

**XXX  
NT2**  
ADAM DRAKE



1/10 Scale 2wd Nitro Powered Off-Road Racing Truck

# XXX-NT AD2 OWNER'S MANUAL

Carefully read through all instructions to familiarize yourself with the parts, construction technique, and tuning tips outlined in this manual. Being able to grasp the overall design of your new XXX-NT AD2 racing truck before beginning the construction process will ensure a smooth assembly.

Take your time and pay close attention to detail. Keep this manual for future reference.

**TEAM LOSI**

*Always Racing Towards The Future.*

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**MADE IN THE UNITED STATES OF AMERICA**

P/N - 800-0234  
M.D.B.  
12/1/2004

# WELCOME XXX-NT AD2 OWNER!

Thank you for choosing the Team Losi *XXX-NT ADAM DRAKE, Edition 2*. During the past year, I, along with Team Losi engineers and team members, have done extensive testing and development to give you the truck you just purchased. In addition to the many specialty parts used on my previous race winning truck. The *AD2* includes a host of new and revised parts to increase durability and handling that have helped me and my team mates get to the winners circle time and time again. I think you will find it is tougher, faster, and easier to drive than anything out there. As you build your new *XXX-NT AD2* kit, be sure to read and follow the instructions carefully and don't forget to check out the set-up and tuning tips in the back of this manual. I hope you will enjoy your new Team Losi *XXX-NT AD2* as much as I do and wish you much success. See you at the track!

Good Luck!



## 1. INTRODUCTION

### XXX-NT ADAM DRAKE EDITION 2 COMPLETED KIT DIMENSIONS

Length: 16-1/2"

Wheel base: 11-1/4"

Front Width: 12-3/4"

All dimensions at ride height.

Rear Width: 12-3/4"

Weight may vary

Height: 5-1/4"

P/N: LOSA0846


### NOTES & SYMBOLS USED


#### Step A-1


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

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

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

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

 The Team Losi Icon designates a performance tip. These tips are not necessary, but can improve the performance of your XXX-NT AD2 truck.

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

### KIT/MANUAL ORGANIZATION

This kit is composed of different bags marked A through I. Each bag contains all of the parts necessary to complete a particular section of the XXX-NT Adam Drake Edition 2 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 parentheses) have been assigned to each part and remain the same throughout the manual. In some illustrations, parts which have already been installed are not shown so that the current steps can be

illustrated more clearly.

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

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

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

### IMPORTANT SAFETY NOTES

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

2. The shock fluid and greases supplied should be kept out of children's reach. *They 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 during operation.

### TOOLS REQUIRED

Team Losi has supplied all Allen wrenches and two special wrenches that are 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. However, we recommend using a steering servo with a minimum of 50 oz-in of torque.

## 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 and Button 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 this truck is a special blend of methanol, oils, and nitromethane. This fuel is highly flammable and should be treated with extreme caution. Be sure to read any warnings and cautions that appear on the packaging of the fuel. Because exhaust fumes are produced from running fuel powered models, this truck should not be operated indoors. Be careful when handling your truck while the Engine is running. Avoid pointing the exhaust outlet towards your face. The exhaust fumes can cause irritation and burning of the eyes.

There are a number of different brands of model fuels available. We have found that fuels specially blended for R/C car use like Blue Thunder, White Lightning, and Trinity perform Best. Team Losi does not recommend using common model airplane or helicopter fuels. Model airplane fuels usually do not have the proper type or amount of oil needed for the extreme demands of R/C car racing.

## FUEL BOTTLE

You will need some sort of a fuel bottle in order to fill the tank with fuel. Your local hobby shop should have fuel bottles and any other accessories you may need.

## STARTERS

This kit is designed for **non-pull start** engines. You will need to have some sort of an electric starter in order to start the engine. Team Losi has developed a starter box especially for the XXX-NT AD2 platform, LOSA99060. When attempting to start the engine in your XXX-NT AD2 truck with an electric starter, make certain that the engine is being turned the correct direction (counter-clockwise when looking at the front of the engine). Turning the engine over the wrong direction will cause the engine to not start or possibly run backwards.

## GLOW IGNITER

You will also need a glow plug igniter in order to start the engine in your XXX-NT AD2 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

## Step A-1 Servo Saver Assembly:



6

- ❑ 1. Place the Servo Saver Bottom (1) over the Servo Saver Post (2) and slide the Servo Saver Bottom all the way against the hex at the opposite end. Be sure that the hex on the Servo Saver Post is inserted into the hex in the Servo Saver Bottom.
- ❑ 2. Slide the Servo Saver Top (3) down over the Servo Saver Post so that the 'V' area of the Servo Saver Top rests in the 'V' area of the Servo Saver Bottom. The arm on the Servo Saver Top and the arm on the Servo Saver Bottom should now point in opposite directions as shown in Figure A-1.
- ❑ 3. Slide the Servo Saver Spring (4) over the Servo Saver Post and push it into the recessed area of the Servo Saver Top. Install the Servo Saver Spring Cap (5) and thread the 6-40 Locknut (6) onto the end of the Servo Saver Post.
- ❑ 4. Tighten the 6-40 Locknut all the way down and then loosen it two full turns (e.g.  $360^\circ \times 2$ ). This is a good starting point for the adjustment. Once assembly is complete, if you wish, the servo saver can be adjusted tighter or looser.

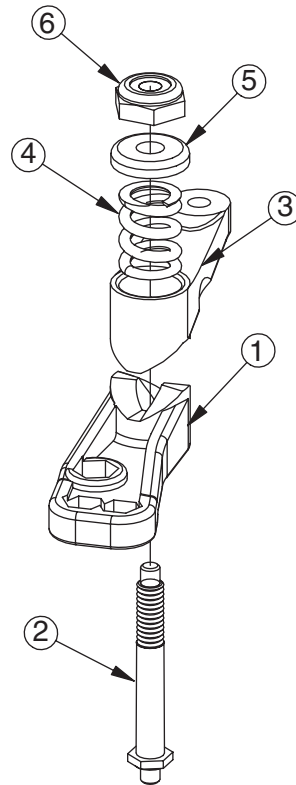


Figure A-1

## Step A-2 Ball Stud Install:



7



11

- ❑ 1. Insert a 4-40 Mini-Locknut (7) into the outer hex area in the Servo Saver Bottom (1) and steering Idler Arm (8) as shown in Figure A-2. Thread a 3/16" Ball Stud (11) through the outside hole in the Servo Saver Bottom and steering Idler Arm and into the Nuts, and tighten. Insert a 4-40 Mini-Locknut into the hex area, on the underside of the Servo Saver Top (3). Thread a 3/16" Ball Stud through the hole in the Arm, into the Nut, and tighten.
- ❑ 2. Insert a 4-40 Mini-Locknut into the hex areas in the rear holes of the Servo Saver Bottom and the steering Idler Arm as shown in Figure A-2. Thread a 3/16" Ball Stud through the Arms, into each Nut, and tighten.

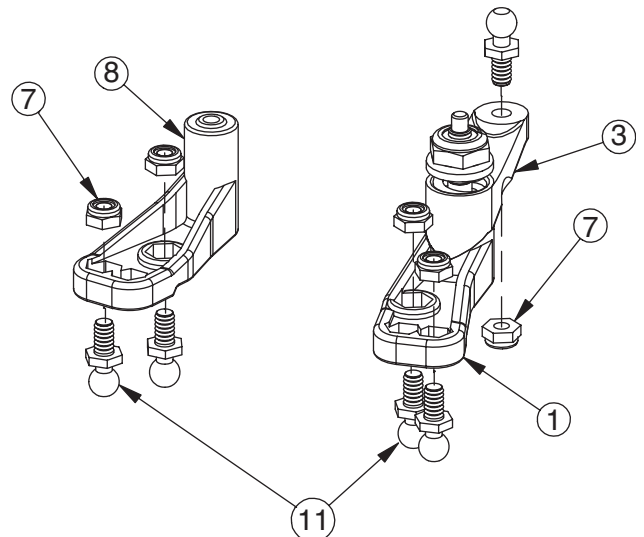


Figure A-2

# BAG A (Continued)

## Step A-3 Servo Draglink:

*\*NOTE: Be sure to snap each end of the Draglink onto the correct Ball Stud as shown!*

- ❑ 1. Snap one end of the steering Draglink (12) onto the rear Ball Stud (11) on the Servo Saver Bottom (1). Snap the other end of the Draglink onto the rear Ball Stud on the steering Idler Arm (8).

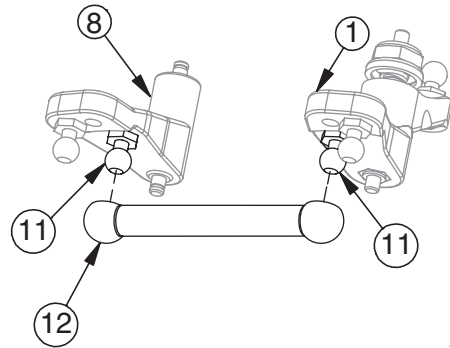


Figure A-3

## Step A-4 Threaded Insert Install:



18

- ❑ 1. Install a Threaded Insert (18) into the top of each of the two forward holes in the front Kickplate (14). The inserts should be installed with the hex-side up as shown in Figure A-4. Press the Threaded Inserts all the way into the holes in the Kickplate, lining up the hex on the inserts with the hex in the holes.

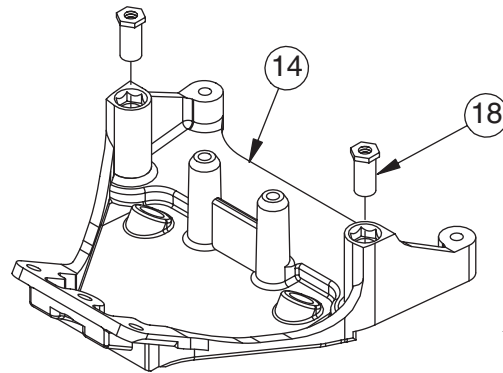
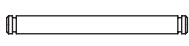


Figure A-4

## Step A-5 Steering Install:



13



16



17

- ❑ 1. Insert a 3/32" x 3/16" Ball Bearing (13) into each of the two, angled holes in the bottom of the front Kickplate (14). Insert the other two Bearings into the two outer holes in the Steering Brace (15).

- ❑ 2. Insert a 3/32" x .930" Hinge Pin (16) through the hole in the steering Idler Arm (8) and center the Hinge Pin in the Idler Arm. Place the Servo Saver assembly and the steering Idler Arm into the Bearings in the Kickplate so that the installed Draglink is to the front as shown in Figure A-5.

 There is a short Thread-Cutting Screw included in the Wrench bag. This Screw can be used to tap threads in the holes in the Kickplate. Pre-tapping these holes makes it easier to install the Screws during assembly.

- ❑ 3. Place the Steering Brace on top of the Servo Saver assembly and steering Idler Arm ensuring that the Ball Bearings slide over the Pins.

- ❑ 4. Secure the Steering Brace to the Kickplate using two 4-40 x 3/8" Cap Head Screws (17).

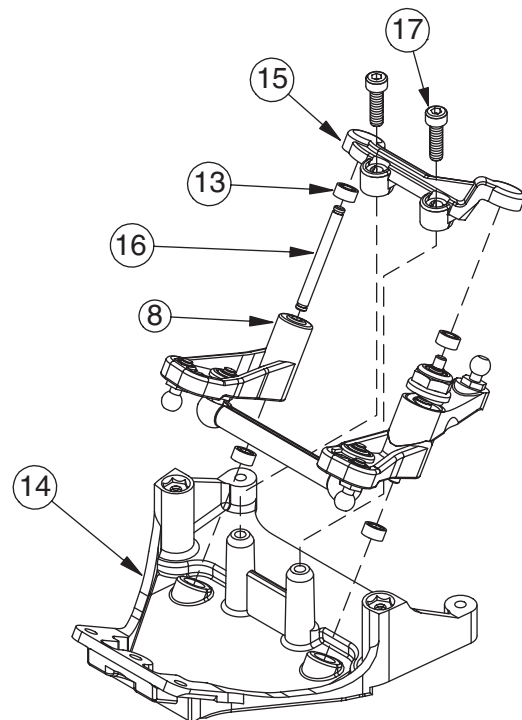
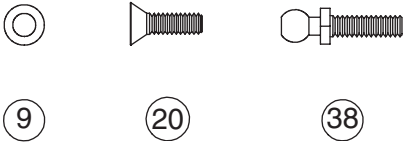


Figure A-5

# BAG B

## Step B-1 Front Bulkhead Install:



1. Secure the front Kickplate (14) to the front Bulkhead (32) by threading a 4-40 x 3/8" Flat Head Screw (20) through the center hole in the front of the Kickplate and into the Bulkhead.

2. Place one Ball Stud Washer (9) over each of the two 3/8" Ball Studs (38). Thread the 3/8" Ball Stud into the outside of the three camber position holes (#3 hole), on each side of the front Bulkhead.

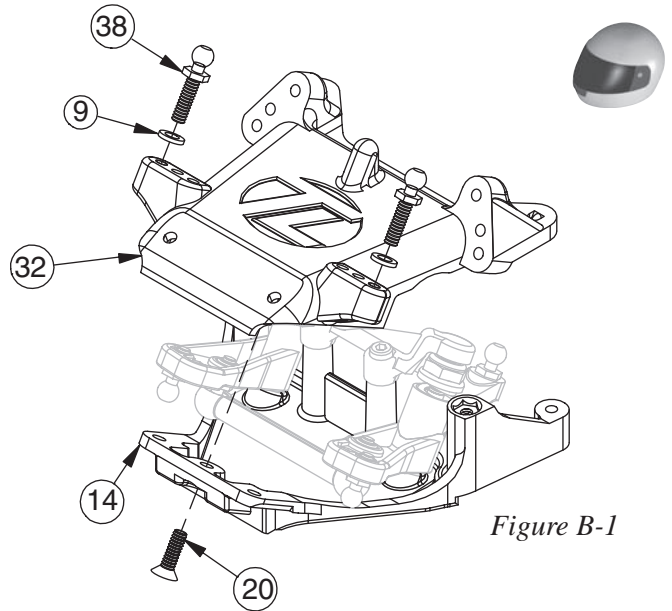
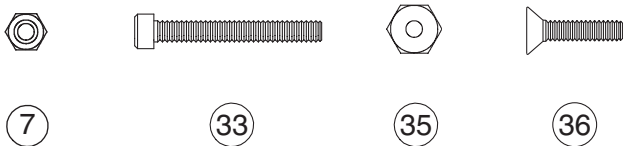


Figure B-1

## Step B-2 Front Shock Tower Assembly:



1. Insert two 4-40 x 7/8" Cap Head Screws (33) — one on each side — through the second hole out (#2 hole) in the top of the front Shock Tower (34). Secure the Screws to the Shock Tower by threading a 4-40 Nut (35) over each Screw and tightening.

