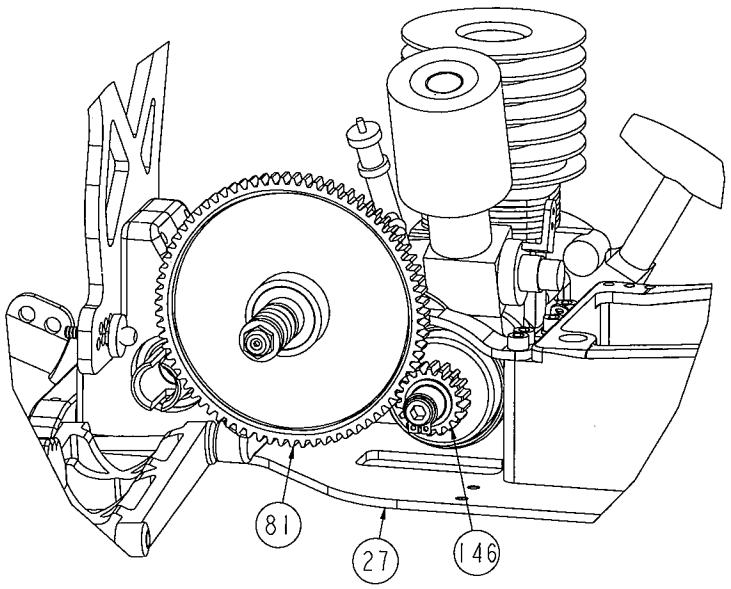


Figure 70

ENGINE INSTALLATION (Continued)

Fig 71.

Step 24. Insert a 4-40 x 7/8" cap head screw (7), from the front, through each of the two holes in the middle of the engine.

Step 25. Wet your finger with water and *lightly* moisten the exhaust manifold gasket (supplied with your motor) and attach it to the exhaust manifold (159).

⚠ **IMPORTANT NOTE:** Exhaust manifold gaskets are important. If, for some reason, your engine does not have one, it is recommended that you purchase one from your local hobby shop.

If using an after market gasket (one made by a company other than your motor manufacturer) hold the gasket next to the exhaust manifold. If the exhaust hole in the gasket is smaller than the hole in the manifold, the hole in the gasket should be enlarged to match the hole in the manifold. Take care not to damage the gasket when cutting it.

Step 26. Place the exhaust manifold (159) on the side of the engine to the rear of the truck. The manifold should be installed so that the exhaust port is offset to the left of the truck (or rear of the engine). Align the holes in the manifold (159) with the screws (7). Secure the manifold (159) to the engine by tightening the two screws (7).

NOTE: If using a Thunder Tiger engine, the holes to attach the exhaust manifold need to be enlarged. Drill the two holes out so that they are just large enough for the 4-40 screws to fit through. A #32 drill bit is recommended.* ***Be sure not to allow any shavings to enter the engine!*

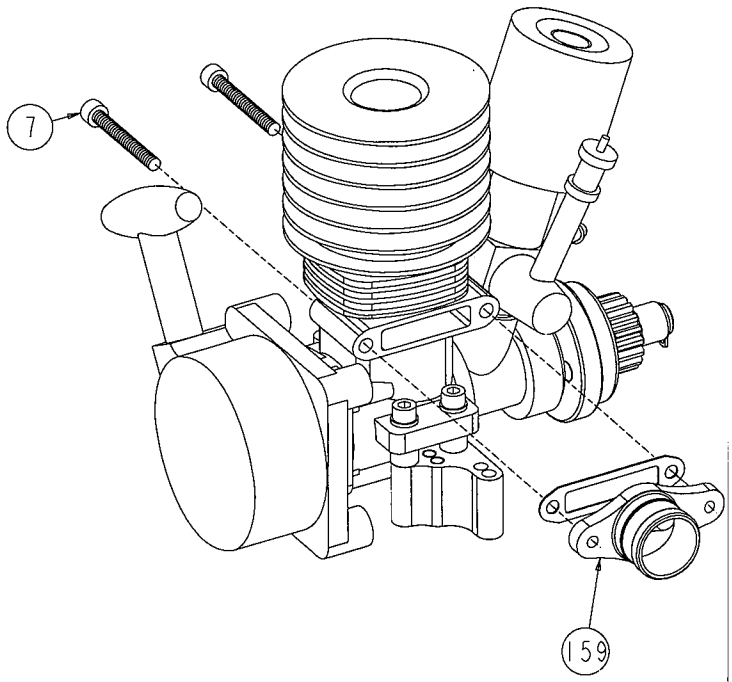


Figure 71

Fig 72.

Step 27. Place the silicone exhaust header (160) over the tube on the exhaust manifold (159) as shown. If the header (160) can not be installed easily because of the transmission interfering, the exhaust manifold has probably been installed upside down. If this is the case, refer to figure 71 and install the manifold so that the exhaust port is offset to the left of the truck.

Step 28. Insert the tuned pipe (161) into the opposite end of the exhaust header (160) so that the large hole in the side of the pipe (161) points away from the truck, and the small hole in the side of the pipe points towards the truck.

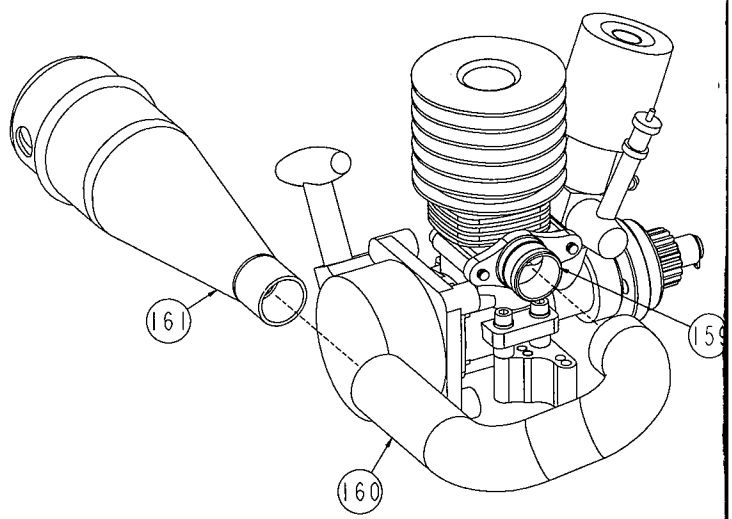


Figure 72

ENGINE INSTALLATION (Continued)

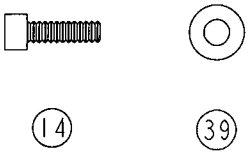


Fig 73.

Step 29 . Slide the pipe mounting bracket (162) over the tuned pipe (161) as shown. The mounting bracket (162) should be positioned against the front side of the seam on the pipe (161).

**NOTE: If the bracket does not fit snugly around the pipe, the bracket can be bent slightly so that it will hold the pipe tighter.*

Step 30. Place a #4 washer (39) over a 4-40 x 3/8" cap head screw (14). Thread the screw (14) through the pipe mounting bracket (162), into the hole in the top of the center chassis brace (37), and tighten.

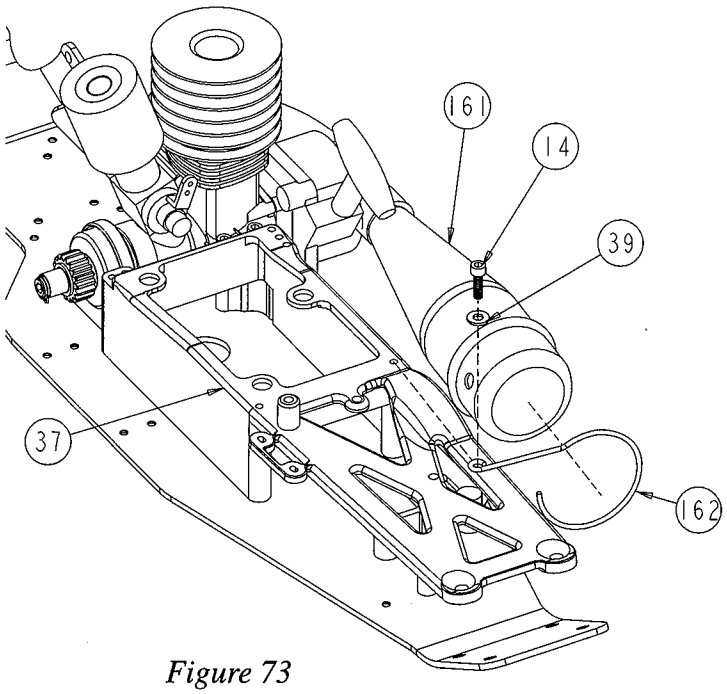


Figure 73

Fig 74.

Step 31 . Cut a 1-1/2" length of 3/8" silicone tubing (164). The edges should be cut as straight as possible. This piece of tubing will be used as the tuned pipe stinger.

Step 32. Insert the aluminum stinger sleeve (165) into one end of the rubber stinger. The sleeve (165) should be inserted 1/16" inside the edge of the stinger.

Step 33. Moisten the outside edge of the stinger on the side that the sleeve (165) is inserted. Press the exhaust stinger into the large hole in the tuned pipe (161) so that the sleeve (165) is centered in the wall of the pipe (161) see figure 74A.

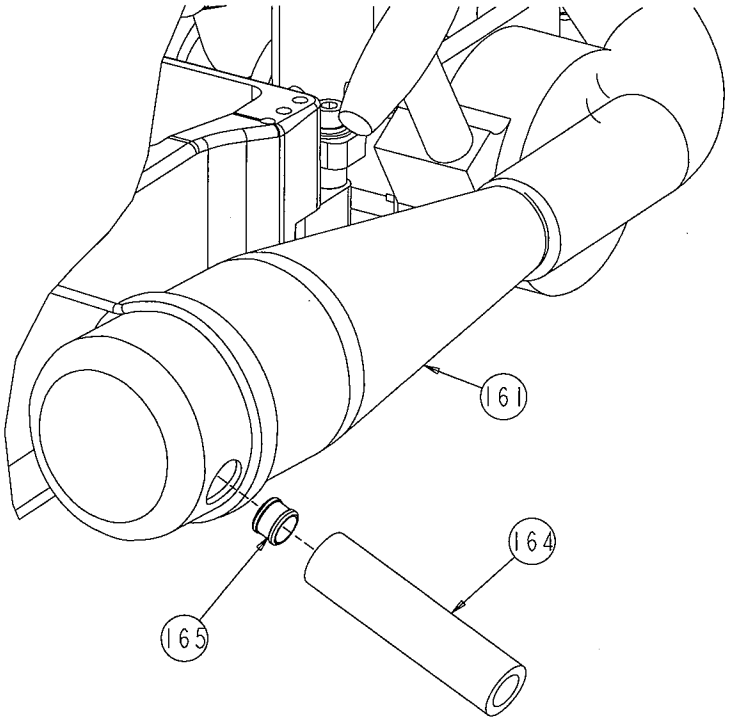


Figure 74

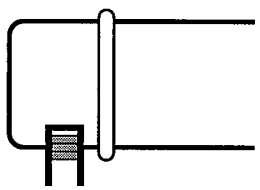


Figure 74A

ENGINE INSTALLATION (Continued)

Fig 75.

Step 34. Rotate the tuned pipe (161) so that the stinger points down slightly. Secure the tuned pipe (161) to the header by installing an 8" tie strap (181) around the header (160), and the pipe (161), and tightening.