2. Press a 4-40 Mini Locknut (7) into the hex area in the top, rear of each side of the front Shock Tower. Insert a 4-40 x 1/2" Flat Head Screw (36) into each of the two front Body Mounts (37) from the side with the recess for the head of the Screw.

3. Attach a front Body Mount to the front of each side of the front Shock Tower so that the posts point up as shown in Figure B-2. Secure the Body Mounts by threading the Screws through the Tower and into the Locknuts.

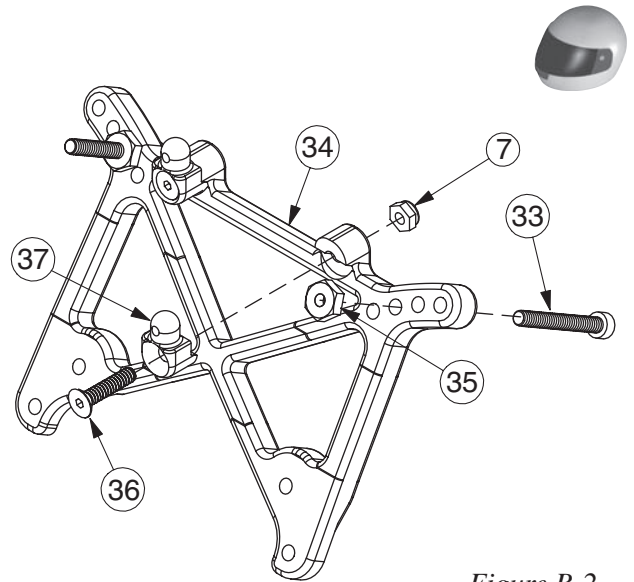
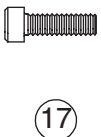


Figure B-2

## Step B-3 Front Shock Tower Install:



**IMPORTANT NOTE:** The Screws in the top of the Shock Tower must be pointing forward as shown in Figure B-3.

1. Attach the front Shock Tower (34) to the front Bulkhead (32) with four 4-40 x 3/8" Cap Head Screws (17). The Screws thread into the top and bottom holes in the Bulkhead, corresponding with the appropriate holes in the front Shock Tower. The middle holes in the Bulkhead are not used.

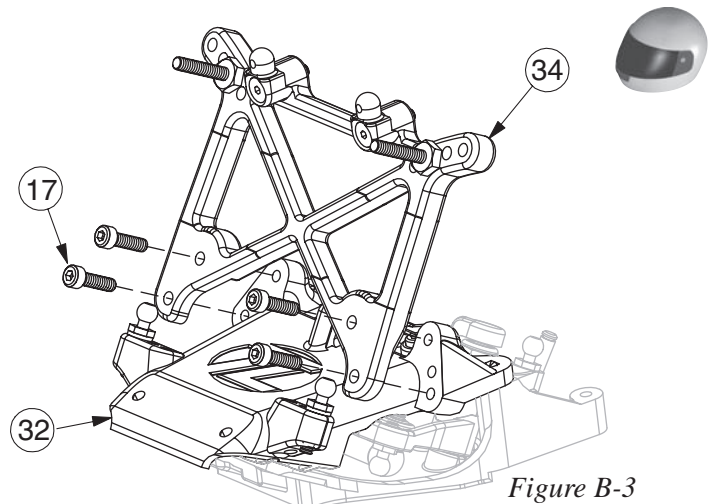


Figure B-3

# BAG B (Continued)

## Step B-4 Spindle Carrier Assembly:



(47) (45) (46) (44)

- ❑ 1. Insert a front Axle (39) into each of the front Spindles [left (42), right (40)] as shown. The hole in the Axle should line up with the hole in the Spindle.
- ❑ 2. Attach the left Spindle (42) to the left Spindle Carrier (43) by aligning the holes in each part and inserting a 1/8" x 1.250" Hinge Pin (44) from the bottom. Do not insert the Pin all the way through both parts yet.
- ❑ 3. Insert a plastic .050" front Spindle Spacer (45) between the top of the Spindle and the Spindle Carrier as shown in Figure B-4. Once the Spacer is in place, insert the Hinge Pin through the Spacer and the top of the Spindle Carrier.
- ❑ 4. Center the Hinge Pin and secure it with two 1/8" E-clips (46). Apply a small drop of Thread Lock (119) (found in this bag) to a 5-40 Set Screw (47). With the Hinge Pin still centered, thread the Set Screw into the back side of the Axle and tighten.
- ❑ 5. Repeat Steps 1-4 for the right Spindle (40) and right Spindle Carrier (41).

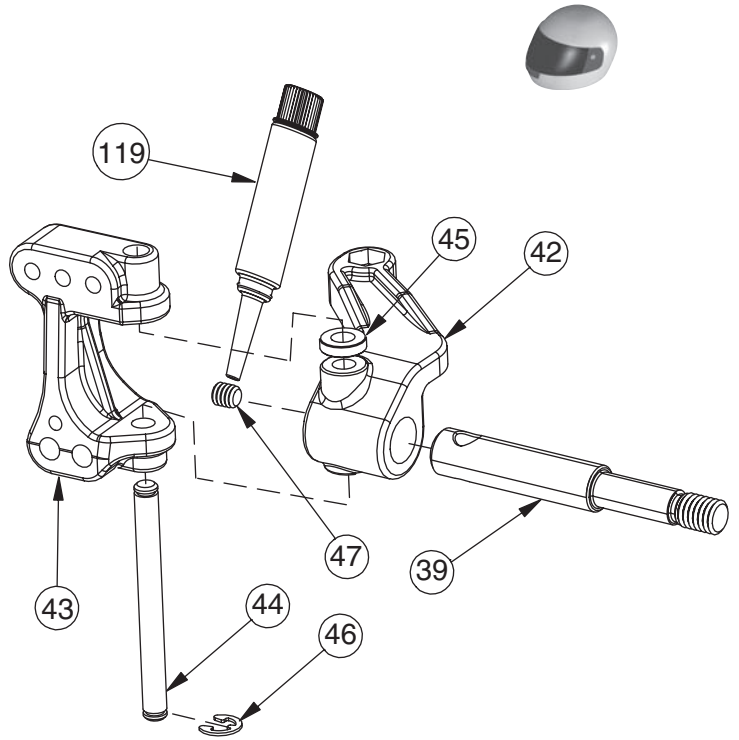
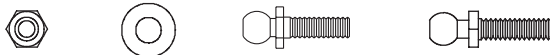


Figure B-4


## Step B-5 Ball Stud Install:



(7) (23) (72) (38)

**⚠ IMPORTANT NOTE:** Do not overtighten the Ball Studs in the Spindle Carriers.

- ❑ 1. Insert a 3/8" Short Head (Silver Colored) Ball Stud (72) into the middle of the top holes in the left Spindle Carrier (43), from the front as shown, and tighten.
- ❑ 2. Insert a 4-40 Mini Locknut (7) onto the hex area in the top of the left Spindle (42). Place a #4 Washer (23) over a 3/8" Ball Stud (38) and thread it into the Mini Nut from the bottom of the Spindle, and tighten.
- ❑ 3. Repeat Steps 1-2 for the right side Spindle Carrier Assembly.

 Once assembly of your new XXX-NT AD2 is complete, you may notice that the tires toe-in slightly as the suspension compresses. We have found this setting to yield the best performance. Should you prefer to change this so that the tires do not toe in, you can remove the Ball Stud Washer under the Ball Stud on the Spindles.

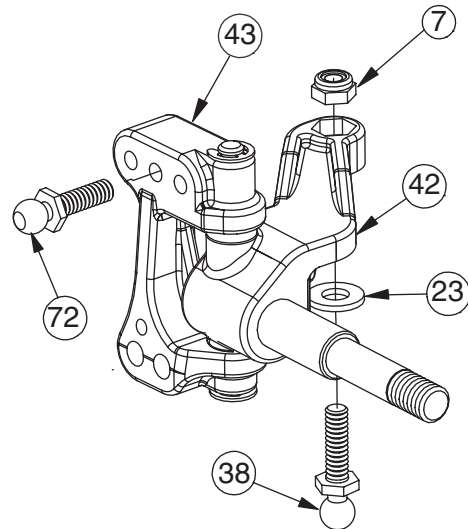
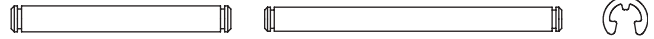


Figure B-5

# BAG B (Continued)

## Step B-6 Front Suspension Assembly:




(50)

(51)

(46)

- ❑ 1. Place the left Spindle and Carrier assembly (Figure B-6) into a front suspension Arm (48) as shown in Figure B-6. Note that the Spindle Arm faces the side of the suspension Arm with the Shock mount holes (rear) and the Ball Stud (72) in the Spindle Carrier is pointing forward. Line up the two sets of holes in the left Spindle Carrier (43) with the holes in the front Arm. Install a 1/8" E-clip (46) on one end of each 1/8" x .960" Hinge Pin (50) and slide it through the outer-most of the two holes in the Arm and Spindle Carrier. Attach a 1/8" E-clip to the other side of the Hinge Pin.
- ❑ 2. Install a 1/8" E-clip on one end of each inner 1/8" x 1.42" Hinge Pin (51).
- ❑ 3. Attach the Arm to the left side of the front Pivot Block (49) by inserting Hinge Pin from the back side, through the inside hole in the front Arm and Pivot Block, as shown in Figure B-6.
- ❑ 4. Repeat Steps 1-3 for the right Spindle and Carrier assembly and remaining front suspension Arm.
- ❑ 5. Slide the front Hinge Pin Brace (52) over both front inner Hinge Pins with the flat side pointing down. The E-clip grooves in both Hinge Pins should be exposed in front of the Brace. Secure the Brace by installing a 1/8" E-clip to the front of each Hinge Pin.

 The XXX-NTAD2 has been designed with Variable Length Arms (VLA). For a more detailed description of the VLA system, please read the VLA section in the back of this manual.

 **IMPORTANT NOTE:** Make sure that the Hinge Pin is installed into the outer-most hole for both the VLA Arms and Spindle Carriers.

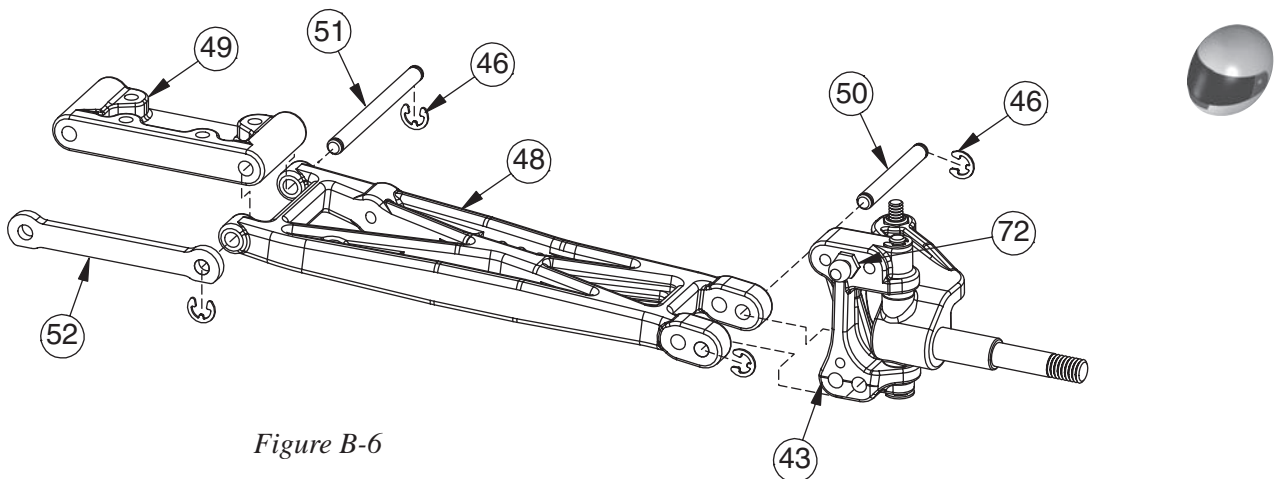


Figure B-6

## Step B-7 Front Suspension Install:



(21)

(75)

- ❑ 1. Hold the Chassis assembly upside down. Place the front Pivot Block (49) over the front edge of the front Kick plate (14) as shown in Figure B-7. The front edge of the front Bulkhead (32) should be positioned between the front Pivot Block and the Hinge Pin Brace (52).
- ❑ 2. While holding the front suspension assembly in place, position the front Bumper (53) on the bottom of the front Pivot Block so that the four holes in the Bumper are aligned with the four holes in the Pivot Block. The Bumper should be attached as shown so that the edges curve towards the top of the Chassis. Secure the Bumper and Pivot Block to the front Bulkhead and Kickplate by threading two 4-40 x 5/8" Flat Head Screws (21) through two forward-most holes in the Bumper and Pivot Block and into the Bulkhead.
- ❑ 3. Thread the two 4-40 x 7/8" Flat Head Screws (75) through the two remaining holes in the front Bumper and into the Bulkhead.