Step 35. Secure the header (160) to the manifold (159) by installing an 8" tie strap (181) around the header (160), and the manifold (159), and tightening. Cut off the extra length from both tie straps (181).

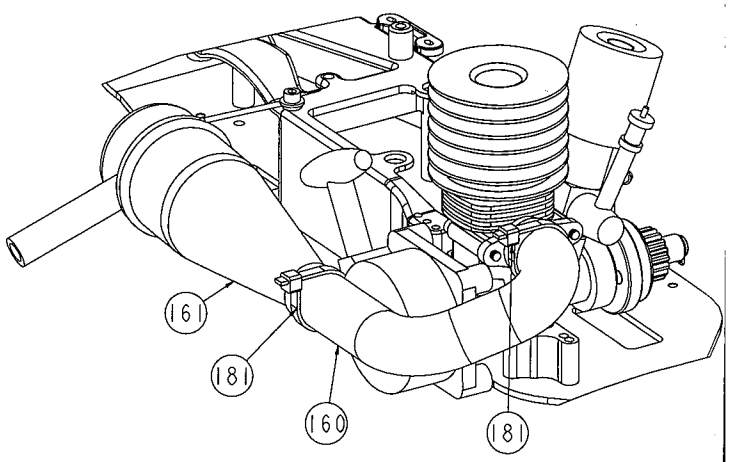


Figure 75

Fig 76.

Step 36. Cut a 7" length of fuel tubing (166) from the piece supplied.

**NOTE: Some kits may come with two types of fuel tubing. For this step use the opaque (non-transparent) fuel tubing.*

Step 37. Cut one end of the 7" piece of tubing at a 45° angle as shown in figure 76A. Install the uncut side of the tubing to the forward fitting on the top of the fuel tank (38).

Step 38. Route the tubing to the right of the center chassis brace (37), under the stiffener, and behind the rear steering servo post (40), as shown. Insert the cut end of the tubing into the inside (small) hole in the tuned pipe (161).

⚠ **IMPORTANT NOTE:** Make sure that the cut section of fuel tubing is inserted all the way into the tuned pipe.

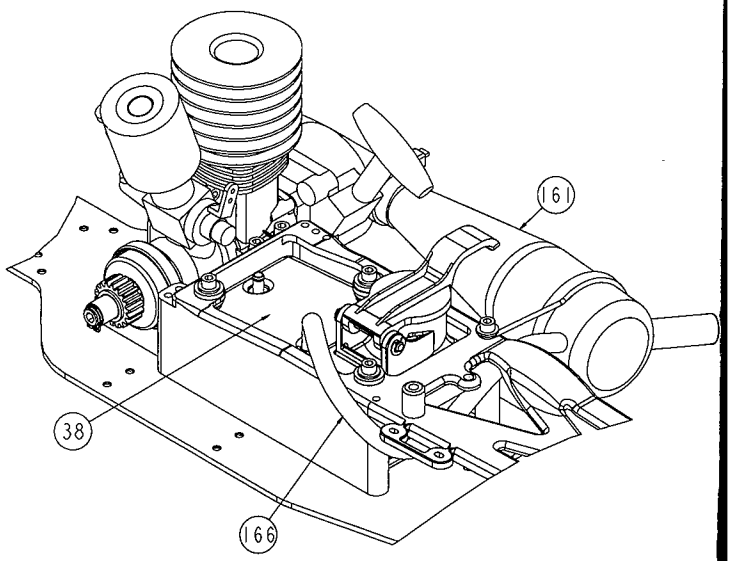


Figure 76

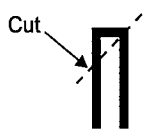


Figure 76A

ENGINE INSTALLATION (Continued)

Fig 77.

Step 39. Cut a 3" length of fuel tubing (166) from the remaining section.

**NOTE: If there are two types of fuel tubing supplied with your kit use the transparent piece. This piece should already be cut to 3".*

Step 40. Cut two 1/16" - 1/8" lengths of 3/8" silicone tubing (164) off of the remaining section. Place these two pieces over the piece of fuel tubing as shown. These will be used later to hold your radio system wires in place.

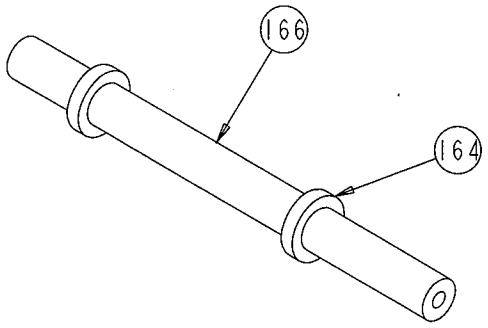


Figure 77

Fig 78.

Step 41. Attach one end of the fuel tubing (166) to the rear fitting on the top of the fuel tank (38), and attach the other end to the fitting on the carburetor.

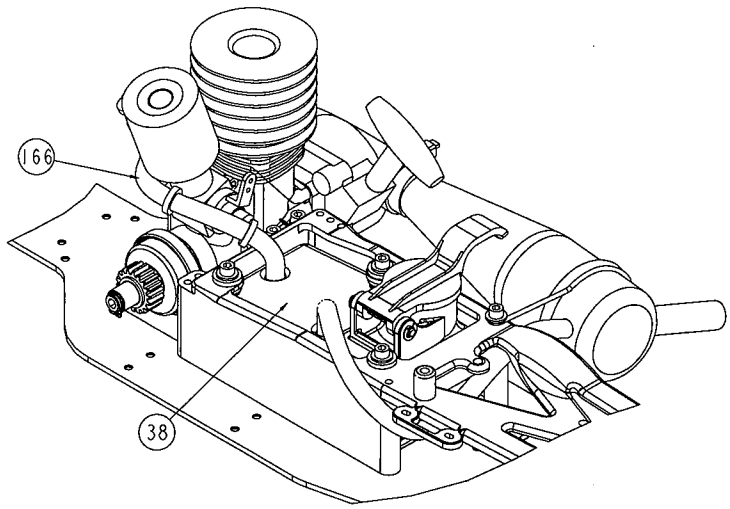


Figure 78

RADIO INSTALLATION

Fig 79.

Step 1. Remove the servo horns from both of the servos supplied with your radio system.

It is highly recommended that you use the Kimbrough type servo saver for your steering servo horn. Be sure to use either the large black or white one. ***Do not*** use the small grey colored servo saver.

Step 2. If you will be using a standard servo horn (supplied with your radio system), refer to figure 79 and trim one of the arms accordingly, removing the shaded areas of the arm. This will be used for the steering servo. The wheel type arms should not be used for the steering servo.

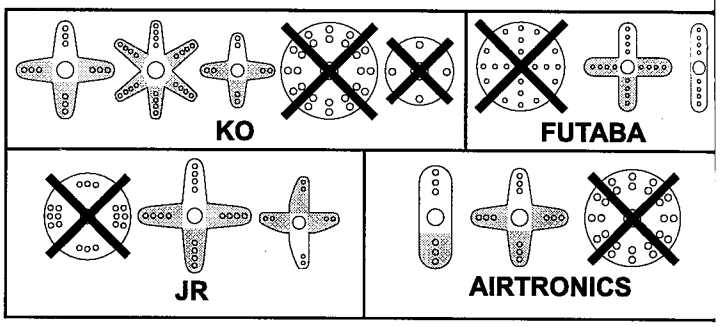


Figure 79

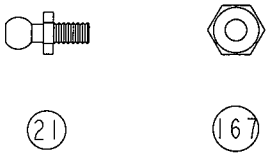


Fig 80.

Step 3. Thread a 3/16" ball stud (21) through the top hole in the servo horn, or servo saver. The ball stud (21) should be attached to the side of the horn opposite the side that attaches to the output shaft of the servo. The hole in the horn may need to be enlarged slightly in order for the ball stud (21) to thread through it.

Step 4. Secure the ball stud (21) with a 4-40 nut (167).

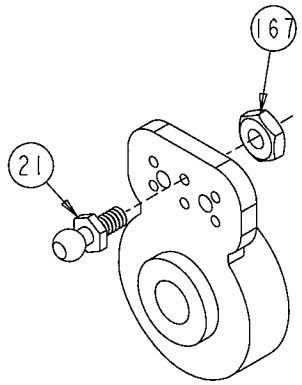
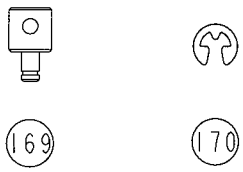


Figure 80



SERVO BRAND	SERVO HORN
Airtronics	23
Futaba	25
J.R.	23
K.O.	23

Table 81

Fig 81.

Step 4. Determine which throttle servo horn (168) you will use by referring to table 81.

Step 5. Insert the throttle pivot (169) in the outside hole in the servo horn (168). The pivot (169) should be attached to the longer arm of the servo horn (168), and inserted from the side of the horn opposite the side that attaches to the output shaft of the servo.

Step 6. Secure the throttle pivot (169) with a 3/32" 'E'-clip (170). Be sure that the throttle pivot (169) rotates freely in the servo horn (168).

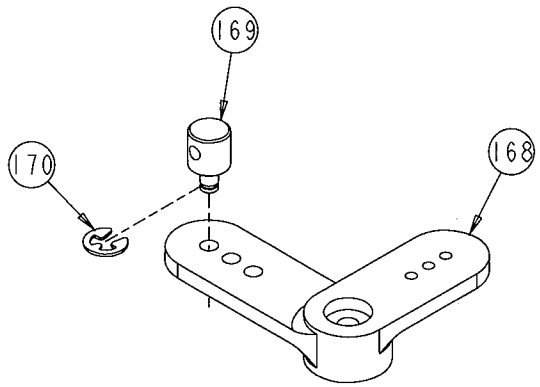


Figure 81

RADIO INSTALLATION (Continued)

Fig 82.

Step 7. Plug one of the servos into the slot in the receiver marked "channel 1" or "function 1". This will be your steering servo.

Step 8. Plug the second servo into the slot in the receiver marked "channel 2" or "function 2". This will be your throttle servo.

Step 9. Install 'AA' batteries into your receiver battery holder, or ensure that the receiver batteries are charged if using a nicad pack.

Step 10. Install batteries in your transmitter. Refer to the manual for your radio system and adjust the trim tabs for both throttle and steering to the center position. Turn the transmitter switch to the "on" position.

Step 11. Plug the receiver battery into the slot marked "battery" in the receiver. The servos should now move to the neutral position

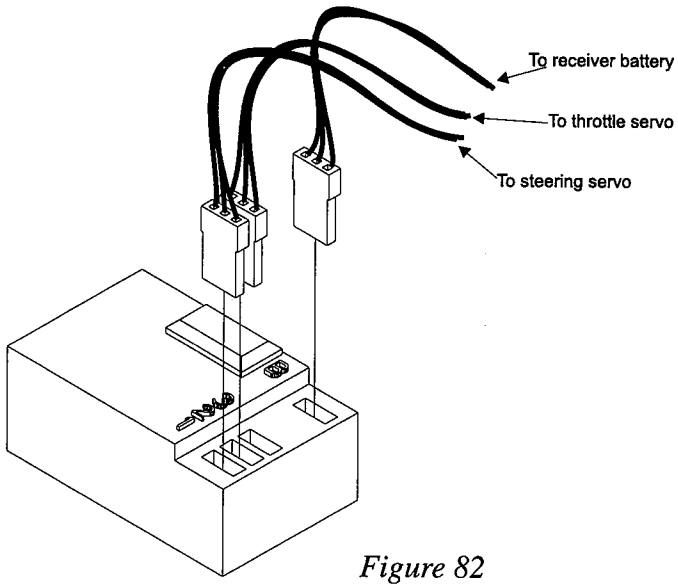


Figure 82

Fig 83.

Step 12. With the radio system still on, attach the steering servo horn to the servo plugged into "channel 1" in the receiver so that it is aligned as shown in figure 83A. Secure the servo horn with the screw supplied with your servo.

Step 13. Attach the throttle servo horn (168) as shown in figure 83B. Make sure that the throttle pivot (169) is facing the correct direction as shown. Secure the throttle servo horn (168) with the screw supplied with your servo.

Step 14. Unplug the receiver battery, switch off the transmitter, and unplug both servos from the receiver.

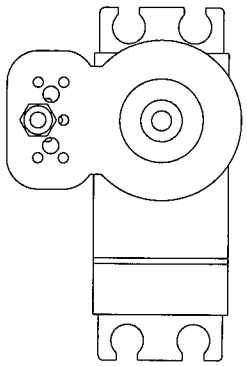


Figure 83A

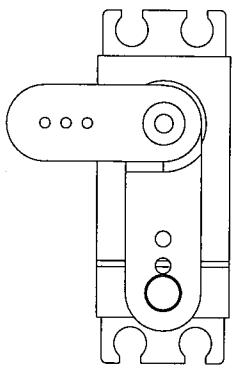


Figure 83B

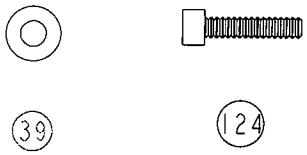


Fig 84.

Step 15. Refer to figure 16 and check to see that the steering servo posts (40) in the chassis (27) are still oriented correctly for your servo.

Step 16. Attach the servo grommets (supplied with your radio system) to the steering servo as per the radio system instructions.

Step 17. Install the steering servo from the left side of the truck as shown. The servo should be installed with the ball stud (21) to the top. Position the servo against the servo mounting posts (40). Be sure that the pressure line is not interfering with the steering servo.

Step 18. Place a #4 washer (39) over each of four 4-40 x 1/2" cap head screws (124). Thread a screw (124) through each of the four grommets in the servo, and into the four large holes in the servo mounting posts (40).

⚠ **IMPORTANT NOTE:** Do not over tighten the screws! The purpose of having the grommets is to absorb the shock and vibration from the gas engine. Overtightening the screws will prohibit the grommets from working properly.

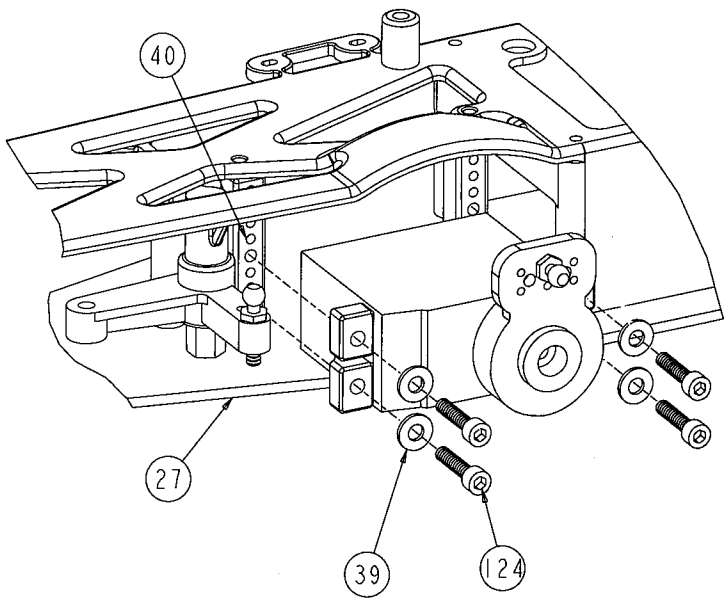


Figure 84

RADIO INSTALLATION (Continued)

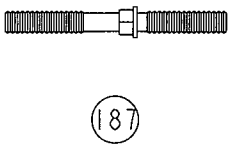


Fig 85.

Step 19. Thread a short plastic rod end (171) onto each end of a 1-1/8" turnbuckle (187). Tighten both ends equally until the rod is the same length as the one shown in figure 85A.

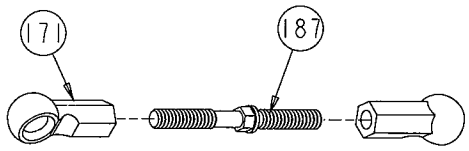


Figure 85

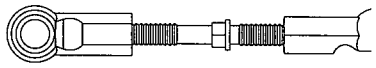


Figure 85A

Fig 86.

Step 20. Attach one end of the rod from figure 85 to the ball stud (21) in the steering servo horn. Attach the other end of the rod to the ball stud (4) in the steering bellcrank (32).

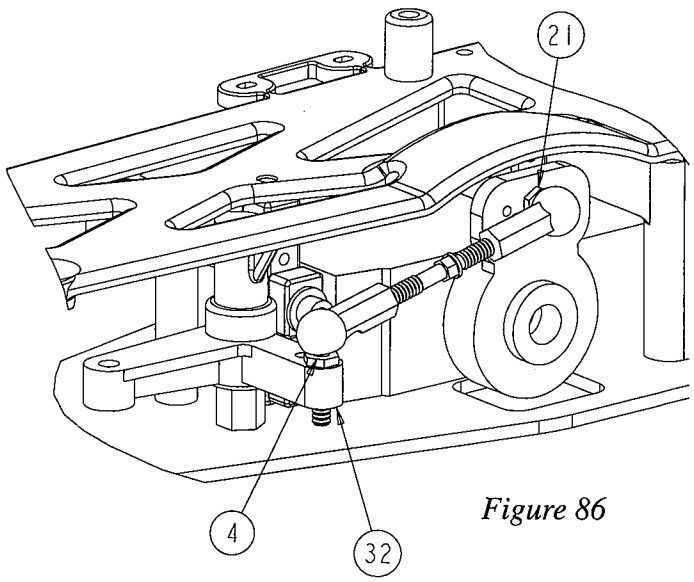


Figure 86

Fig 87.

Step 21. Cut a piece of two sided tape (172) to the same size as the bottom of the receiver. Remove the backing from one side of the tape (172) and attach the tape (172) to the bottom of the receiver.

For best results clean the surfaces that the two sided tape will be attached to with a mild rubbing alcohol. This will ensure a good, strong bond. Allow the surface to fully dry before attaching the tape.

Step 22. Remove the backing from the remaining side of the two sided tape (172) and attach the receiver to the top of the center chassis brace (37), just to the right of center, as shown. The receiver should be mounted to an area where there is as much material under it as possible. Try not to mount it directly over an opening in the center chassis brace (37).

Step 23. Plug the steering servo into the slot marked "channel 1" on the receiver.

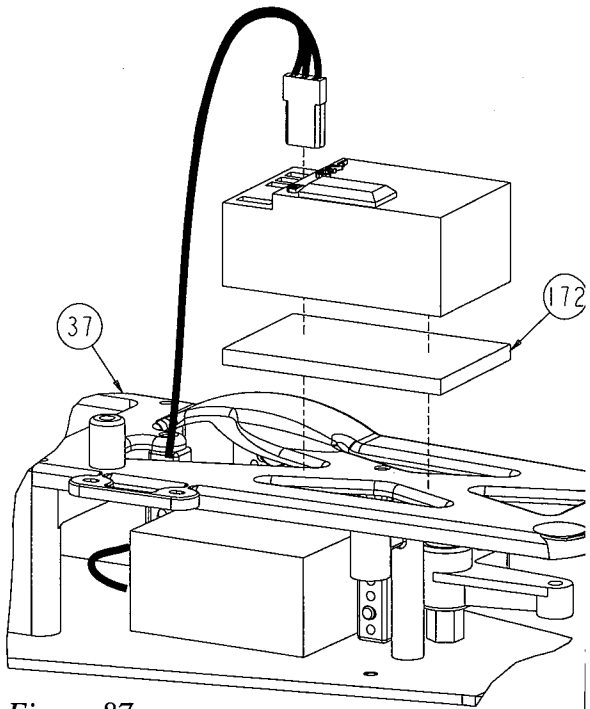


Figure 87

RADIO INSTALLATION (Continued)

Fig 88.

Step 24. Route the antenna wire, from the bottom, through the antenna mounting post in the center chassis stiffener (37).

Step 25. Slide the antenna wire through the antenna tube (173) (a small drop of oil in the tube will make this easier).

Step 26. While pulling the wire through the antenna tube (173), slide the antenna tube (173) down and push it firmly into the antenna mounting post on the center chassis stiffener (37).

Step 27. Fold the wire over the antenna tube (173) and place the antenna cap (174) over the tube (173) and extra wire.

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

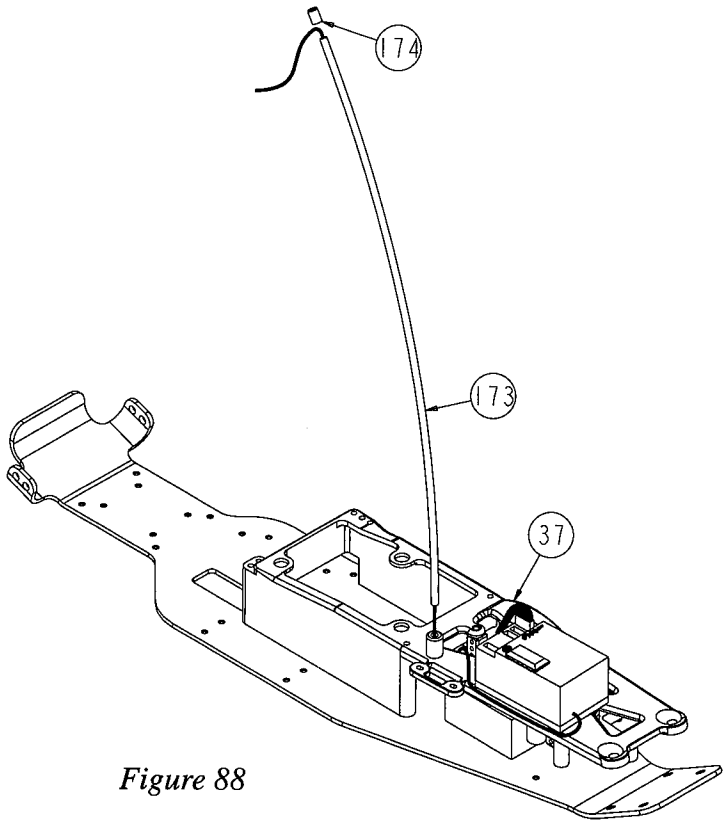


Figure 88

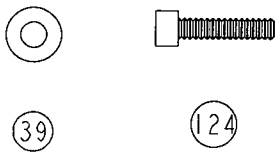


Fig 89.

Step 28. Attach the grommets (supplied with your radio system) to the throttle servo per the radio system instructions.

Step 29. Route the servo wire and plug through the slot in the bottom of the forward throttle servo mount (41). If the plug does not fit through the slot, loosen the screws (31) holding the mount (41) in place. Once the wire is through the slot, tighten the two screws (31).

Step 30. Position the throttle servo on top of the servo mounts (41) so that the output shaft is forward.

Step 31. Place a #4 washer (39) over each of four 4-40 x 1/2" cap head screws (124). Thread a screw (124) through each of the four grommets in the servo, and into the four holes in the top of the servo mounting posts (41).