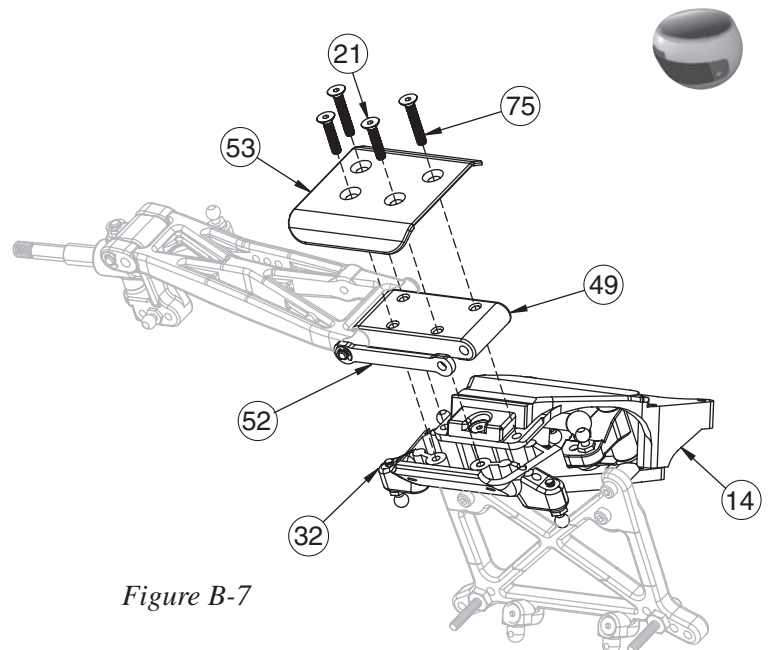
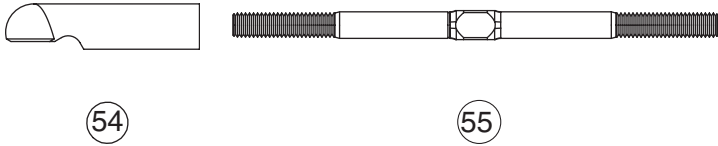



Figure B-7



# BAG B (Continued)

## Step B-8 Tierod - Camber Link Assembly:



 There is a small container/package of White Grease (71) in this bag. It is recommended that a small amount of this be applied to the threads of the Turnbuckles before trying to thread on the plastic Rod Ends. Please use this lube sparingly as it will be used during the assembly of the Differential as well.

*\*NOTE: The two ends of the Turnbuckle are threaded opposite. The end closest to the groove, next to the square, has standard right-hand threads, the other end has left-hand threads. This allows the length of the Tierods, once installed, to be adjusted without removing them.*

❑ 1. Thread a plastic Rod End (54) onto each end of a 2-3/8" Turnbuckle (55). Tighten both Rod Ends equally until the Tierod is the same length, and the Rod Ends are in the same orientation, as the assembled Tierod in Figure B-8B (Left).

❑ 2. Assemble the second camber link with the Rod Ends orientated as Figure B-8B (Right).

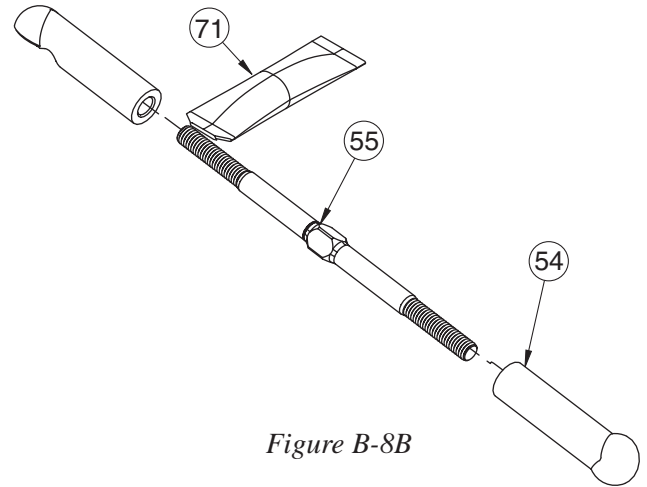


Figure B-8B

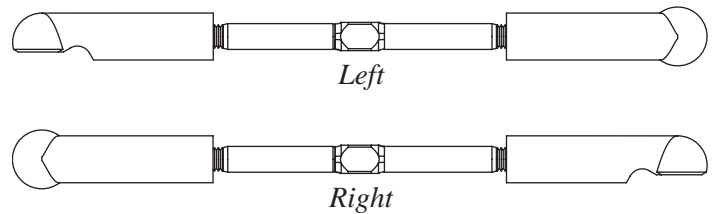


Figure B-8A

## Step B-9 Camber Link Install:

*\*NOTE: Assure that the grooves on all of the front Turnbuckles are located on the drivers right-hand side for easier adjustment later.*

❑ 1. Place a "Foam Thing" (56) over the Ball Studs (72) on each of the Spindle Carriers (41) (43) and on the Ball Studs (38) (72) on both sides of the Bulkhead (32). Next, attach one side of a camber link assembly (Figure B-8B; Left) to the Ball Stud on the left side of the Bulkhead. Attach the other side of the camber link assembly to the silver colored Ball Stud in the Spindle Carrier.

❑ 2. Attach the second camber link Tierod to the right side of the car in the same fashion.

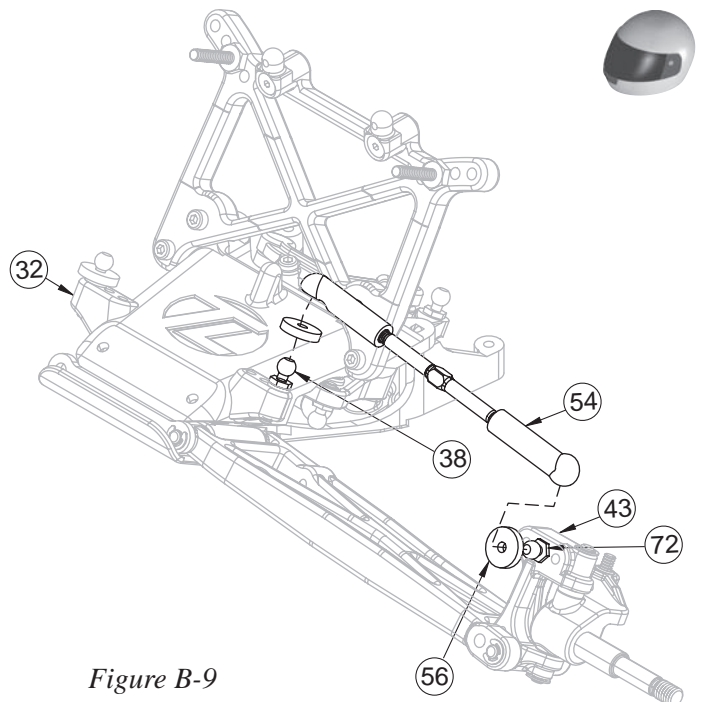


Figure B-9

# BAG B (Continued)

## Step B-10 Steering Tierod:

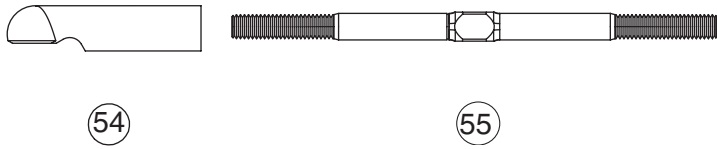

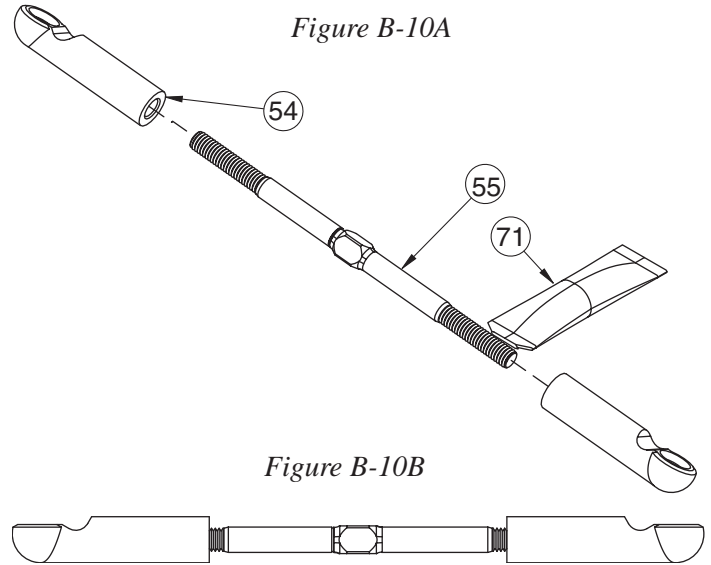


Figure B-10A

 There is a small container/package of White Grease (71) in this bag. It is recommended that a small amount of this be applied to the threads of the Turnbuckles before trying to thread on the plastic Rod Ends. Please use this lube sparingly as it will be used during the assembly of the Differential as well.

*\*NOTE: The two ends of the Turnbuckle are threaded opposite. The end closest to the groove, next to the square, has standard right-hand threads, the other end has left-hand threads. This allows the length of the Tierods, once installed, to be adjusted without removing them.*

- 1. Thread a Plastic Rod End (54) onto each End of a 2-3/8" Turnbuckle (55). Tighten both Rod Ends equally until the Rod is the same length and the Rod Ends are in the same orientation as the assembled Tierod in Figure B-10B. Make two of these Tierod assemblies.



## Step B-11 Steering Tierod Install:

*\*NOTE: Assure that the grooves on all of the front Turnbuckles are located on the drivers right-hand side for easier adjustment later.*

- 1. Snap one end of a steering Tierod assembly (Figure B-10B) to the Ball Stud (11) in the steering Servo Saver Bottom (8). Snap the other end to the Ball Stud (38) in the left Spindle (42).
- 2. Attach the second steering Tierod to the right side of the car.

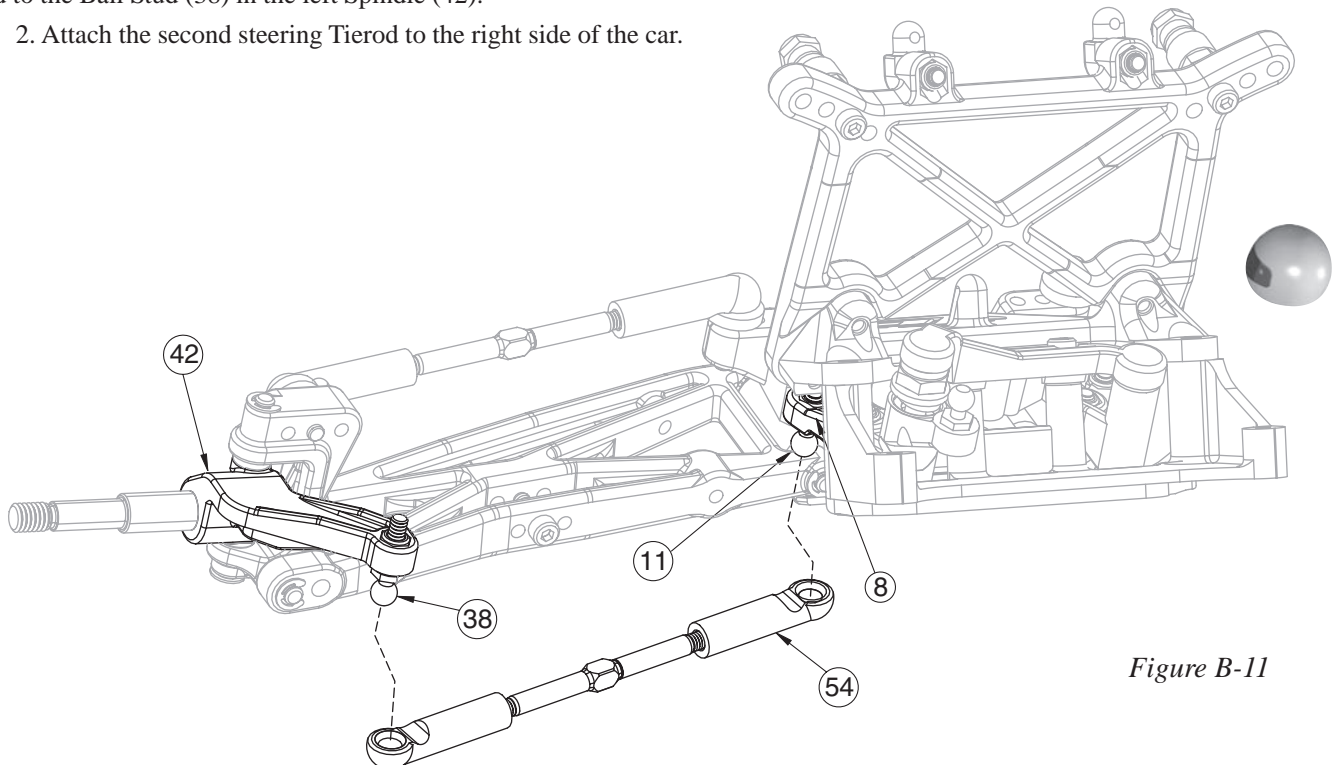
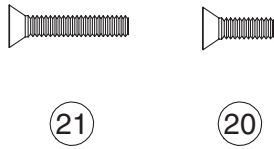


Figure B-11

# BAG C

## Step C-1 Front Suspension Install:



There is a short thread-cutting screw included in the wrench bag. This screw can be used to tap threads in the holes in the kickplate. Pre-tapping these holes makes it easier to install the screws during assembly.

1. Attach the front Kickplate (14) to the bottom of the main Chassis (19). Align the four holes in the Kickplate with the four holes in the main Chassis. Secure the Kickplate to the Chassis by threading two 4-40 x 5/8" Flat-Head Screws (21) through the forward holes in the Chassis and into the Threaded Inserts (18). Thread two more 4-40 x 3/8" (20) Flat-Head Screws through the two rear holes of the Chassis and into the Kickplate.