Step 32. Plug the throttle servo into the slot in the receiver marked "channel 2".

⚠ **IMPORTANT NOTE:** Do not over tighten the screws! The purpose of having the grommets is to absorb the shock and vibration from the gas engine. Overtightening the screws will prohibit the grommets from working properly.

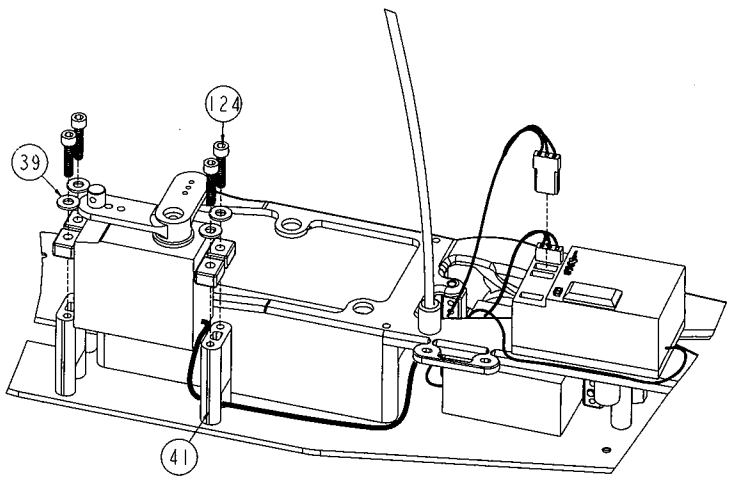


Figure 89

RADIO INSTALLATION (Continued)

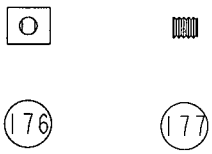


Fig 90.

Step 33. Bend the short 'Z' bend wire (175) as shown in figure 90A. Install the short 'Z' bend wire (175) in the top hole of the carburetor throttle arm so that the wire is positioned on the side of the arm away from the engine.

Step 34. Slide the end of the wire (175) through the hole in the throttle pivot (169).

Step 35. Once the wire (175) is through the pivot (169), place a linkage adjustment collar (176) over the end of the wire (175). Secure the collar (176) to the wire (175) with a 4-40 set screw (177). The collar (176) should be positioned at the end of the wire (175). Final adjustments will be made later.

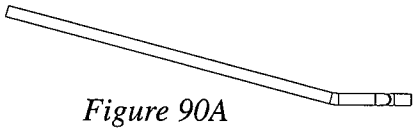


Figure 90A

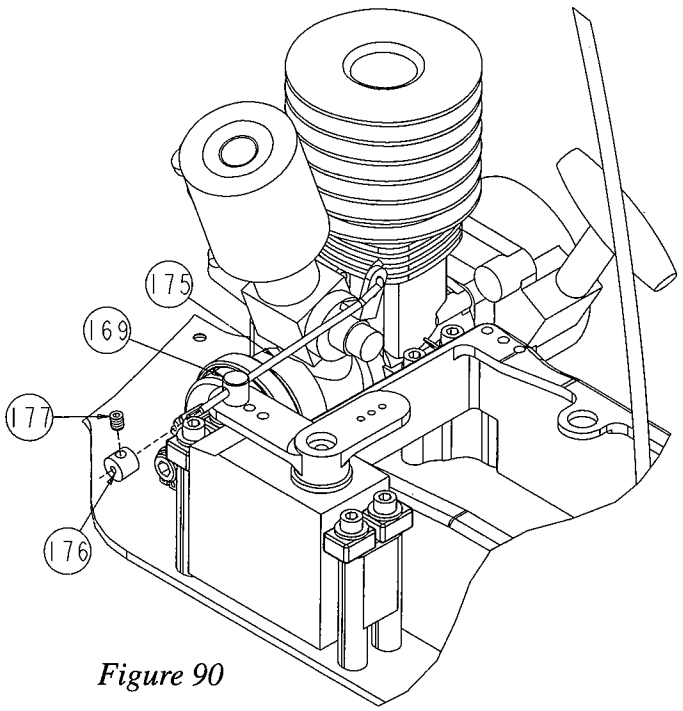


Figure 90

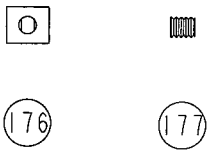


Fig 91.

Step 36. Install the long 'Z' bend wire (178) in the outside hole of the throttle servo horn (168) so that the wire is positioned on the top side of the servo horn (168).

Step 37. Slide a linkage adjustment collar (176) over the end of the wire (178) and secure it with a 4-40 set screw (177) 1-1/2" from the end of the wire (178).

Step 38. Slide the end of the wire (178) through the hole in the brake arm (79).

Step 39. Rotate the brake arm (79) forward so that it rests against the brake drum (82). Slide a linkage spring (179) over the end of the wire (178) and position it against the brake arm (79). Place another linkage adjustment collar (176) over the end of the wire (178) and secure it with a 4-40 set screw (177) near the end of the wire (178) . Once again, final linkage adjustment will be made later.

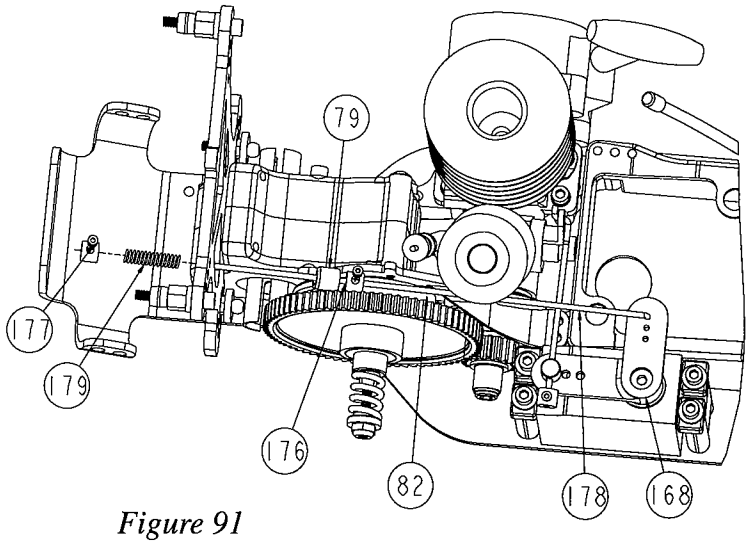


Figure 91

RADIO INSTALLATION (Continued)

Fig 92.

Step 40. Remove the backing from the receiver battery pad (180) and attach it to the back of the chassis (27) so that it matches the shape of the chassis (27).

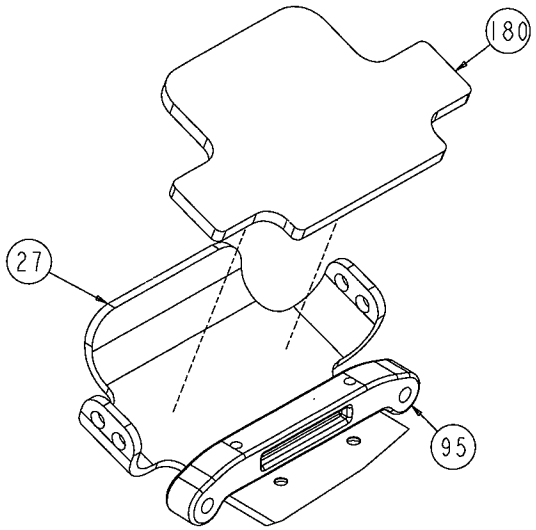


Figure 92

Fig 93.

Step 41. Place the receiver battery in the rear portion of the chassis (27), on top of the pad (180), so that the lead wire is to the left side of the chassis (27).

⚠ **IMPORTANT NOTE:** If using the plastic battery holder (supplied with the radio system), wrap tape around the holder after the batteries are installed. This will help hold the batteries in place. The plastic battery holder should be mounted to the chassis so that the plastic sides are to the top and bottom.

Step 42. Insert an 8" tie strap (181), from the outside, through the forward hole in the right side of the chassis (27). Run the tie strap (181) over the battery and through the rear hole in the left side of the chassis (27).

Step 43. Insert a second 8" tie strap (181), from the outside, through the rear hole in the right side of the chassis (27). Run the tie strap (181) over the battery and through the forward hole in the left side of the chassis (27).

Step 44. Cut the square, locking portion off of two more 8" tie straps (181). Secure the two installed tie straps (181) with the locking portions of the tie straps that were just cut off. Pull the tie straps tight and cut off any excess.

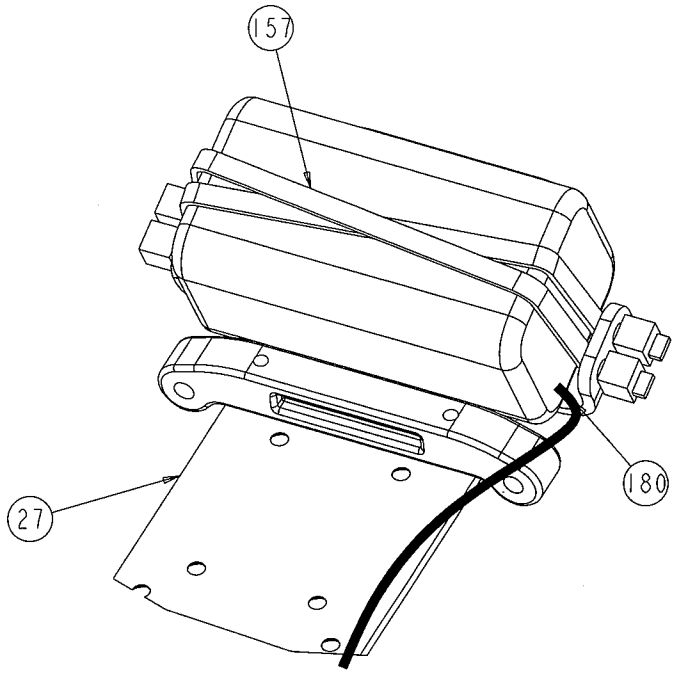


Figure 93

RADIO INSTALLATION (Continued)

Fig 94.

Step 45. Remove the two small screws from the switch (supplied with radio system). Place the switch, from the bottom, in the switch mounting area of the center chassis brace (37).

Step 46. Place the switch top plate (if applicable) over the switch, on top of the center chassis brace (37). Line up the holes in the switch with the holes in the top plate and secure the switch to the center chassis brace (37) with the two screws from the switch.

Step 47. Plug one end of the switch into the slot in the receiver marked "battery".

Some racers prefer to eliminate the switch and replace it with a servo extension wire. If you wish to replace the switch with an extension wire, plug one end of the wire into the slot marked "battery" in the receiver.

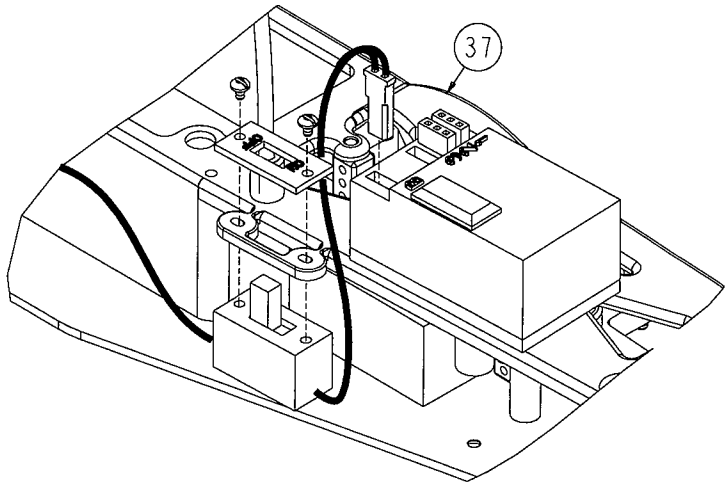


Figure 94

Fig 95.