**IMPORTANT NOTE:** Ensure that the hex of the threaded insert remains seated in the hex area on top of the kickplate.

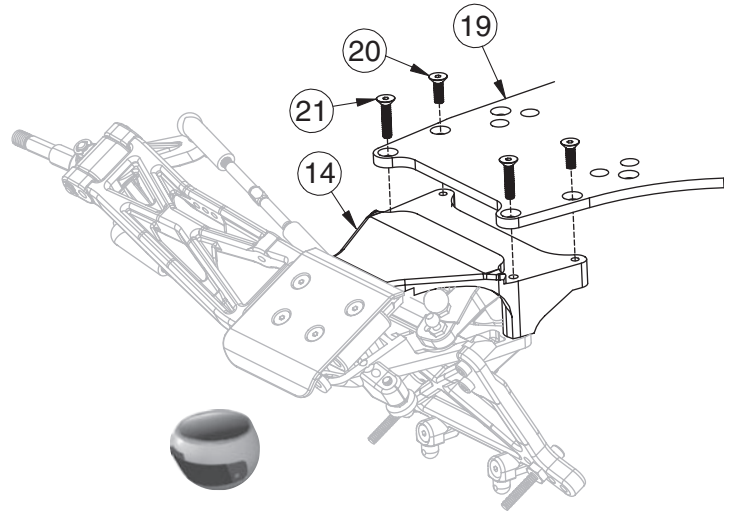
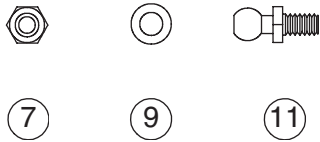


Figure C-1

## Step C-2 Servo Assembly:



1. Using Table C-3C, on next page, determine which Servo Arm (22) is required for your servo. If your particular servo is not listed, try using the arm recommended for another servo made by the same manufacturer.

Some Servos may require the use of a Ball Stud Washer (9) placed behind the Ball Stud (11) for proper Servo Link alignment, as shown in Figure C-2A.

2. Insert a 4-40 Mini Locknut (7) into the hex area of the Servo Arm. Thread a 3/16" Ball Stud (11) through the hole in the Arm, into the Locknut, and tighten.

3. Plug the servo into the radio system's receiver (*not included*). Make sure that there is power to the receiver, and turn the transmitter on followed by the receiver. Be sure that the trim settings for the steering on your transmitter are set to the center. With the radio system still turned on, attach the servo arm to the output shaft so that the arm is one spline off center in the direction shown in Figure C-2B. Secure the arm with the servo arm screw supplied with the servo.

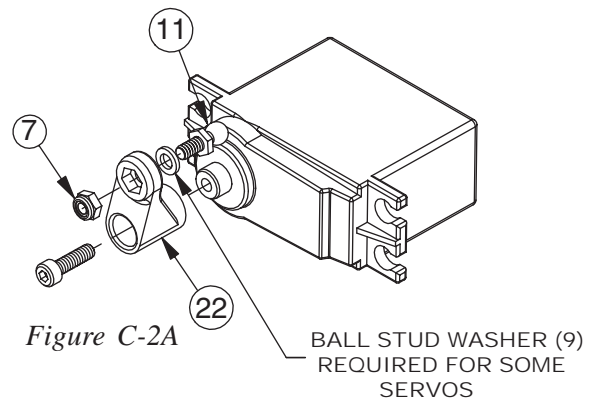


Figure C-2A

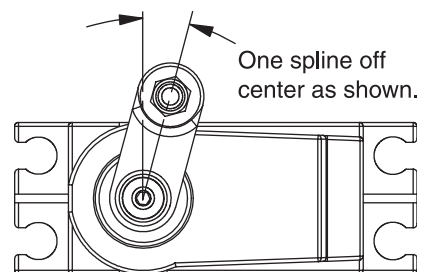


Figure C-2B

# BAG C (Continued)

## Step C-3 Servo Mounting Chart:

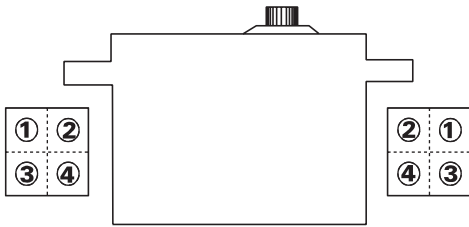


Figure C-3A

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

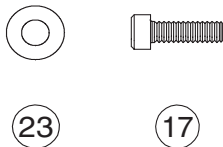
Figure C-3B

SERVO TYPE	MOUNTING POST PIN LOCATION	REQUIRED SERVO ARM	STEERING LINK LENGTH
<b>AIRTRONICS</b> All	1 or 3	23	C-6A
<b>Futaba</b> S131, S131SH, S148, S3001, S5101, S9101, S9201, S9301, S9401, S9403	2	25	C-6A
<b>Futaba</b> S3401, S9402, S9404, S9450	3	25	C-6A
<b>Futaba</b> S9303	4**	25	C-6A
<b>HiTech</b> HS-605, HS-615, HS-925, HS-945	3**	24	C-6B
<b>HiTech</b> All other's	1	24	C-6B
<b>JR</b> NES-507, NES-513, NES-517, NES-901, NES-4000, NES-4131, NES-4721, NES-4735, NES-9021, DS-8231	1	23	C-6A
<b>KO</b> PS-702, PS-703, PS-1001, PS-1003	2	23	C-6A
<b>KO</b> PS-901BH, PS-902	1	23	C-6A
<b>Multiplex</b> All	3	23	C-6A


\*\* Use 1 Ball Stud washer on the ball stud when attaching it to the servo arm.

Table C-3C


## Step C-4 Servo Mounting Post Install:



1. Use the tables in Figure C-3A and C-3B (Shown above) to determine how the servo mounting posts (24) should be attached to the servo (*not included*).

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

2. Place a #4 washer (23) over each of the four 4-40 x 3/8" cap-head screws (17) and attach the servo posts to the servo by threading a screw through the upper and lower holes in each post. Do not tighten the screws yet! Just snug them up so that the posts are held in place, but can still be moved from side to side with a little resistance. The screws will be tightened after the servo is installed so that the posts have the correct spacing.

 Place a Body Clip between the servo case and servo Mounting Post before tightening the mounting screws. Center the posts vertically and tighten the four mounting screws. For most servo manufactures this will space the servo mounting posts perfectly.

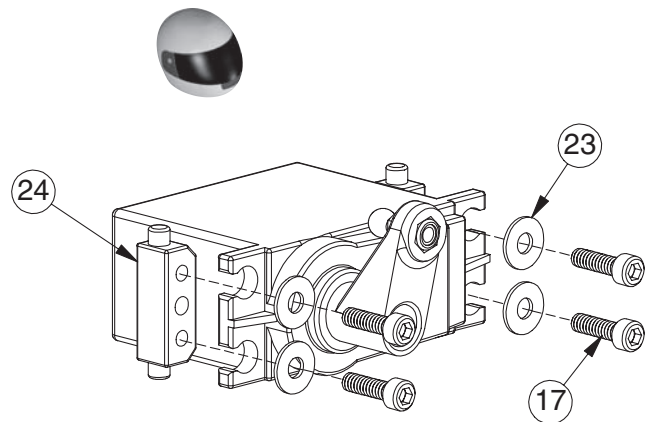


Figure C-4


# BAG C (Continued)


## Step C-5 Servo Mounting:



(25)

1. Install the Steering Post Bushings (25) into the forward holes in the Chassis (19) as shown in Figure C-5. Insert the pin on the left Servo Post (24) into the hole in the Servo Post Bushing. Move the servo and Posts slightly until both the left and right Posts are inserted in the holes in the Servo Post Bushings.

 There are two sets of Servo Mounting Holes in the Chassis. Mounting the servo in the forward set of holes will give the best overall performance. However, the servo may be mounted in the rear set of holes to increase rear traction and improve handling on very slippery tracks. If the servo is mounted in the rear holes, you must reverse the Ball Stud in the Servo Arm so that the ball points forward.

 Place a small drop of glue in hole of the Steering Post Bushing, before inserting the Servo Posts will keep the bushing from being lost during any future disassembly.

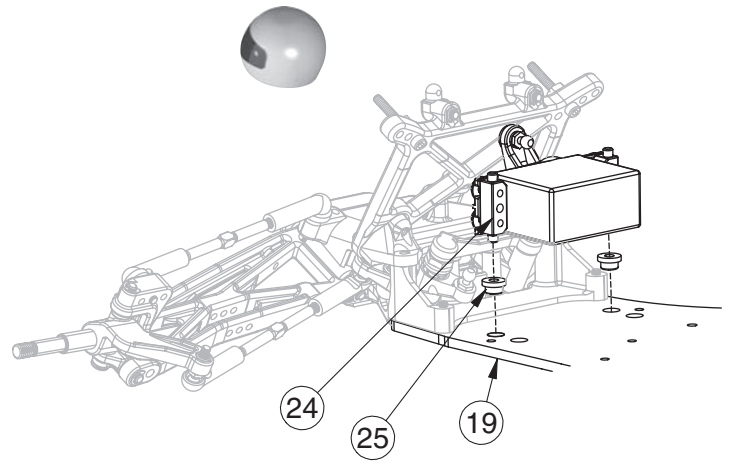
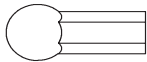


Figure C-5

## Step C-6 Servo Link:



(26)



(27)

1. Thread a Short Plastic Rod End (26) onto each end of the 4-40 x 5/8" Threaded Rod (27).

2. Refer to Table C-3C (on the previous page) to determine the appropriate Rod length for the servo that is installed. Tighten both sides equally until the rod is the same length as the one shown in Figure C-6A or C-6B.

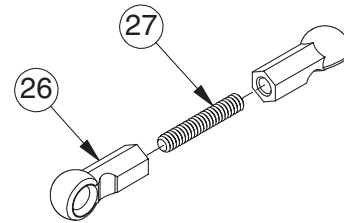


Figure C-6

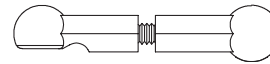


Figure C-6A

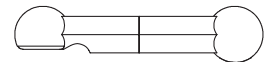


Figure C-6B

## Step C-7 Servo Link Install:

1. Attach one end of the Servo Link to the Ball Stud (11) in the Servo Arm (22)

2. Attach the opposite end of the Servo Link to the Ball Stud in the Servo Saver top (3) as shown in Figure C-7.

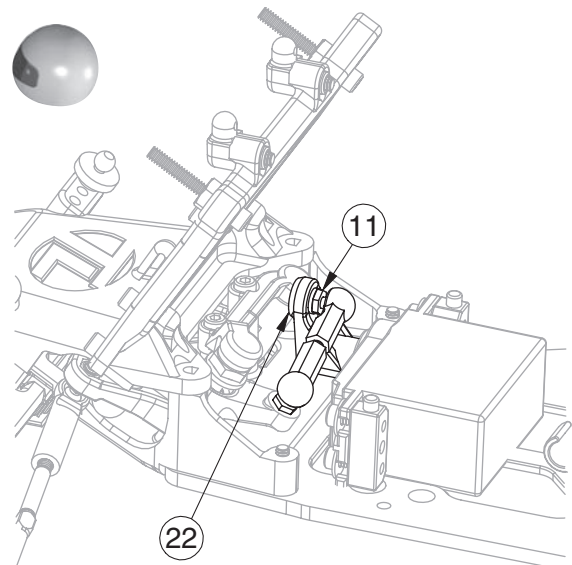


Figure C-7

# BAG C (Continued)

## Step C-8 Tank Grommet Install:



(28)

- 1. Press a rubber Tank-Mounting Grommet (28) into each of the three large holes in the top of the Chassis Brace (29) as shown. The chassis brace should seat into the groove on the outside of the Grommet.

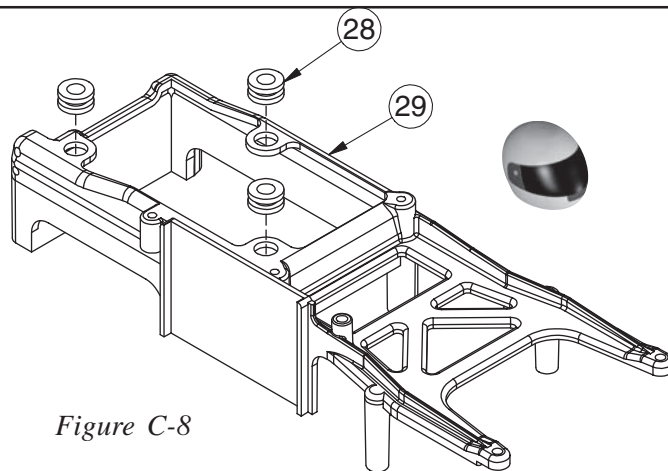


Figure C-8

## Step C-9 Tank Install:



(17)



(23)

- 1. Line up the three posts on the Fuel Tank (30) with the three holes with Grommets in the Chassis Brace (29). Install the Fuel Tank on the Chassis Brace from the bottom by pressing the three Posts on the Tank through the three Rubber Grommets (28).

**! IMPORTANT NOTE:** Push around the outer edges of the Fuel Tank while pressing the Tank into the Grommets. This will prevent cracking the seal around the bottom of the tank.

**17** The Screws should not be tightened so that Grommet smashes. By tightening the Screws until the washers just touch the Grommets, the tank will be "shock mounted". This helps the fuel from foaming while the truck running.

- 2. Place a #4 Washer (23) over each of the three 4-40 x 3/8" Cap-Head Screws (17). Thread a Screw through each of the Grommets and into the posts in the Fuel Tank. Hold the Tank all the way up against the Chassis Brace. Tighten each of the three Screws (14) until the Washer just touches the Grommet.

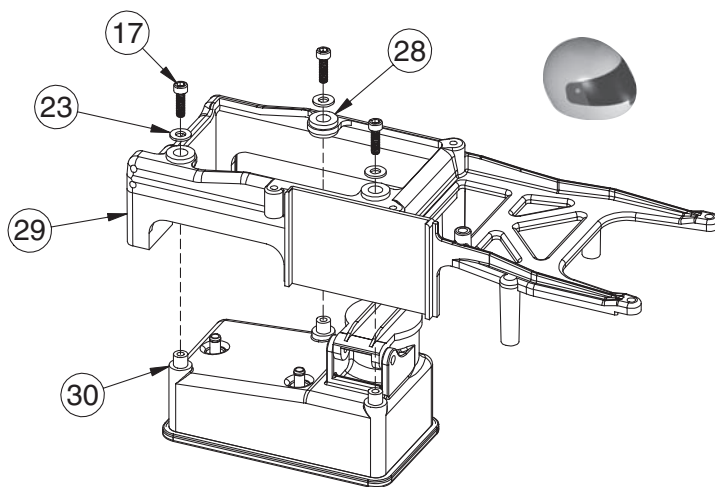


Figure C-9

## Step C-10 Fuel Line Clip Install:



(20)

- 1. Attach the Fuel Line Clip (84) to the Chassis (19) by placing a 4-40 x 3/8" Flat-Head Screw (20) into the through hole in the Chassis and thread the screw into the Fuel Line Clip, hold the Clip so it remains parallel with the sides of the chassis and tighten.