Step 48. Route the free end of the switch wire along the top, right edge of the center chassis brace (37). Run the wire through both pieces of 3/8" tubing that is placed around the fuel line. This will keep the wire out of the way of the linkages. The wire should be routed between the air filter (154) and the high speed needle valve on the engine. This will keep the wire away from the spur gear.

Step 49. Plug the wire into the battery lead and make sure that the switch is in the "off" position.

**NOTE: If using a servo extension wire in place of the switch, unplug the wire from the receiver before plugging in the battery. The radio will now be switched on and off by plugging and unplugging the wire into the receiver.*

Step 50. Use a couple of small tie straps to secure any excess wires from the radio system. Keep the wires away from any moving parts such as the gears, throttle and brake linkages, steering linkages, etc.

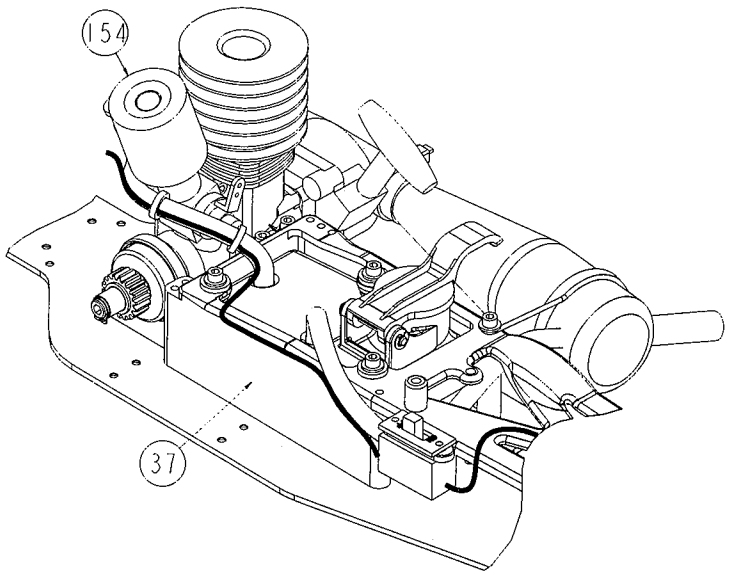


Figure 95

RADIO INSTALLATION (Continued)

Fig 96.

Step 51. Remove the air filter (154) from the air filter boot (155). Check to see that the throttle return spring is holding the carburetor closed, and that the linkage is not pulling the carburetor open.

Step 52. Looking through the air filter boot (155), into the carburetor, check the opening of the small, half-moon area near the side. This opening should be approximately 1/32". If it is not, refer to your engine instructions and adjust the idle adjustment screw until the opening is 1/32" with the throttle closed.

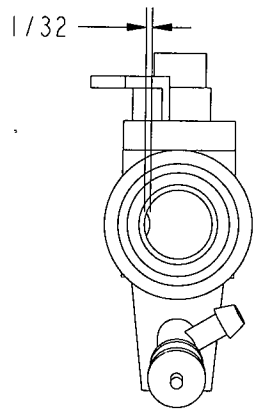


Figure 96

Step 53. Turn your transmitter switch on followed by the receiver switch (or plug in the extension wire if not using a switch).

Step 54. Move the steering control on the transmitter to the right. The tires on the truck should turn to the right. If not, refer to your radio manufacturer's instructions for reversing the servos and correct the steering servo.

Step 55. Without touching the transmitter the front tires should be pointing straight. Slight adjustments can be made with the trim adjustments on the transmitter. If the tires are turned without touching the transmitter, refer to figure 83A to ensure that the servo horn is installed properly.

Step 56. Move the steering control on the transmitter all the way to the left. The tires should turn all the way to the left. If the tires do not turn all the way, check the end point adjustments on the transmitter. Check the steering throw to the right as well.

Step 57. Move the transmitter throttle control to full throttle. The throttle servo should rotate counterclockwise. If the servo rotates the wrong direction, refer to your radio manufacturer's instructions for reversing the servos.

RADIO INSTALLATION (Continued)

Fig 97.

Step 58. With the radio still turned on, and the throttle control on the transmitter in the neutral position, loosen the set screw (177) in the linkage adjustment collar (176) on the throttle wire (175) and move the collar (176) until it is 1/32" away from the throttle pivot (169). Tighten the set screw (177) in the collar (176). This will be the final location of this collar (176).

Step 59. Check to see that the collar (176) to the front of the brake arm (79) is not touching the brake arm (79). If it is, loosen the set screw (177) and move the collar forward so that it does not touch the brake arm (79) while the brake arm (79) rests against the brake drum (82). Loosen the set screw (177) in the collar (176) at the rear of the brake linkage wire (178) and move the collar (176) until the linkage spring (179) has a slight amount of pre-load on it. Tighten the set screw (177) in this collar (176).

**NOTE: This collar can be adjusted later to change the amount of "panic", or full brake that the truck has.*

Step 60. Loosen the set screw (177) in the collar (176) at the front side of the brake arm (79) and move the collar (176) until it just touches the brake arm (79). Tighten the set screw (177) in the collar (176). This will be the final location of this collar (176).

Step 61. Move the throttle control on the transmitter to full throttle. Refer to the radio manufacturer's instructions and adjust the end point adjustment so the throttle servo will rotate just far enough to open the carburetor all the way. Now move the throttle control on the transmitter to full brake. Adjust the end point on the transmitter so that the servo doesn't over rotate when applying full brake. The servo should only have to move 1/4" in the brake direction.

**NOTE: If your radio system does not have end point adjustments, you may need to move the throttle pivot and brake linkage wire to a different hole in the servo horn. The closer the wires are mounted to center on the horn, the less the wires will move. If the wires are moved to a different hole in the servo horn, start the throttle linkage adjustment again at step 58.*

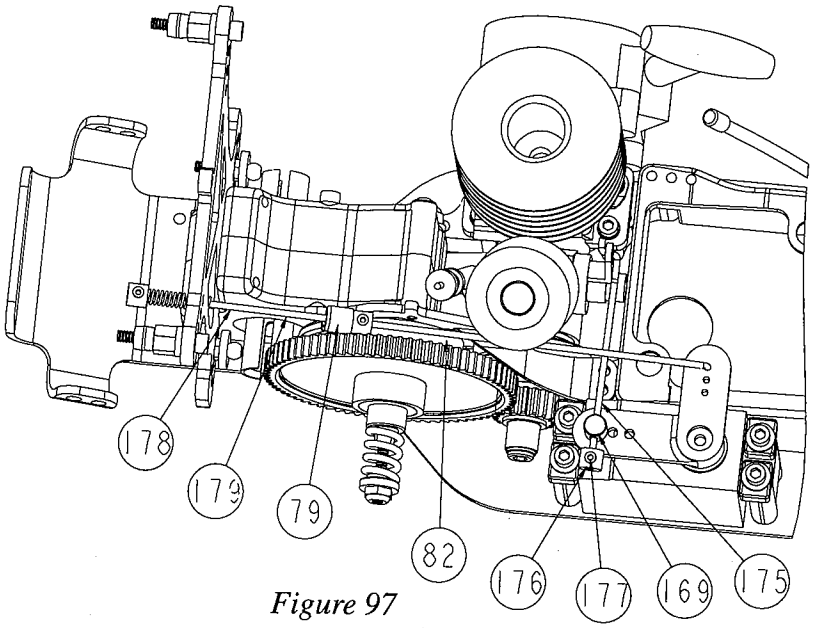


Figure 97

Fig 98.

Step 62. Turn the radio switch off (or unplug the extension wire from the receiver), and then turn the transmitter off. Make it a habit to always turn the transmitter on first and off last.

Step 63. Once the throttle and brake linkages are adjusted, replace the air filter (154) in the air filter boot (155).

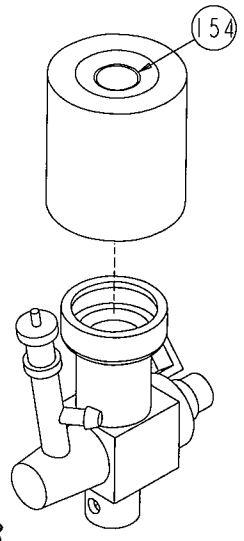


Figure 98

FINAL ASSEMBLY

NOTE: Since there are very few parts required to complete the final assembly portion of the manual, the parts have been packaged in the Radio Installation bag.

Fig 99.

Step 1. Trim the body (182) along the trim lines as shown. Cut out the areas indicated on the front and side windows to allow easy access to the fuel tank.

Step 2. Make three 5/16" diameter holes in the areas on the windshield and hood of the body (182) that are marked with dimples or small circles.

Step 3. Drill a 3/8" diameter hole in the rear of the body at the location marked with a small hole or dimple.

Step 4. Place one half of the body saver (183) on the top side of the body over the 3/8" hole. Insert the other half of the body saver (183) into the hole in the rear of the body, from the bottom side. Snap the two halves of the body saver (183) together.

Step 5. Attach the body (182) to the truck and secure it by placing a body clip (184) through each of the two holes in the front body mount (12), and the top hole in the rear shock tower (96).

BODY AND WHEEL DISC PAINTING

Prepare the body shell for painting by washing it thoroughly with warm water and a small amount of liquid detergent. Dry the body with a clean, soft cloth. Use the window masks (185), supplied with the kit, to cover the window areas *from the inside*. A high grade masking tape should be used on the inside of the body to mask off any stripes, panels, or designs that you wish to paint on the body or wheel discs. Use acrylic lacquer, acrylic enamel, or any other Lexan (Polycarbonate) recommended paints. Apply paint to the inside of the body. Remove the tape for the area that you wish to apply the next color to and continue with the next color. Try to use the darker colors first. If you use a dark color after a light color, apply a thin coat of white over the lighter color before continuing with the darker color.

STICKERS

Cut the stickers from the sticker sheet (186) that you wish to use. Before removing the protective backing, find the desired location for the sticker. Remove the backing completely and reattach an edge of the sticker to the shiny side of the backing paper. Using the rest of the backing as a handle, position the sticker over the desired location and press it firmly into place to complete its application.