\*NOTE: The clip should run parallel with the length of the Chassis.

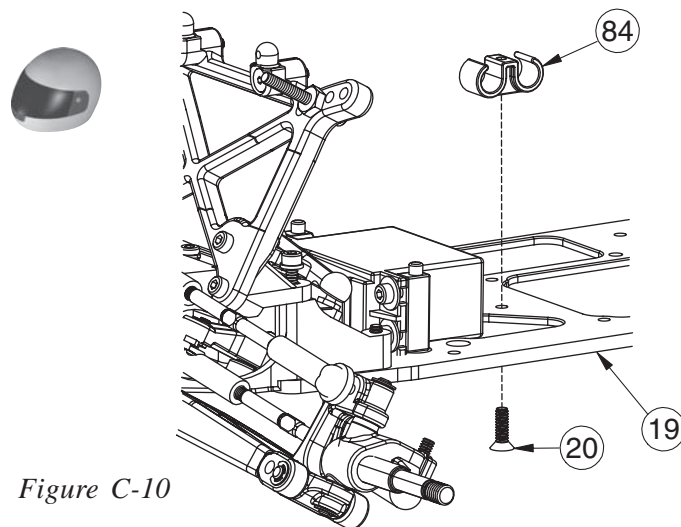



Figure C-10

# BAG C (Continued)

## Step C-11 Chassis Brace Install:



9      20      31

 There is a short Thread-Cutting Screw included in the wrench bag. This Screw can be used to tap threads in the holes in the Chassis Brace. Pre-tapping these holes makes it easier to install the Screws during assembly.

- ❑ 1. Place the Chassis Brace (29) on top of the Chassis (19). Pay particular attention to the Servo Posts (24). The pins in the top of the Servo Posts should fit into the two holes in the Chassis Brace. Once the Chassis Brace is lined up and in place, secure it to the Chassis with six 4-40 x 3/8" Flat-Head Screws (20) as shown.
- ❑ 2. Place a Ball Stud Washer (9) over two 4-40-1/2" Cap-Head Screws (31) and thread the screws into the front of the Chassis Brace, through the front Bulkhead (32) and into the front Kickplate (14) and tighten.

*\*NOTE: Make sure that the pins on the top and bottom of the Servo Posts stay located in the holes in the Servo Post Bushings and Chassis Brace, and that the Servo are as close to centered between the two Servo Posts as possible.*

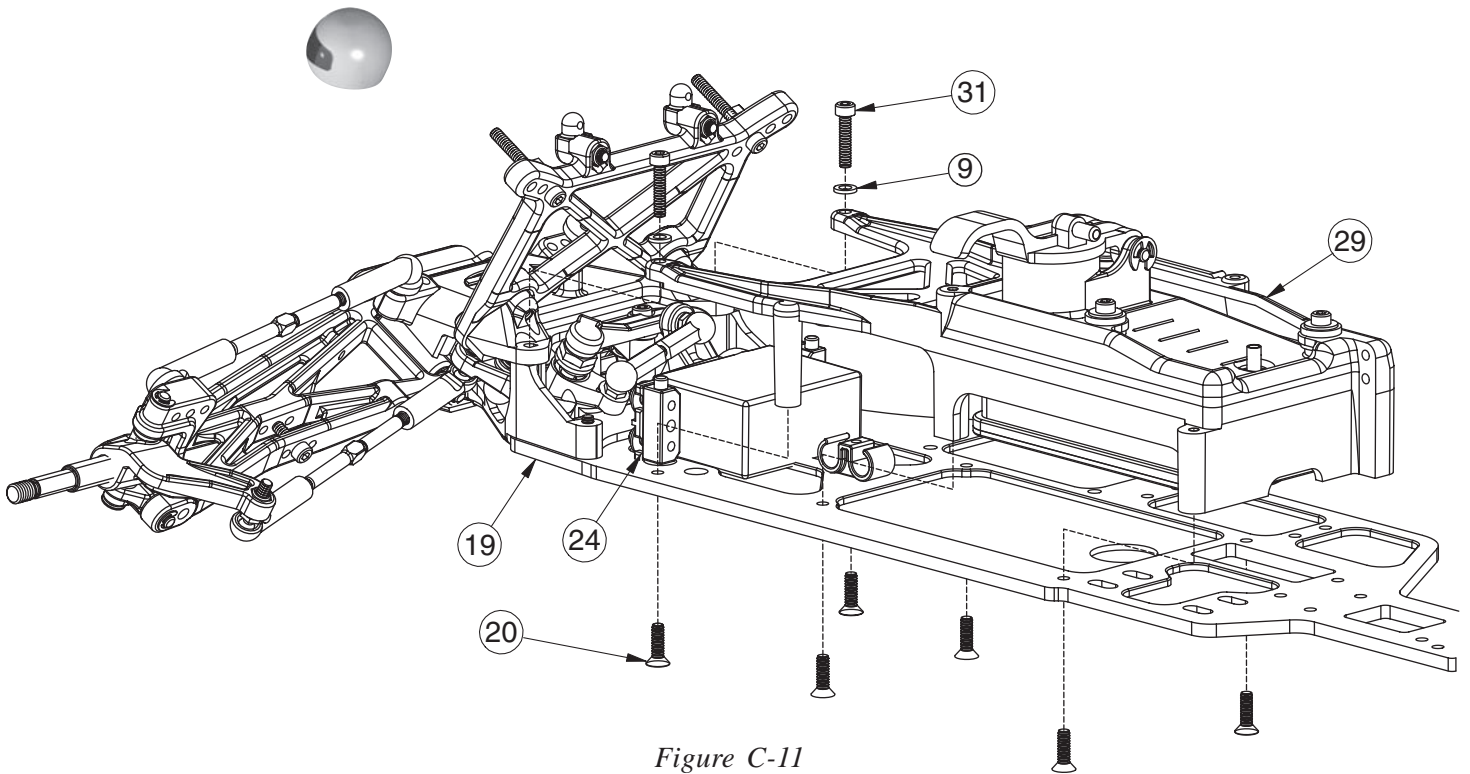
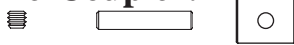


Figure C-11

# BAG D

## Step D-1 Cross Bone Coupler:



(108) (110) (215)

- ❑ 1. Apply a small amount of Thread Lock (119) to a 4-40 x 3/32 Set Screw (108) and thread it into the Cross Bone Coupler (215).
- ❑ 3. Place the greased Cross Bone Coupler into the large hole of the Cross Bone. Align the hole in the Coupler with the slot in Cross Bone and insert the Cross Bone into the large end of the Rear Axle.
- ❑ 4. Secure the three parts by sliding a 1/16" x 3/8" Drive Pin (110) through the holes in the Rear Axle, Cross Bone, and Coupler. Center the Drive so the ends do not protrude past the edges of the Rear Axle.
- ❑ 2. Apply a thin coating of Thrust Bearing Assembly Grease (71) to the Cross Bone Coupler, Cross Bone(107), and inside of the Rear Axle(109).
- ❑ 5. Tighten the Set Screw in the Coupler to lock the Drive Pin in place.

**IMPORTANT NOTE:** Ensure that the Drive Pin is centered in the Rear Axle.

- ❑ 6. Make two of these assembly's.

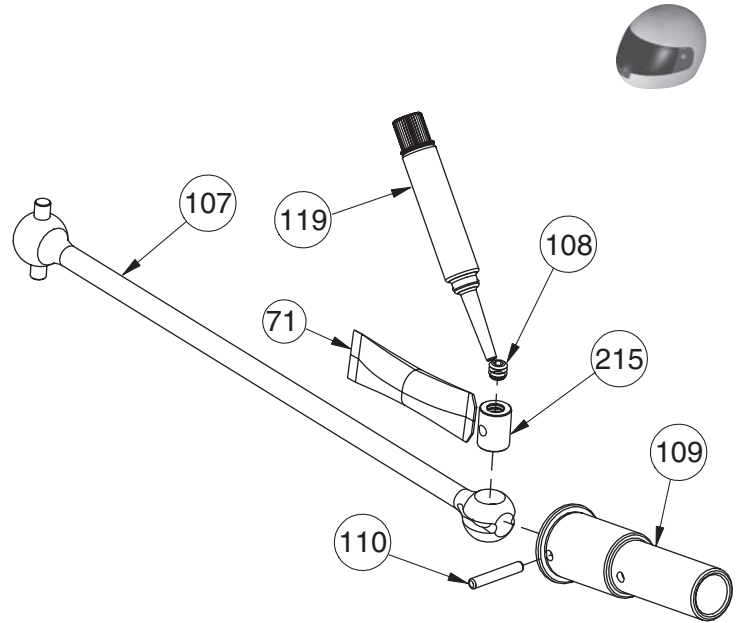
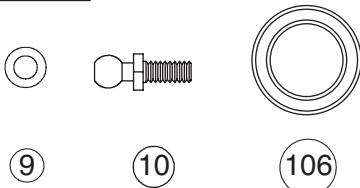


Figure D-1

## Step D-2 Cross Bone Assembly:



(9) (10) (106)

- ❑ 1. Press a 10mm X 15mm Bearing (106) in the the backside of the Rear Hub (113). Slide the Rear Axle assembly through the bearing as shown.
- ❑ 2. Slide the Second 10mm X 15mm Bearing over the Rear Axle and press it into the frontside of the Rear Hub.
- ❑ 3. Place a Ball Stud Washer (9) over a 1/4" Ball Stud (10) and thread it into the middle camber link hole on the top of the Rear Hub.
- ❑ 4. Make two of these assembly's.

*\*NOTE: Apply a drop of Thread Lock to ensure the Ball Stud does not come loose.*

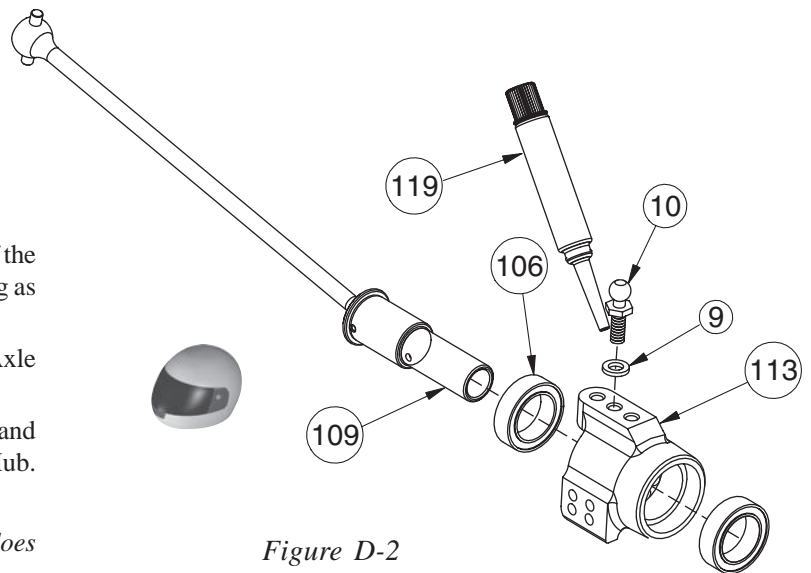


Figure D-2

## Step D-3 Quick Change Assembly:

The XXX-NT AD2 has two options available for securing the rear Wheels and Tires, both a Quick Release Lever system and Lock Nut system are included in the XXX-NT AD2 Kit.

- ❑ 1. To utilize the Quick Release Lever system the Retaining Lever (211) and Spring (210) must be used. Place the Spring in the orientaion shown in Figure D-3, with the Lever in between the legs of the Spring. The Spring is set into the groove on the Lever.

- ❑ 1. A standard wheel nut can also be used by removing the Retaining Lever and Spring and using the the Threaded Axle Adapter (212).

**IMPORTANT NOTE:** In order for the spring to be properly tensioned it must be secured into the groove on the Quick Release Lever.

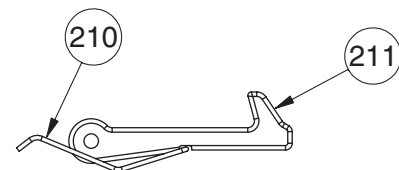


Figure D-3A

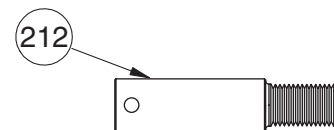
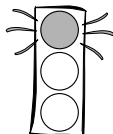


Figure D-3B



## READ THIS FIRST!

800-0226

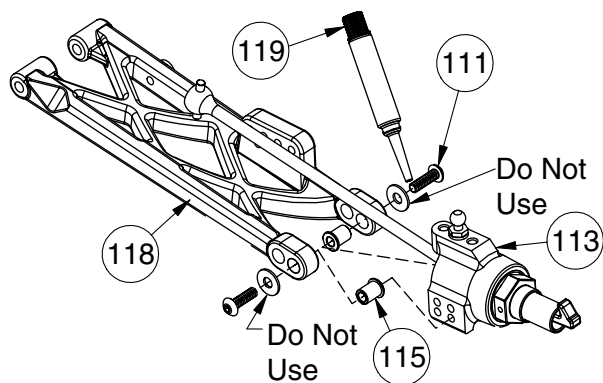


**STOP!** The washers marked "Do Not Use" in the diagram, have been removed and should not be used under any circumstances. The parts are included in the assembly bags, and can be used in other applications, However, **Do Not** use the washers in this application.

### Step D-5

### Rear Hub Install

- 1. Clean any dirt or oil off the screw by wiping the threads of the screw (111) on a rag. This will ensure that the Thread Lock (119) will stick to the threads of the screw.
- 2. Remove the #4 Washer (23) marked "Do Not Use" during this step.
- 3. Apply Thread Lock to threads at the very end of the screw farthest away from the head, before installation.



# BAG D (Continued)

## Step D-4 Wheel Hex and Lever Install:

117

- ❑ 1. Slide the Wheel Hex (112) over the Rear Axle (109).
- ❑ 2. Place the Retainer Spring (210) in the orientation shown in Figure D-3, on previous page, with the Retaining Lever (211) between the legs of the Spring. Make sure the Spring is set into the groove on the Retaining Lever.
- ❑ 3. Hold the Retainer Spring and Lever assembly together between your fingers and slide it inside of the Rear Axle (109) until the holes on the Axle and Retainer Lever are lined up.
- ❑ 4. Slide the Wheel Hex up to the outside Bearing and rotate the the Hex until the through holes in the Wheel Hex, Axle, and Retainer Lever are all lined up.

*\*NOTE: The Drive Pin should slide through one side of the Wheel Hex and press into the opposite side to keep the Pin from falling out. When installing the Drive Pin, First insert the pin in larger hole then push it through the Axle and Lever.*

- ❑ 5. Push the 1/16"x1/2" Drive Pin (117) into the Wheel Hex, Rear Axle, and Retainer Lever, until the Pin is flush with the side of the Wheel Hex.

- ❑ 6. Repeat steps 1-5 for the second assembly.

**! IMPORTANT NOTE:** Make sure that the Drive Pin goes through the Wheel Hex, Rear Axle, and Retainer Lever. The Drive Pin holds all three parts together.

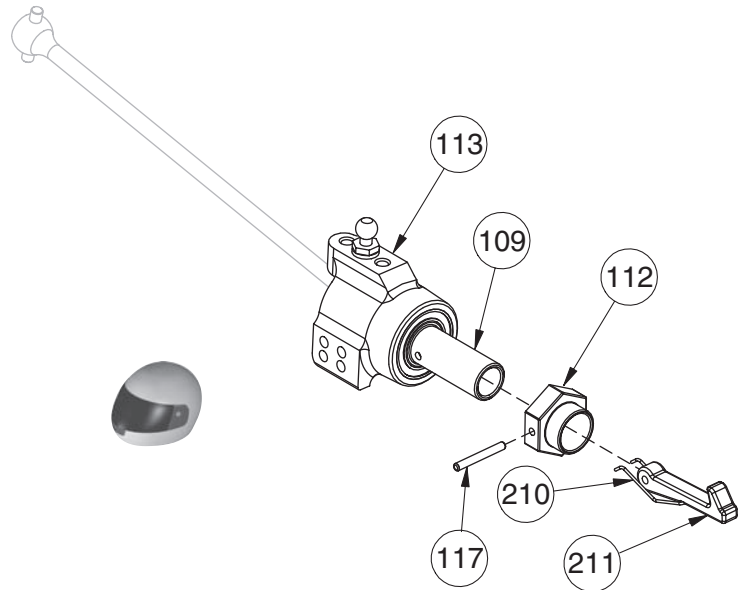


Figure D-4

## Step D-5 Rear Hub Install:



23

111

115

- ❑ 1. Push an Arm Bushing (115) from between the ears of the Rear Arm into the outside holes of the Rear Arm (118). Ensure that the lip on the bushing is located between the ears of the Rear Arm.
- ❑ 2. Place the Rear Hub (113) between the ears of the Rear arm, the flange of the Arm Bushing should be positioned between the Rear Hub and Rear Arm.
- ❑ 3. Apply Thread Lock (119) to two 4-40 x 3/8" Button-Head Screws (111) and place a #4 Washer (23) over each Screw. Align the holes the Rear Hub and Rear Arm and thread the screw into the Rear Hub, and tighten.
- ❑ 4. Repeat Steps 1-3 for the right rear arm assembly.

*\*NOTE: The Rear Hub should rotate freely in the Arm when the Screws and Arm Bushings have been installed and tightened.*

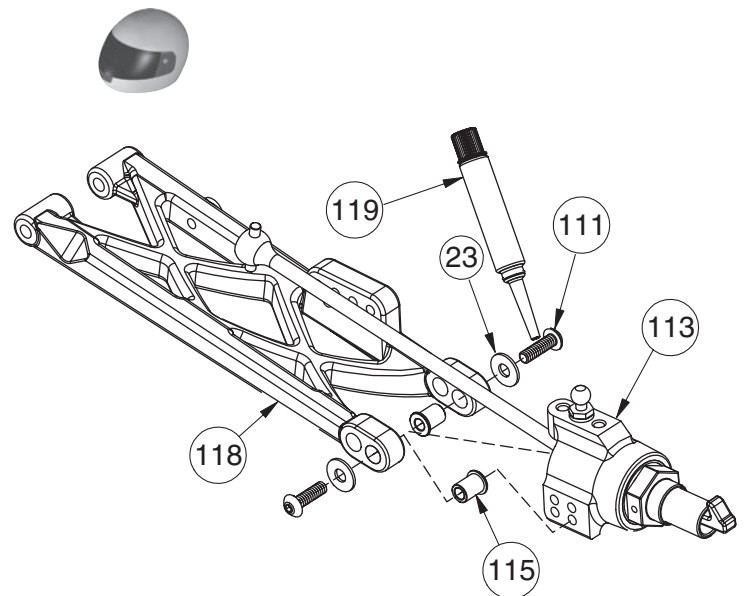


Figure D-5

# BAG D (Continued)

## Step D-6 Rear Pivot Set Screw Install:



134

- 1. Thread a 4-40 x 1/8" Set-Screw(134) into each hole on the bottom of the Rear Pivot Block (104). Just thread it in far enough to start the Set-Screw, it will be tightened in the next step.

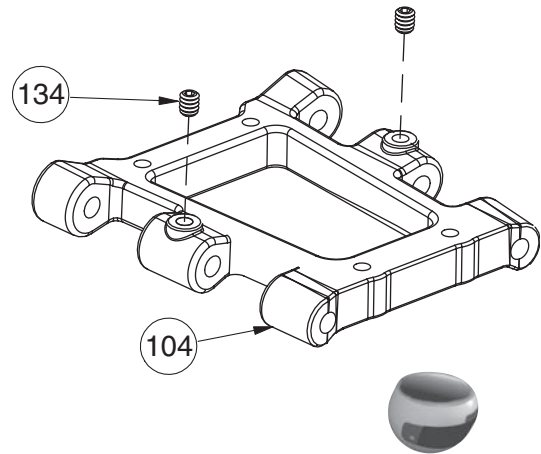
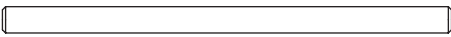


Figure D-6

## Step D-7 Rear Suspension Install:



122

20

**IMPORTANT NOTE:** The Rear Pivot should be installed so that the Set Screws are Tightened from the Bottom of the Chassis, also the word "TOP" molded into the Rear Pivot Should be installed towards the front of the truck.

- 1. Position the rear Pivot Block (104) onto the rear of the Chassis and line up the mounting holes in the Chassis and rear Pivot Block. The word "TOP" is molded on to the upper front portion of the rear Pivot Block.
- 2. Thread a 4-40 x 3/8" Flat-Head Screw through the bottom of the Chassis and into each of the 4 mounting holes in the rear Pivot Block.
- 3. Position the rear Arm (118) inside the ears on the rear Pivot Block and line up the holes in the rear Arm and Pivot. Slide a rear inner Hinge Pin (122) through the Rear Arm and Pivot until the end Hinge Pin is flush with the front face of the Pivot.
- 4. Snug the two 4-40 x 1/8" Set-Screws (134), which were installed in Step D-6, to keep the Hinge Pin from working loose, these Set-Screws do not need to be very tight.
- 5. Repeat for right Rear Arm assembly.

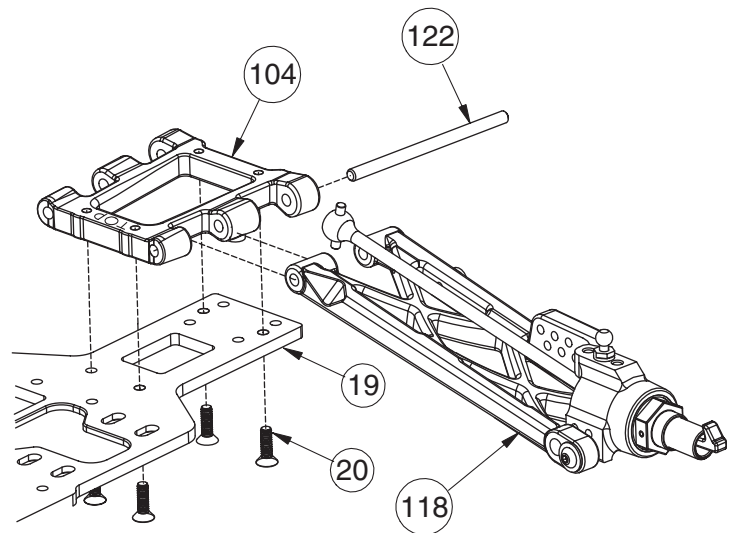
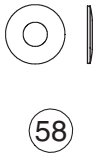


Figure D-7

# BAG E

## Step E-1 Diff Nut Assembly:



- ❑ 1. Locate the 5/64" Allen Wrench (59) supplied with the kit. Place the Diff Nut(57), tab side first, over the Allen Wrench.
- ❑ 2. Stack 12 Belleville Washers (58) over the Wrench, next to the Diff Nut. The Washers should all point the same direction with the concave side facing away from the Diff Nut as shown in *Figure E-1B*.

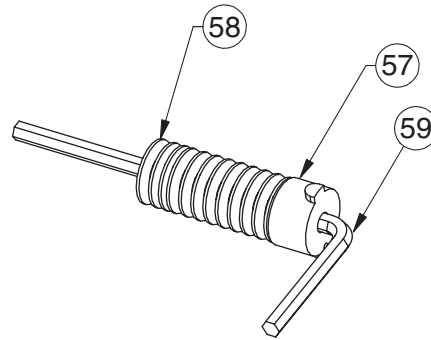


Figure E-1A

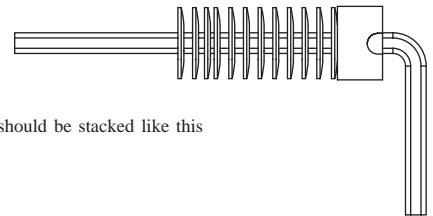


Figure E-1B

Belleville washers should be stacked like this

## Step E-2 Male OutDrive Assembly:

- ❑ 1. Insert all of the parts that are stacked on the wrench into the Male Outdrive (60). Line up the tabs on the Diff Nut (57) with the slots in the Outdrive. Press the parts all the way into the Outdrive.

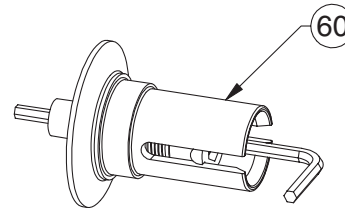
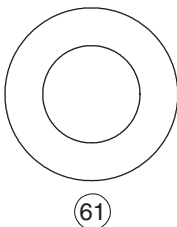


Figure E-2

## Step E-3 Diff Ring Assembly:



- ❑ 1. Apply a small amount of Diff Grease (clear) (62) all the way around the face of the outside ridge of the Outdrive(60). Attach a Diff Ring (61) to the Outdrive by centering the hole in the Diff Ring over the raised center of the Outdrive.

*\*NOTE: Only a small amount of Grease is needed, but be sure to cover the entire face of the ridge on the Outdrive.*

**! IMPORTANT NOTE:** Do not glue the Diff Rings to the Outdrives. Doing so may not allow the Diff Rings to mount flat.

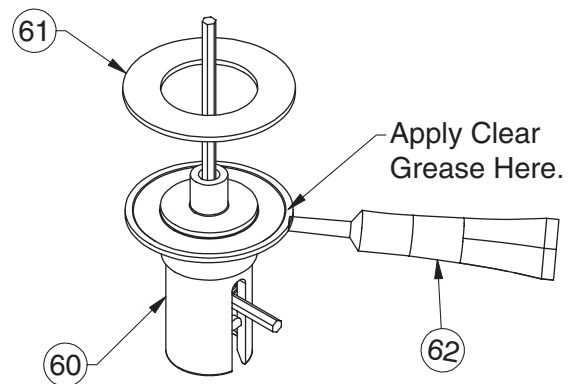
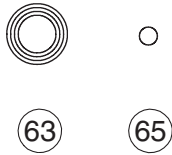


Figure E-3

# BAG E(Continued)

## Step E-4 Diff Gear Assembly:



- ❑ 1. Insert a 5mm x 8mm Bearing (63) into the center of the Diff Gear (64).
- ❑ 2. Press a 3/32" carbide Diff Ball (65) into each of the 12 small holes in the Diff Gear.

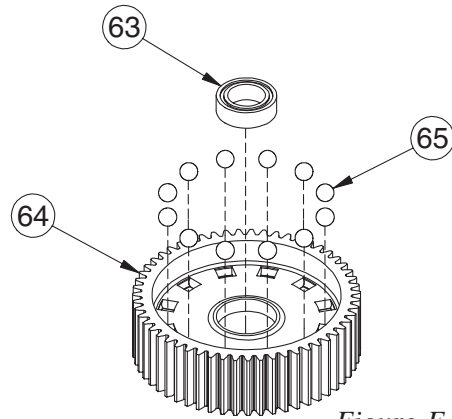


Figure E-4

## Step E-5 Outdrive and Diff Gear Assembly:

- ❑ 1. Apply a small amount of clear Diff Grease (62) to cover Diff Balls on both sides of the Gear. Carefully place the Diff Gear (64) over the Male Outdrive (60) so that the Diff Balls (65) and Diff Gear rest against the Diff Ring (61).