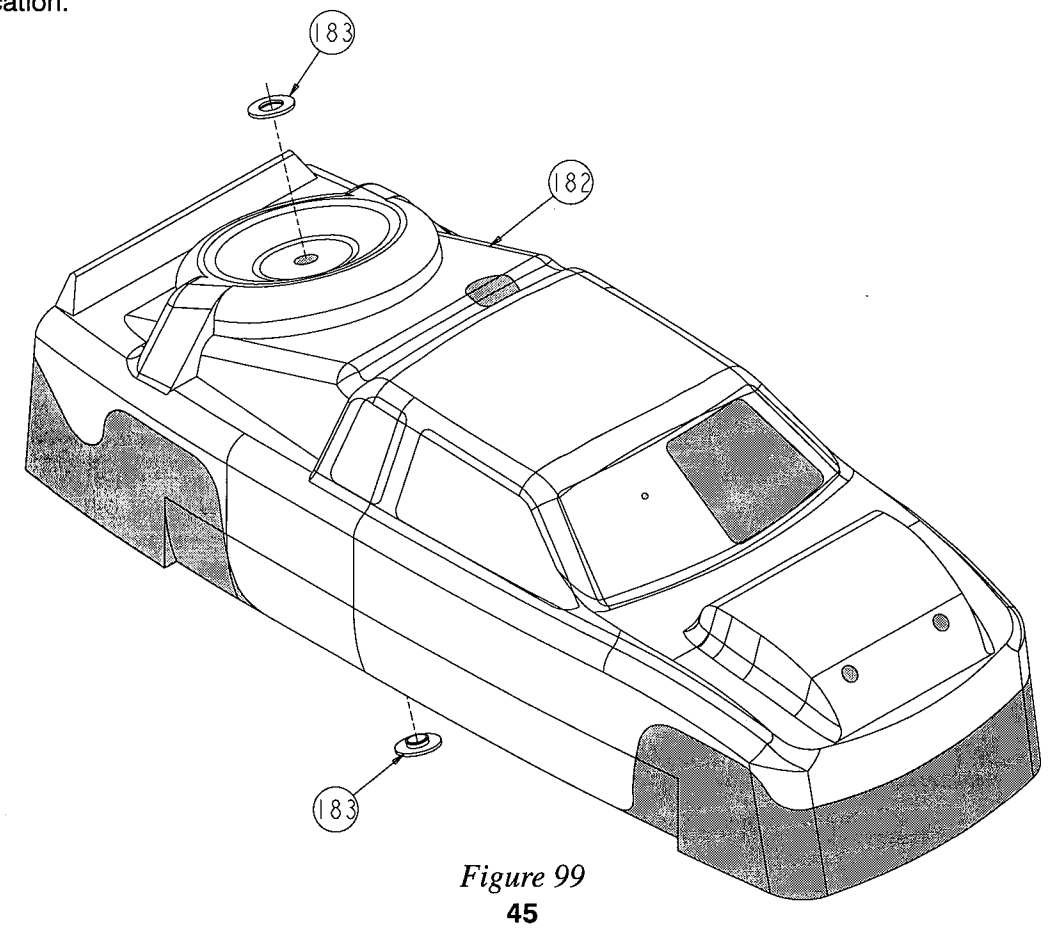


Figure 99

TIPS FROM THE TEAM

TUNING THE ENGINE can be a little tricky at first if you are new to gas powered vehicles. Follow the instructions supplied with your engine for initial needle valve adjustments. Start by closing both the high speed and low speed needle valve all the way. This is done by rotating them as far as they will turn in the clockwise direction. Typically, the high speed needle will need to be adjusted 2-3 full turns open, and the low speed needle to about 2 full turns open.

By turning the needle valve clockwise, the fuel mixture will become leaner—meaning that the engine will draw less fuel. When the needle is turned counterclockwise, the fuel mixture becomes richer—meaning that the engine will draw more fuel. The high speed needle valve affects the fuel mixture at full throttle while, the low speed needle effects the fuel mixture in the mid-range and bottom end of the throttle band.

THE AIR FILTER should be changed when it becomes completely covered with dust or dirt. The cleaner the filter remains, the better the engine can breath, and the better it will run. If the air filter is allowed to become too dirty, some of the dust and dirt can find its way into the carburetor and cause many problems. If the air cleaner should ever come off while operating your truck, stop immediately. **Reattach the air filter before continuing!**

OILING THE FOAM PRE-FILTER can help to keep dust from entering the paper air filter, and eventually finding its way into the carburetor. A good oil to use on the pre-filter is one of the foam filter oils available at any motorcycle shop. These oils are very sticky feeling and will hold the dust on the foam filter. Do not over oil the filter! Squeeze out any excess oil before installing the foam filter over the paper filter. **Never** oil the paper filter element. There are also foam filter cleaners available through most motorcycle shops. These cleaners can be used on the foam filter as well. Be sure to wash any residual cleaner from the foam filter before reinstalling it on the paper filter.

TO SHUT THE ENGINE OFF, simply squeeze the rubber stinger extending from the tuned pipe. Once the stinger is squeezed, and the exhaust can no longer exit the pipe, the engine will stop running.

THE RECEIVER BATTERY is an important, frequently overlooked part of gas powered vehicles. It is important that the batteries always have a fair amount of charge remaining in them. A low receiver battery can cause the truck to have a mind of its own. The result can be a runaway truck or a poor responding radio system. If using alkaline batteries, a fresh set should operate the radio system for at least 1-2 hours of running without a problem. The length of time that a receiver battery pack's charge lasts depend on the type of servos that are used. Some of the high performance servos draw more current than standard servos, and will drain the receiver pack faster. Just remember to check the receiver pack from time to time. When the servos start to operate a little slower, or radio response feels sluggish, the batteries probably need to be replaced.

If you will be using a nicad receiver pack, it is recommended that a minimum battery size of 600 mah and minimum voltage of 4.8 volts be used. A nicad battery will not operate the radio system as long as an alkaline battery. The nicad battery should be charged before every day's outing with your truck, and after about every 45 minutes to 1 hour of operation. If you are planning on racing a long main event, be sure to charge the battery pack before the start of the main.

WHEN CHANGING THE RECEIVER BATTERY keep the two ends that were cut off of the tie straps. These ends can be reused on the new tie straps that are installed after the battery has been changed. By saving the ends, a battery change only requires two new tie straps instead of four.

ATTACHING THE RECEIVER to the center chassis brace with Velcro® can help absorb the shock and vibration that is transmitted through the chassis by the gas engine. This can help prevent some slight glitching in the receiver and can also increase the life of your receiver. Simply attach one side of a piece of velcro with a self adhesive backing to the chassis brace. Attach the other side of the velcro to the bottom of the receiver and stick the receiver to the piece of velcro on the chassis brace. The velcro holds the receiver in place just fine. In fact, this is the method used by most of the team drivers to mount their radio gear.

If you will be running in a very wet condition (or if your pit person is messy with the fuel) you may want to seal you receiver. This can be done by simply placing a small plastic bag over the receiver, or by stretching a small balloon over the top of the receiver. The object is to cover all of the slots that the plugs are installed in, as well as the crystal socket. This will help to keep fuel and water out of the receiver. If either fuel or water enters the receiver, the circuit board can short out and cause the radio to stop operating.

THE CLUTCH BEARINGS included in the kit (all except #A-0951) contain a special lubricant. If the clutch bearings need to be replaced it is important to only replace them with the Team Losi clutch bearings #A-6906. If a different bearing is used, or

if you oil the standard clutch bearings, the lubricant can migrate into the clutch. If lubricant comes into contact with the clutch it will slip and not function properly. For this reason it is also important that you never add oil to the clutch bearings.

If you should ever clean your truck with Armor-All, or a similar cleaner, be careful not to allow any cleaner to enter the clutch parts or the fuel tank. If the cleaner enters the clutch parts, the clutch will slip. If the cleaner enters the fuel tank, the engine will run very poorly.

THE BRAKE PAD on your GTX should be inspected after every 2-3 hours of running. When the pad wears down to the same height as the alignment tab, the pad should be replaced. To replace the pad, remove the old pad with a sharp hobby knife. *Be very careful when handling any sharp hobby knife.* Start to cut the pad off of the brake arm from the side near the hinge pin hole. Be careful not to cut the alignment tab off of the brake arm. This tab serves as both an alignment tab as well as a wear indicator. Attach a new pad in accordance with the instructions.

THE PRESSURE LINE can be removed from the tuned pipe. Doing this will change the setup of the fuel system to run without a pressurized fuel tank. At the time of the printing of this manual we had just started testing this. The results thus far have been very encouraging. We have noticed a better idle for a longer period of time. We have also noticed a better, more consistent throttle response running without pressure. The manual was written to use pressure only because we haven't had the opportunity to test a non-pressurized tank in different temperatures or altitudes. Running without pressure may not work in all climates. It's too early for us to say at this point.

If you would like to try to run without pressure yourself, simply remove the pressure line fuel tubing from the tuned pipe. Route the piece of fuel line back to the top of the rubber header where it attaches to the tuned pipe. Run a small tie strap around the tie strap holding the tuned pipe to the header and use the small tie strap to secure the fuel tubing to the top of the header. Do not tighten the tie strap too much. The fuel tubing can't be pinched or plugged up. The hole in the tuned pipe needs to be plugged. This can be done with a short piece of fuel tubing with a screw inserted in the end of it.

Initially, you will probably notice that the engine will need to be readjusted. We have found the engines a little easier to tune without pressure though.

THE GEAR BOX, or transmission, is the heart of every race car. The GTX is no exception. Although the GTX transmission is very efficient, there are certain adjustments that are necessary for top performance. The differential is the most important. Several greases were tested for use in the differential and the one that we found to work the best is included in the kit. This grease protects the moving parts extremely well, while at the same time allowing the diff to operate smoothly. Since this differential is designed to be "self aligning", it is extremely important to take your time while assembling it to make sure that all of the parts are properly seated into the correct locations.

ADJUSTING THE DIFFERENTIAL This may be a little complicated at first. If you try to do this as you read it, the procedure should be fairly simple. Tighten the slipper nut all the way down. Now, with the wheels installed, and the tires glued in place, hold the right rear tire in your right hand. While holding the tire, place your index finger and thumb over the spur gear. Now try to turn the left rear tire while holding the right rear tire and the spur gear. It should be ***VERY*** difficult to turn the left rear tire. If it turns easily, the diff is too loose. Tighten it by lining up the slot in the diff screw with the slot in the outdrive and placing the small allen wrench through both slots. Now ***slowly*** turn the right rear tire clockwise about 1/8 turn. As long as the diff screw was held in place with the allen wrench, you have just tightened your diff. Pretty easy, huh? Check the adjustment and continue tightening the diff, a little at a time, until the left rear tire can't be turned easily while holding the spur gear and the right rear tire. Be careful no to tighten the diff too much! Once the diff is 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 checked for proper assembly.

Once your diff has been adjusted by hand, start your truck and place it on an asphalt area. Give the truck full throttle from a stop. The diff should not slip. If it does, tighten the diff slightly until it no longer slips.

Remember! The diff was not designed to operate as a slipper. The truck should never be run while the diff is slipping . Doing so can damage the diff balls and drive rings. Always make sure that the slipper will slip before the differential!

If your diff becomes "gritty" feeling, it should be rebuilt. Disassembling, cleaning, and re-lubricating the parts in accordance with the instructions will usually be sufficient. The carbide diff balls that come in the kit should rarely need replacing. If, after cleaning, the diff still feels "gritty" the following parts should be replaced in the order listed: Differential washers #A-3070, thrust bearing assembly #A-3071, carbide diff balls #A-6951. When rebuilding your diff it's a good idea to always replace the lock nut. This will help keep the diff from loosening as you continue to drive your GTX.

SLIPPER ADJUSTMENTS should be made after the diff is properly adjusted. The slipper setting that the manual had you assemble your truck with should be reasonably close to correct. If you have just adjusted you diff, and the slipper nut is tightened all the way, adjust you slipper back to its original adjustment by loosening the lock nut one full turn (360° x 1).

CHANGING THE GEARS on your GTX is a very simple process. The GTX has been designed with a stationary engine mount. This helps to strengthen the chassis and reduce flex. The stationary mount also eliminates the need to readjust throttle linkages when changing the gears. There are several different clutch bell/spur gear sets available for the GTX truck. When changing to a different size gear, both the clutch bell and spur gear need to be changed. By changing both gears the gear mesh remains the same, eliminating the need to move the engine.