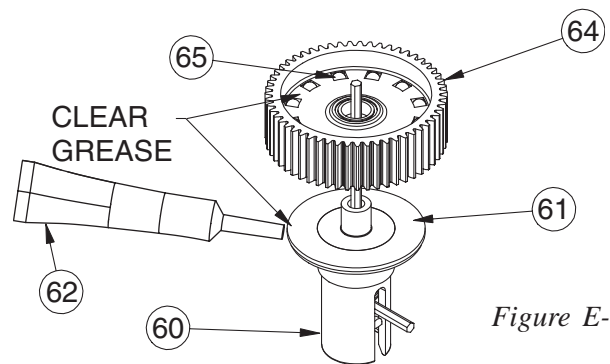
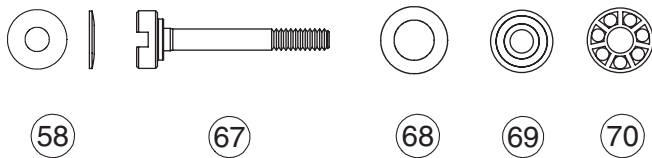


Figure E-5

## Step E-6 Thrust Assembly:



- ❑ 1. Locate the Diff Adjusting Screw (67) and place the foam Thrust Bearing Seal (68) over the shoulder of the Screw.
- ❑ 2. Place one Belleville Washer (58) over the Diff Screw with the concave surface facing away from the head of the Diff Screw.
- ❑ 3. Place one of the 3mm x 8mm Thrust Washers (69) over the Diff Screw.

*\*NOTE: The Thrust Washers are packaged in a small bag along with the eight 5/64" Thrust Balls.*

- ❑ 4. Grease the Thrust Washer well with white Thrust Bearing/Assembly Grease (71) and place the eight 5/64" Thrust Balls (70) on top of the Washer, around the Diff Screw. Apply more White Thrust Bearing/Assembly Grease to the tops of the Thrust Balls. Place the second Thrust Washer over the Diff Screw and against the Thrust Balls.

- ❑ 5. Very carefully insert the Diff Screw, with the Thrust Bearing assembly installed, into the Female Outdrive (66) as shown. Pull the threaded end of the Diff Screw until the Thrust Bearing rests against the inside of the Outdrive.

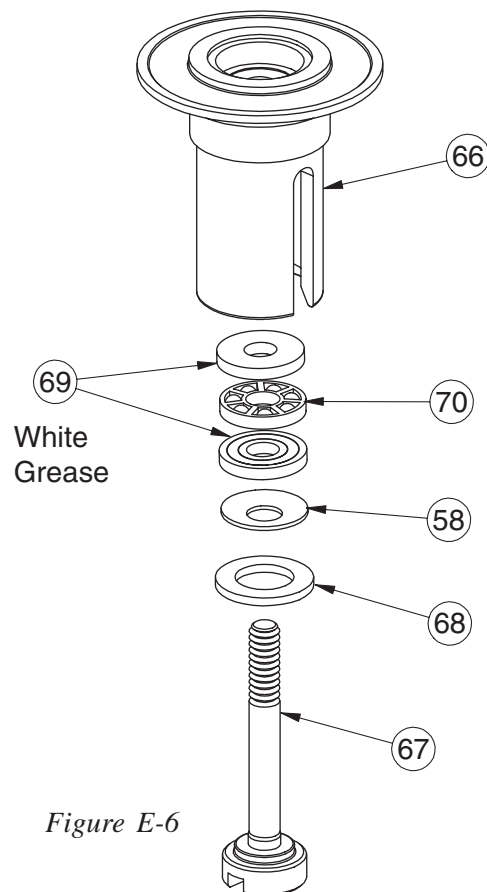
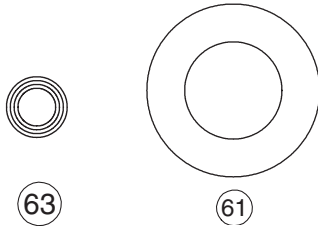


Figure E-6

# BAG E (Continued)

## Step E-7 Diff Bearing Install:



- ❑ 1. Locate the 5/64" Allen Wrench (59) and place it through the slot in the Outdrive (66) containing the Diff Screw (67). Slide the Wrench all the way against the Screw. By handling the outdrive with the wrench inserted, the Diff Screw will be held in place while finishing assembly of the differential.
- ❑ 2. Insert a 5mm x 8mm Bearing (63) into the female Outdrive. Make sure that the Bearing is pushed all the way into the Outdrive.
- ❑ 3. Apply a small amount of clear Diff Grease (62) all the way around the face of the outside ridge of the Outdrive. Attach a Diff Ring (61) to the Outdrive by centering the hole in the Diff Ring over the raised center portion of the Outdrive.

*\*NOTE: Only a small amount of Grease is needed, but be sure to cover the entire face of the ridge on the Outdrive.*

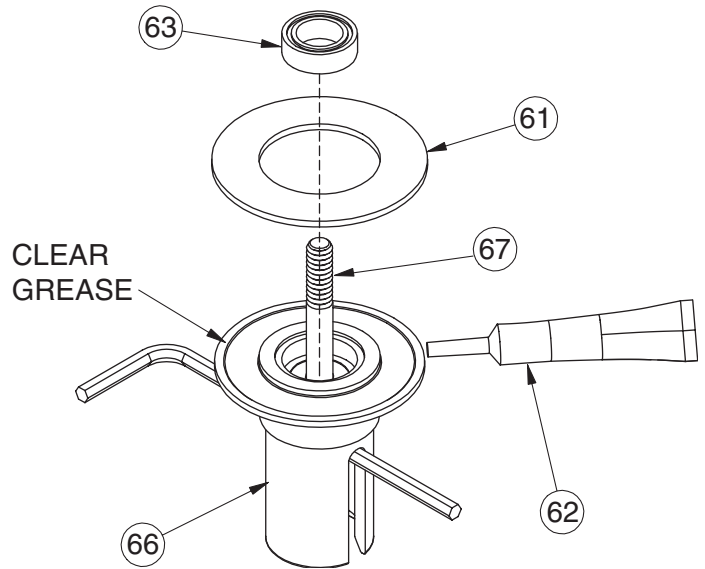



Figure E-7

## Step E-8 Diff Assembly:

- ❑ 1. While holding the Outdrives (66)(60) with the Allen wrench (59) inserted, carefully place the two Outdrives together.
- ❑ 2. Make sure that the slot in the Diff Screw (67) is lined up with the slot in the Outdrive (66) and that the Allen wrench is inserted in the slot in the Diff Screw.
- ❑ 3. Hold the diff so that the Outdrive with the Diff Nut is pointing up. Slowly turn the Allen Wrench and Outdrive clockwise to thread the Diff Screw into the Diff Nut. 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 Diff Nut 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 Diff a little more and “work” the Diff again. Continue this until the Diff is relatively tight. This will ensure proper seating of all the parts in the Diff assembly.

- ❑ 4. Tighten the diff until the Diff Gear (64) can not be turned while both of the Outdrives are being held. **Final diff adjustment must be made after completion of the truck.**

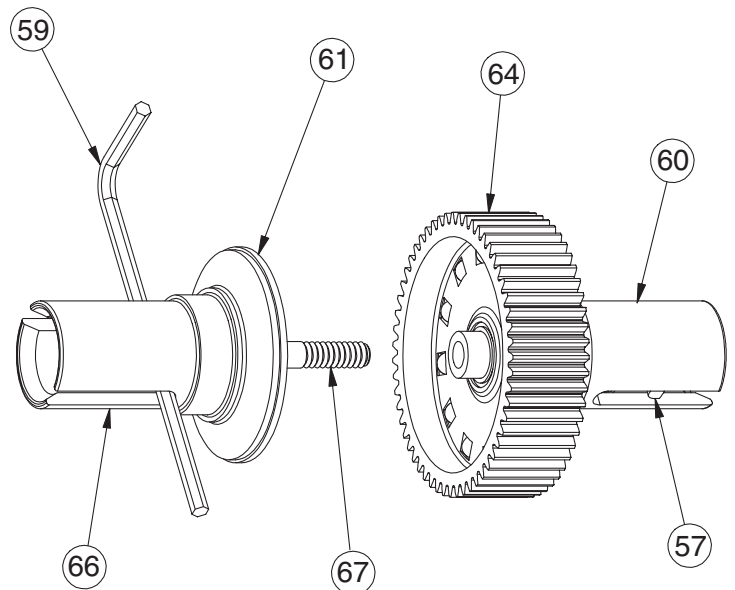
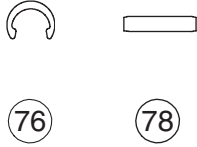


Figure E-8

# BAG E (Continued)

## Step E-9 Compound Gear Assembly:



- ❑ 1. Locate the Brake Shaft (77) and press the .078" x 3/8" Spirol Pin (78) into the small hole away from the grooved end of the Brake Shaft so that it extends evenly from both sides of the Shaft.
- ❑ 2. Press the Compound Gear Bushing (181) all the way into the end of the Compound Gear (79). Slide the Compound Gear, with the Bushing in place, over the Brake Shaft. Align the groove in the Gear with the Pin and push the Gear over the Pin.
- ❑ 3. Secure the Compound Gear and Bushing to the Shaft by snapping a 3/16" C-clip (76) into the groove in middle of the Brake Shaft.

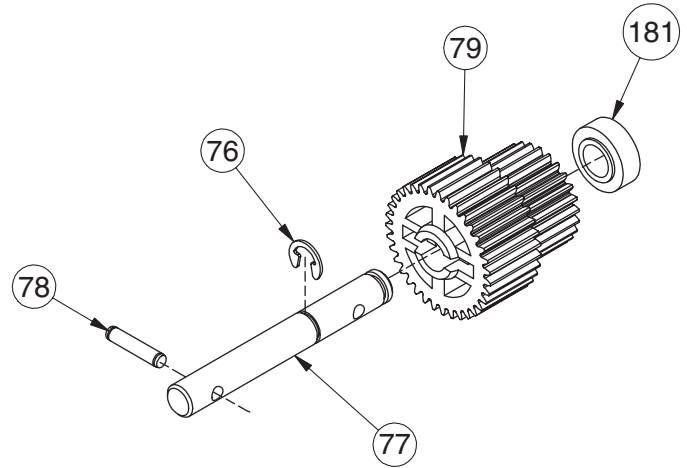
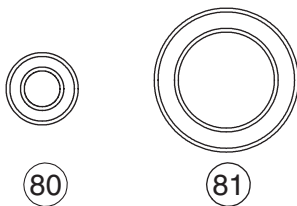


Figure E-9

## Step E-10 Right Gear Box Bearing Assembly:



- ❑ 1. Insert two 3/16" x 3/8" sealed Bearings (80) into the two top bearing seats of the right Gearbox Half (82).

*\*NOTE: If any of the supplied Gearbox Bearings only have one Teflon™ seal (colored, woven looking) in it, position the seal to the outside of the Gearbox half. This will help shield the Bearing from dirt and other contaminants.*

- ❑ 2. Insert a 1/2" x 3/4" Bearing (81) into the lower Bearing seat of the right Gearbox Half.

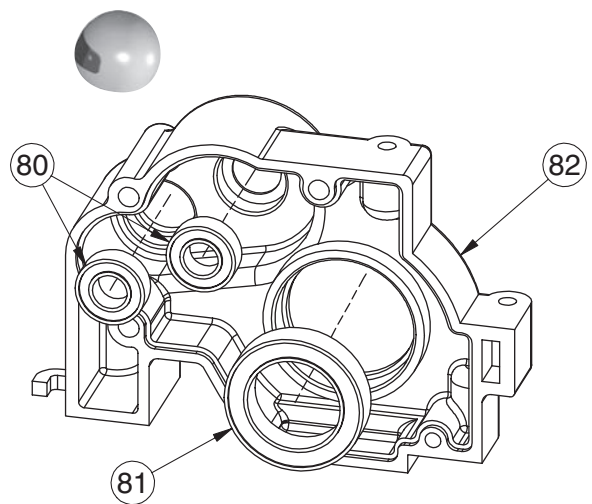
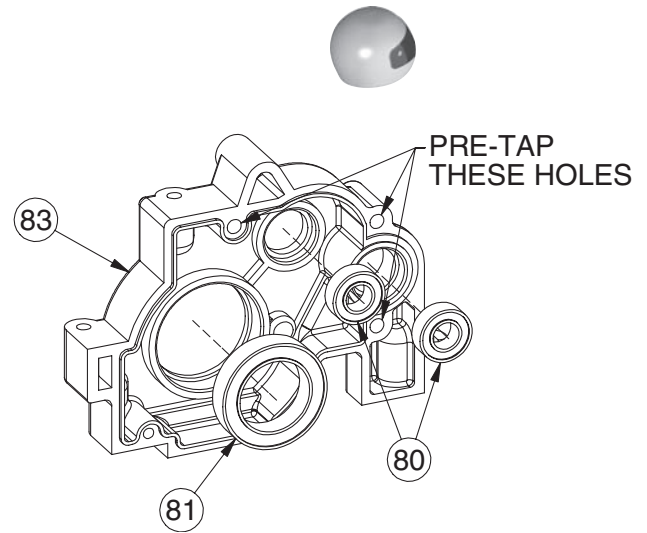
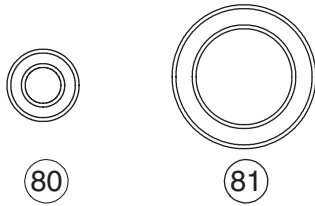


Figure E-10

# BAG E (Continued)

## Step E-11 Left Gear Box Bearing Install:



- ❑ 1. Use the short, 4-40 Thread-Cutting Screw, included in the wrench bag, to pre-tap the three holes noted in Figure E-11. Thread the Screw all the way into and out of each hole on the Left Gearbox Half (83).
- ❑ 2. Insert two 3/16" x 3/8" sealed Bearing (80) into the two top bearing seats of the left Gearbox Half.
- ❑ 3. Insert a 1/2" x 3/4" Bearings (81) into the lower Bearing seat of the left Gearbox Half.

Figure E-11

## Step E-12 Diff and Top Shaft Install:

- ❑ 1. Insert the Top Shaft (73) into the forward-most Bearing (80) in the left Gearbox Half (83).