FUEL for the gas engines is available at any full service hobby shop. It is highly recommended that you use only O'Donnel or Blue Thunder fuels. Although there are many other fuels available, these two have been tested extensively and have proven to consistently produce the best results. Another common mistake that newcomers will make is to use a fuel with too high of a nitro content. Many enthusiasts think that the more nitro, the faster the truck will go. This statement is true to a certain extent, but we have found that anything above 20% is really just a waste of time (and money!).

BALL BEARINGS are the single biggest improvement that you can make to your new GTX truck if you are running the version that comes with bushings (A-0951). Bearings will increase the life of many of the transmission gears as well as some of the clutch parts.

CAMBER in the front end of the truck is not really changed much. In the front, we will run between one and two degrees of negative camber at ride height. A general rule of thumb is that more negative camber will help the truck go through bumps in turns a little more consistently. Less negative camber can make the truck respond quicker on some tracks with hard packed surfaces.

The rear camber is used to help the truck drive through bumps in corners a little better. Generally, we will run between one and three degrees of negative camber at ride height. More negative camber will make the truck drive through bumps better, but you will usually lose a little straight line rear traction.

FRONT TOE-IN and TOE-OUT is fully adjustable by changing the length of the tie rods. When adjusting this, be sure to adjust both tie rods equally so that the steering balance from left to right will remain the same. Toe-out will make the truck turn into the corner faster, but can cause oversteer. It can also make the truck feel "wandery" exiting corners and cause the truck to hook.

Toe-in makes the truck a little easier to drive, and will make the truck more neutral feeling and more stable exiting corners. We almost always run about one degree of toe-in on the GTX truck.

FRONT RIDE HEIGHT is an adjustment that can change the way a truck jumps, turns, and goes through the bumps. This is an adjustment that can vary from track to track. You should try raising and lowering the front ride height to get a feel for what it does to the handling of the truck. The front ride height should initially be set so that the arms are level at ride height. To set the ride height, drop the front of the truck from about 2-3 inches above the table. Lightly "work" the front suspension up and down. This will "settle" the front suspension at its natural ride height. "Working" the suspension becomes important as the parts start to get dirty and worn from running.

Once the suspension has settled, the arms should be level. If the front end is either too high, or too low, adjust the spring collars accordingly and check the ride height again as described above. Continue this procedure until the front ride height is adjusted to the desired location.

REAR RIDE HEIGHT can change the way a truck turns, the amount of traction a truck has, and the way a truck goes through the bumps. Again, it is a good idea to play with this adjustment and get a feel for it. For most conditions, the rear ride should be set so that the dog bones are level. Adjust the rear ride height in the same way as described in the front ride height section.

CAMBER LOCATIONS on the GTX are very adjustable. Although there are many holes to choose from, it is suggested that the locations in the manual be used. We have done extensive testing with all of these locations both on the track, and on special computer programs, and have found the locations in the manual to be *very consistent* from track to track. These locations should produce the best all around setup and work under all conditions.

REMOVING THE ENGINE can seem slightly difficult when you look at all of the fuel lines and linkages connected to the engine. This is really a simple thing to do though. The easiest procedure that we have found is the following: First, remove the fuel line from the carburetor. Remove the 'E'-clip from the bottom of the throttle pivot and remove the throttle pivot from the servo horn. Loosen the screw in the rear of the center chassis brace (the screw that doesn't pass through the engine mount). Loosen the two forward screws in the transmission. Remove the four screws that hold the engine mounts in place. Slide the engine out of the left side of the chassis. To reinstall the engine, simply reverse these steps.

WORKING ON THE CLUTCH can also seem tough at first. If you only need to work on the clutch, and don't need to remove the engine, follow this procedure: Remove the slipper adjustment nut and all of the slipper parts from the top shaft. Remove the spur gear, gear plate, and slipper pad. Remove the clip from the clutch nut. Remove the clutch nut spacer and the outside bearing (or bushing) from the clutch bell. With the outside bearing (bushing) removed you should be able to rotate the clutch bell slightly so that it can slide off, past the throttle servo. When you are finished working on the clutch, install the clutch bell without the outside bearing (bushing). Once the clutch bell is in place, install the outside bearing (bushing), followed by the clutch nut spacer. Attach the clutch nut clip. Assemble the slipper assembly according to the manual.

The suggestions in this section are only general guidelines. There are so many variables in a racing truck that they can't possibly be listed in a simple tip section. Go to the track, try various combinations of setups, and get a feel for what each one does to the handling. Look for setup updates as well as the latest hot tips in "Tech-Talk" each month in R/C Car Action Magazine.

Good luck with your new GTX. We're sure you will be pleased with it's superb performance.

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
1	4-40 x 3/4" cap head screw	A-6205	4-40 x 3/4" Cap Head Screw (10)
2	Front shock tower	A-1015	Front Shock Tower (LXT, GTX)
3	Top shock mount bushings	A-5008	Upper Shock Mount Bushings (4)
4	3/8" ball stud	A-6000	Ball Studs w/Rod Ends 4-40 x 3/8" (4)
5	4-40 lock nut	A-6305	4-40 Locking Nuts Low Profile
6	Front bulkhead	A-1101	'XX' Front Bulkhead
7	4-40 x 7/8" cap head screw	A-6216	4-40 x 7/8" Cap Head Screw (10)
8	Front suspension arm (left)	A-1016	Front Suspension Arms (LXT, GTX)
9	Front suspension arm (right)	A-1016	Front Suspension Arms (LXT, GTX)
10	1/8" inner front hinge pin	A-1007	Inner Front Hinge Pins (2)
11	1/8" 'E' clip	A-6100	'E'-Clips 1/8"
12	Front body mount	A-4055	Adjustable Front Body Mount (LXT, GTX)
13	Front body mount support	A-4055	Adjustable Front Body Mount (LXT, GTX)
14	4-40 x 3/8" cap head screw	A-6206	4-40 x 3/8" cap head screws (10)
15	Front axle	A-1012	Pro Front Axles (LXT, SE, GTX) (2)
16	Right spindle	A-1017	Front Spindles & Carriers (LXT, GTX)
17	Right spindle carrier	A-1017	Front Spindles & Carriers (LXT, GTX)
18	1/8" king pin	A-1008	Front Outer Hinge Pin/King Pin (LXT, GTX) (2)
19	5-40 set screw	A-6228	5-40 Hardened Set Screws (10)
20	Studded ball washer	A-6215	#4 Narrow Washers (Gold) (10)
21	3/16" ball stud	A-6001	Ball Studs w/Rod Ends 4-40 x 3/16" (4)
22	Left spindle	A-1017	Front Spindles & Carriers (LXT, GTX)
23	Left spindle carrier	A-1017	Front Spindles & Carriers (LXT, GTX)
24	Plastic rod end	A-6005	H.D. 30° Plastic Rod Ends (16)
25	1-7/8" turnbuckle	A-1011	Long L/R Threaded Tie Rod Set 1-7/8" (2)
26	Foam things	A-6003	Foam Things (Linkage Rings) (8)
27	Main chassis	A-4020	Chassis, Black Anodized (GTX)
28	8-32 x 1/2" screws	A-6209	8-32 x 1/2 " Aluminum Flat Head Screws (10)
29	Front bumper	A-4045	Front Bottom Mount Bumper (LXT, SE, GTX)
30	Steering post	A-1514	Steering Post w/Hardware (GTX)
31	4-40 x 3/8" flat head screw	A-6210	4-40 x 3/8" Flat Head Screws (10)
32	Steering bellcrank	A-1507	Rigid Steering Arm Set
33	Steering sector arm	A-1510	Steering Sector Arm w/Screws
34	4-40 x 1/8" cap head shoulder screw	A-6200	4-40 x 1/8" Shoulder Screw
35	Steering idler arm	A-1507	Rigid Steering Arm Set
36	Rubber tank mounting grommet	A-9313	Fuel Tank Mounting Set
37	Center chassis brace	A-4022	Center Chassis Brace (GTX)
38	Fuel tank	A-9310	Fuel Tank (75 cc)
39	#4 washer	A-6201	3mm x 8mm Screws w/Washers (Motor) (10)
40	Steering servo mounting posts	A-9408	Servo Mounting Set (GTX)
41	Throttle servo mount	A-9408	Servo Mounting Set (GTX)
42	4-40 mini lock nut	A-6306	4-40 Aluminum Mini Nuts (10)
43	Diff nut carrier	A-3078	'XX' Trans Diff Screw, Hardware, Seal Set
44	Allen wrenches	N/A	N/A
45	Beveled washers	A-3078	'XX' Trans Diff Screw, Hdwe, Seal Set
46	Diff tube	A-3072	'XX' Trans Diff Tube
47	Outdrive/Diff half	A-3073	'XX' Trans Outdrive Cup/Diff Half
48	Diff grease	A-3065	Silicone Differential Compound
49	Diff washer	A-3070	'XX' Retro Trans Drive Rings (2)
50	5mm x 8mm bearing	A-6907	5mm x 8mm Ball Bearings (XX Trans) (2)
51	5mm x 8mm bushing	A-6923	'XX' Differential Bushing Set (4)
52	Diff gear	A-3076	'XX' Trans Diff Gear Only (2.61:1)
53	3/32" diff balls	A-6951	3/32" Carbide Diff Balls (12)
54	1/4" x 5/16" shim	A-6230	Shim Assortment - 3/16", 1/4", 1/2" (20)
55	Diff adjusting screw	A-3078	'XX' Trans Diff Screw, Hdwe, Seal Set
56	Foam thrust bearing seal	A-3078	'XX' Trans Diff Screw, Hdwe, Seal Set

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
57	3mm x 8mm thrust bearing washer	A-3071	'XX' Trans Thrust Bearing Assy.
58	3mm x 8mm thrust bearing	A-3071	'XX' Trans Thrust Bearing Assy.
59	4-40 x 1" set screw	A-3060	'XX' Slipper Shaft, Spacer & Hardware
60	Slipper shaft	A-3060	'XX' Slipper Shaft, Spacer & Hardware
61	1/16" x 5/16" spirol pin	A-3060	'XX' Slipper Shaft, Spacer & Hardware
62	Top gear	A-3077	'XX' Trans Upper Gear, Idler, Shaft (2.61:1)
63	3/16" 'C' clip	A-6102	'C' clips, .1875 (3/16") - Large (12)
64	3/16" x 3/8" bearing	A-6903	3/16" x 3/8" Ball Bearing (2)
65	3/16" x 3/8" bushing	A-6930	Complete Bushing Set (GTX)
66	Left gearbox half	A-3084	Transmission Case Set (GTX)
67	1/2" x 3/4" bearing	A-6908	1/2" x 3/4" Bearings w/Teflon Seal (XX Trans) (2)
68	1/2" x 3/4" bushing	A-6930	Complete Bushing Set (GTX)
69	Right gearbox half	A-3084	Transmission Case Set (GTX)
70	Idler gear shaft	A-3075	'XX' Trans Upper Gear, Idler, Shaft (2.19:1)
71	Brake arm pin	A-1006	1/8" x .690" hinge pin (2)
72	1/8" x 3/8" bearing	A-6909	1/8" x 3/8" Bearings (XX Trans) (2)
73	1/8" x 3/8" bushing	A-6930	Complete Bushing Set (GTX)
74	Idler gear	A-3087	Idler Gear (GTX)
75	Transmission brace	A-4025	Transmission Brace (GTX)
76	4-40 x 1-1/8" button head screw	A-3062	Transmission Screw Set (GTX)
77	4-40 x 1-1/8" cap head screw	A-3062	Transmission Screw Set (GTX)
78	Brake pad	A-9403	Brake Pad (4)
79	Brake arm	A-9401	Brake Arm w/Pad
80	3/16" x 5/16" bushing	A-6930	Complete Bushing Set (GTX)
81	Spur gear 76 tooth	A-3916	76 Tooth, 32 Pitch Spur Gear (GTX)
82	Slipper back plate/brake drum	A-3134	Slipper Back Plate/Brake Drum (GTX)
83	Slipper pad	A-3123	Slipper Friction Pad
84	Slipper gear plate	A-3122	Slipper Gear Plate
85	Slipper spring cup	A-3124	Slipper Springs, Cup, Washer
86	1/4" x 9/16" thrust washer	A-3125	1/4" x 9/16" Thrust Bearing Assy
87	1/4" x 9/16" thrust bearing	A-3125	1/4" x 9/16" Thrust Bearing Assy
88	Slipper spacer	A-3124	Slipper Springs, Cup, Washer
89	Gold slipper spring	A-3124	Slipper Springs, Cup, Washer
90	Spring retaining washer	A-3124	Slipper Springs, Cup, Washer
91	Forward rear suspension pivot	A-2037	Rear Suspension Mount Set 4° (GTX)
92	Inner rear hinge pin	A-2031	Inner Rear Hinge Pin (GTX)
93	Right rear suspension arm (Marked "L")	A-2041	Rear Suspension Arms (LXT, GTX) (2)
94	Left rear suspension arm (Marked "R")	A-2041	Rear Suspension Arms (LXT, GTX) (2)
95	Back rear suspension pivot	A-2037	Rear Suspension Mount Set 4° (GTX)
96	Rear shock tower	A-2043	Rear Shock Tower (GTX)
97	Dog bone	A-3082	Dog Bone/Drive Shaft w/Yoke (LXT, GTX)
98	Universal yoke	A-3083	Yoke & Screw for Dog Bone/Drive Shaft (2)
99	Universal pivot	A-3014	Universal Pivots (2)
100	Rear axle	A-3015	Rear Axle, Spacer & Pin (1)
101	3/32" x 1/2" spirol pin	A-6400	Pins, U-Joint (8)
102	Assembly wrench	A-2012	Assembly Wrench
103	Rear hub	A-2038	Extra Rigid Rear Hubs (LXT, GTX) (2)
104	Rear axle spacer	A-3016	Rear Axle Spacer & Pin
105	1/16" x 7/16" pin	A-6401	Pins, Wheel & Gear (4)
106	Outer rear hinge pin	A-2007	Hinge Pin 1.42" (XXT, GTX)
107	Rear hub spacer	A-2033	Rear Hub Spacer (GTX) (8)
108	Shock 'O' ring	A-5015	Double 'O' Ring Shock Cartridge (Front/Rear)
109	Shock cartridge body	A-5015	Double 'O' Ring Shock Cartridge (Front/Rear)
110	Shock cartridge spacer	A-5015	Double 'O' Ring Shock Cartridge (Front/Rear)
111	Shock cartridge cap	A-5015	Double 'O' Ring Shock Cartridge (Front/Rear)
112	Shock fluid	A-5224	SILATECH Competition Shock Fluid 350/30 wt

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
113	Front shock shaft	A-5005	Shock Shaft .9"
114	Rear shock shaft	A-5022	Shock Shaft 1.2"
115	Shock end	A-5023	Spring Clamp & Cups (2)
116	1/4" swivel ball	A-2006	Swivel Suspension Balls .250" (8)
117	Shock spacers	A-5015	Double 'O' Ring Shock Cartridge (Front/Rear)
118	Shock piston	A-5046	Teflon Shock Pistons #56, Red (4)
119	Front shock body	A-5030	.9" Shock Body Hard Anodized
120	Rear shock body	A-5031	1.2" Shock Body Hard Anodized
121	Shock spring cup	A-5023	Spring Clamp & Cups (2)
122	Shock spring	A-5152	2.5" Spring 2.6 Rate (Red) (2)
123	Shock collar	A-5023	Spring Clamp & Cups (2)
124	4-40 x 1/2" cap head screw	A-6204	4-40 x 1/2" Cap Head Screws (10)
125	Front tire	A-7500	Front Ribbed (HT)
126	Rear tire	A-7638G	Rear IFMAR PIN (Gold) w/Foam Liners
127	Front wheel	A-7071	Front Disc Wheels w/Caps - (Natural) (LXT, GTX)
128	Rear wheel	A-7171	Rear Disc Wheels w/Caps - (Natural) (LXT, XXT, GTX)
129	Foam tire liners	A-7699	Truck CLOUDS Foam Liners
130	Front wheel disc	A-7198	Truck Disc Wheel Cap Set (LXT, GTX)
131	2-56 x 5/16" button head screw	A-6225	2-56 x 5/16" Button Head Screws (10)
132	3/16" x 3/8" plastic bushing	A-6930	Complete Bushing Set (GTX)
133	Front axle spacer	A-3023	Offset Rear Axle/Front Axle Spacer Set
134	10-32 lock nut	A-6303	10-32 Locking Nuts (4ea Nylon & Steel) (8)
135	Rear wheel discs	A-7198	Truck Disc Wheel Cap Set (LXT, GTX)
136	Outdrive shim	A-6230	Shim Assortment - 3/16", 1/4", 1/2"
137	Clutch pin/screw	A-9375	Flywheel Pins/Screws (4)
138	Flywheel	A-9372	Flywheel w/Pins (2 Pin, Steel)
139	Flywheel shim	A-9376	Flywheel Collet w/shims
140	Flywheel collet	A-9376	Flywheel Collet w/shims
141	Clutch nut	A-9369	Clutch Nut
142	Clutch spring	A-9365	Clutch Shoe Springs (4)
143	Clutch shoe	A-9360	Clutch Shoe (Teflon® Composite) (2)
144	1/4" x 3/8" clutch bearing	A-6906	1/4" x 3/8" Flanged Ball Bearing (2)
145	1/4" x 3/8" clutch bushing	A-6930	Complete Bushing Set (GTX)
146	Clutch bell 18 tooth	A-9377	18 Tooth Clutch Bell w/76 Tooth Spur Gear (32 Pitch)
147	Clutch nut spacer	A-9369	Clutch Nut
148	1/4" clutch nut clip	A-9370	Clutch Nut Clips (8)
149	Throttle return spring eyelet	A-9409	Throttle Return Spring & Eyelet
150	Engine mount spacer	A-9335	Engine Mount Set w/Hardware
151	Engine mount	A-9335	Engine Mount Set w/Hardware
152	4-40 x 5/8" cap head screw	A-6221	4-40 x 5/8" Cap Head Screw (6)
153	Throttle return spring	A-9409	Throttle Return Spring & Eyelet
154	Paper air filter element	A-9302	Paper Air Dilter Element
155	Air filter boot	A-9304	Air Filter Boot (Rubber)
156	Foam pre-filter	A-9303	Foam Pre-Filter (4)
157	4" tie strap	N/A	N/A
158	4-40 x 7/8" flat head screw	A-6226	4-40 x 7/8" Flat Head Screw (6)
159	Exhaust manifold	A-9320	Aluminum Exhaust Flange/Manifold
160	Exhaust header	A-9323	Silicone Exhaust Header
161	Tuned pipe	A-9326	Muffler/Tuned Pipe
162	Pipe mounting bracket	A-9330	Pipe Mounting Bracket w/Hardware
163	2-1/4" turnbuckle	A-6038	Adjustable Threaded L/R Rod Set w/Ends 2.25"
164	3/8" Silicone tubing	A-9327	Exhaust Stinger& Stinger Sleeve
165	Aluminum stinger sleeve	A-9327	Exhaust Stinger& Stinger Sleeve
166	Fuel tubing	A-9315	Fuel Tubing (24")
167	4-40 nut	A-6300	4-40 Hex Nuts
168	Throttle servo horn	A-9406/7	Throttle Servo Horn (A-9406 = 23 spline, A-9407 = 25 spline)
169	Throttle pivot	A-9405	Brake/Throttle Linkage Set

SPARE PARTS LIST

KEY #	KIT/PART DESCRIPTION	PART NO.	SPARE PARTS DESCRIPTION
170	3/32" 'E' clip	A-6103	'E'-Clips 3/32"
171	Short plastic rod end	A-1615	Short Ball Cups & Threaded Rods
172	Two sided tape (thick)	A-4004	Servo Tape (6)
173	Antenna tube	A-4002	Antenna Kit
174	Antenna cap	A-4003	Antenna Caps (8)
175	Short 'Z' bend wire	A-9405	Brake/Throttle Linkage Set
176	Linkage adjustment collar	A-9405	Brake/Throttle Linkage Set
177	4-40 set screw	A-6227	4-40 Hardened Set Screws (10)
178	Long 'Z' bend wire	A-9405	Brake/Throttle Linkage Set
179	Linkage spring	A-9405	Brake/Throttle Linkage Set
180	Receiver battery pad	A-4029	Foam Pad for Receiver Battery Mounting
181	8" tie strap	N/A	N/A
182	GTX body	A-8018	GTX Truck Body w/ Masks
183	Body saver	A-8201	Body Washers, Snap-Fit
184	Body clips	A-8200	Body Clips (12)
185	Window masks	A-8018	GTX Truck Body w/ Masks
186	Sticker sheet	A-8316	GTX Sticker Sheet
187	1-1/8" turnbuckle	A-2005	Adjustable L/R Threaded Rods w/Ends (1.125") (2)

GLOSSARY of R/C TERMS

Ackerman — The degree of difference in the steering angle between the inside and outside wheel when the truck is turning.

Anti-squat — The angle, from horizontal, of the inner rear hinge pin in relationship to the chassis. Anti-quat helps to keep the rear suspension from squatting under acceleration.

C.G. (center of gravity) — The point on the chassis at which the truck balances with all components installed.

Camber — The angle, from vertical, of the wheels. Negative camber is when the top of the tire is closer to the center of the truck than the bottom of the tire. Negative camber is commonly used to add stability in bumps. Positive camber is when the bottom of the tire is closer to the center of the truck than the top of the tire. Positive camber is not commonly used.

Camber link — The rod assembly used to connect the rear hub to the rear bulkhead and the front spindle carrier to the front shock tower.

Caster — The angle, from vertical, of the king pin in relationship to the ground.

Glitch — The most dreaded term ever to be heard around radio controlled vehicles. This is a term used to describe when the truck does something different than what you tell it to do because of radio interference. This can happen for several reasons. The most common are: 1) someone turning on a radio that is on a frequency too close to your own, and 2) The voltage in the receiver battery is low, or the alkaline batteries replaced.

Kick-up — The angle of the entire front suspension, from horizontal, in relationship to the rest of the chassis.

Lean — A term used to describe the way an engine is running when it is not drawing enough fuel.

Oversteer — A situation in which the front tires have more traction than the rear tires. This causes the rear tires to lose traction in corners.

Rich — A term used to describe the way an engine is running when it is drawing too much fuel.

Ride height — The point at which the truck naturally rides.

Tie rod — The rod assembly used to connect the steering bellcrank and the steering idler arm to the spindle arms.

Toe-in — The front edge of both tires are closer together than the rear edge of both tires.

Toe-out — The front edge of both tires are farther apart than the rear edge of both tires.

Understeer — A situation in which the rear tires have more traction than the front tires. This causes the truck to have inadequate steering.