*\*NOTE: be sure the head of the Diff Adjusting Screw faces the right side of the Gearbox Half. This will allow easy adjustment while running your truck.*

- ❑ 2. Insert the Differential assembly into the 1/2" x 3/4" Bearing (81) in the left Gearbox Half. Insert the Diff Nut (57) side first.

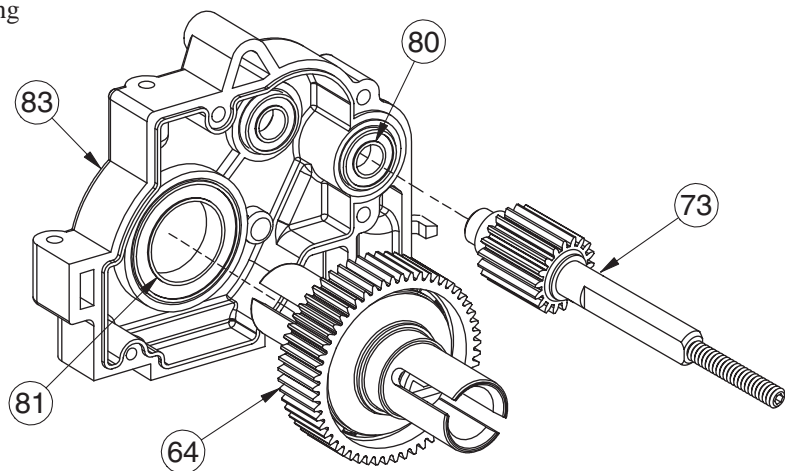


Figure E-12



# BAG E (Continued)

## Step E-13 Compound Gear Install:

- 1. Insert the Brake Shaft (77) through the 3/16" x 3/8" Bearing (80) in the left Gearbox Half (83), aligning the teeth of the Compound Gear with those of the the Diff Gear (64) and Top Shaft (75). Push the the Brake Shaft through the Bearing.

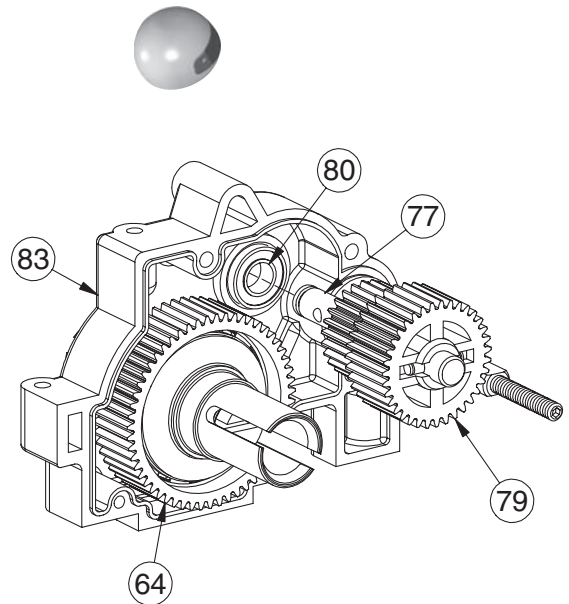
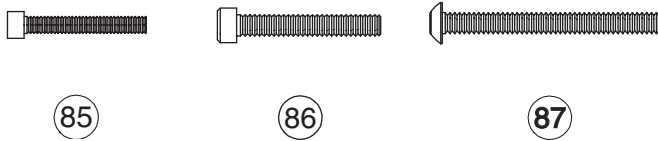



Figure E-13

## Step E-14 Gear Box Assembly:



- 1. Apply a thin coat of white Assembly Grease (71) to both sets of gears on the Compound Gear (79). This will help seal the Gearbox once it is assembled and increase gear life.
- 2. Carefully place the right Gearbox Half (82) over the assembled left Gearbox Half. Be sure to align each Shaft into the Bearings in the right Gearbox Half.
- 3. Thread the 2-56 x 5/8" Cap-Head Screw (85) into the lower, rearward hole in the Gearbox Half from the right side.

 Be sure you have completed Step 2, and have pre-tapped the top three holes in the left Gearbox Half before installing the 4-40 x 1-1/8" Button-Head Screws in Step 4.

- 4. Position the Aluminum Gearbox Brace (88) on the right Gearbox Half as shown in Figure E-14. Thread two 4-40 x 1" Button-Head Screws (87) through the Gearbox Brace and into the two holes in the Gearbox Half.
- 5. Thread the 4-40 x 3/4" Cap-Head Screw (86) into the upper, middle hole in the Gearbox Half from the right side.

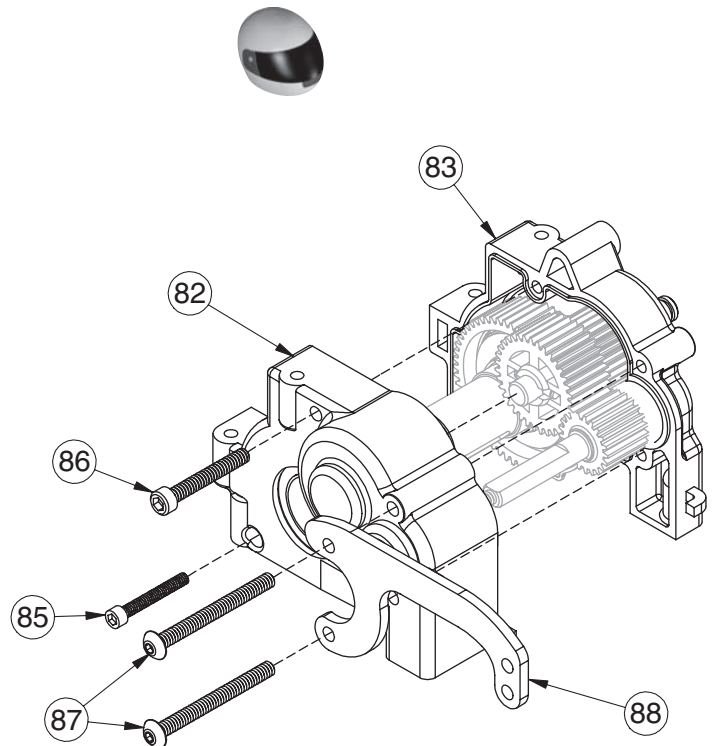
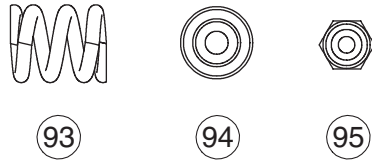


Figure E-14

# BAG E (Continued)

## Step E-15 Slipper Clutch Assembly:



❑ 1. Slide the Slipper Backing Plate (89) over the Slipper Shaft (73), aligning the flat sections on the Slipper Shaft with the flat sections of the Slipper Backing Plate.

 Place a drop of glue to the Spur Gear before locating the slipper pad to the notches on the spur gear. This will make the assembly of slipper easier.

❑ 2. Place the Slipper Pad (90) on one side of the Spur Gear (91) and align the notches on the Spur Gear with the notches on the Slipper Pad.

❑ 3. Place the Spur Gear, pad side first, over the Slipper Shaft. The Slipper Pad should rest against the Slipper Back Plate.

*\*NOTE: Ensure that the notches in the Slipper Pad remain indexed in the Spur Gear.*

❑ 4. Install the second Slipper Pad to the exposed side of the Spur Gear. Again, align the notches on the Spur Gear with the notches on the Slipper Pad.

❑ 5. Place the second Slipper Backing Plate (89) over the Slipper Shaft so that the large, flat surface of the Slipper Backing Plate rests against the Slipper Pad.

❑ 6. Slide the Slipper Spring Adaptor (92), large side first, onto the Shaft and against the outer Slipper Backing Plate.

❑ 7. Place the gold Slipper Spring (93) over the Shaft, followed by the Spring Retaining Washer (94), small side first, and secure with the 4-40 steel Locknut (95).

 **IMPORTANT NOTE:** Before tightening the Nut, check to see that the Slipper Pads are properly aligned with the Spur Gear on both sides. If not, align them before proceeding.

❑ 8. Tighten the 4-40 Locknut all the way down, then **back it off four full turns (e.g., 360° x 5)**. This is a good starting point for adjustment. Final adjustment can be made later.

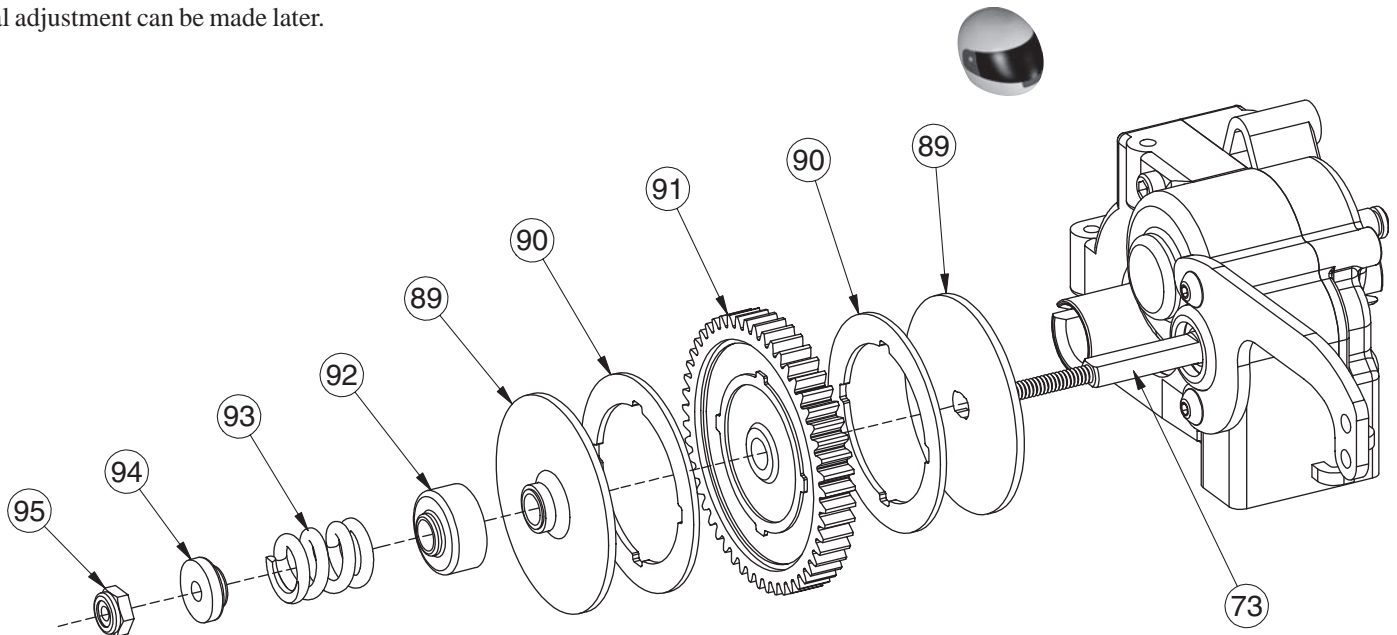
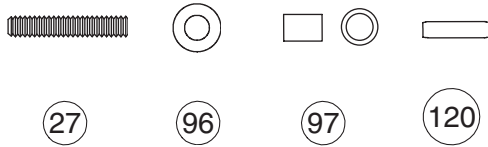


Figure E-15

# BAG E (Continued)

## Step E-16 Brake Hub Install:



- ❑ 1. Press the 2mm x 8mm Solid Pin (120) into the hole in the end of the Brake Shaft (77) so that it extends evenly from both sides of the Shaft.
- ❑ 2. Slide the Brake Hub (98) over the Brake Shaft. Align the groove in the Brake Hub with the Pin and slide the Hub over the Pin.
- ❑ 3. Use the short, 4-40 Thread-Cutting Screw, included in the wrench bag, to pre-tap the three holes shown in Figure E-16.
- ❑ 4. Thread the two 4-40 x 5/8" Set Screws (27) all the way into each of the two Brake Caliper mounting holes in the left Gearbox Half (83).
- ❑ 5. Slip a 1/4" x .020 Washer (96) and a Brake Sleeve (97) over each of the two 4-40 x 5/8" Set Screws.

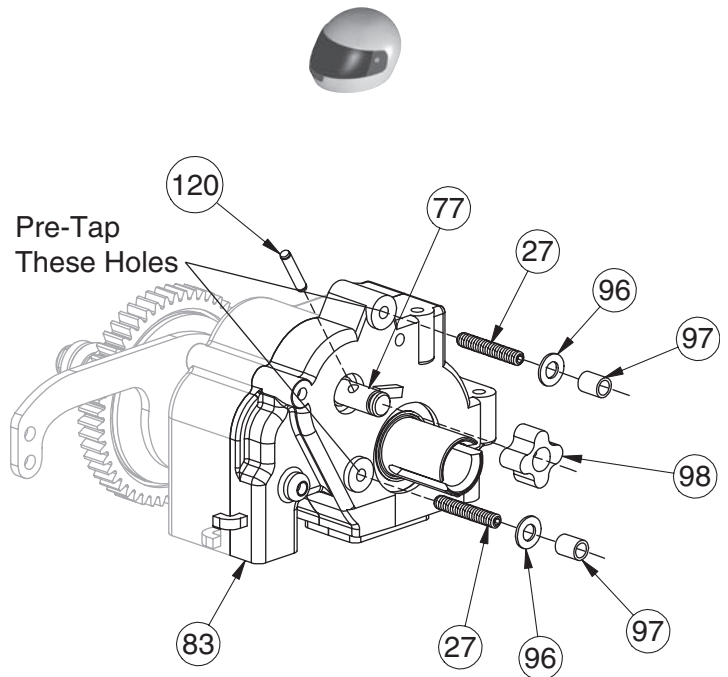


Figure E-16

## Step E-17 Brake Caliper Install:

- ❑ 1. Place one of the Brake Caliper Plates (99) so the ears of the Caliper rest against the Washers and inbetween the two Brake Sleeves (97).
- ❑ 2. Slide the Brake Rotor (100) onto the Brake Hub (98).
- ❑ 3. Place the other Brake Caliper Plate inbetween the Brake Sleeves.

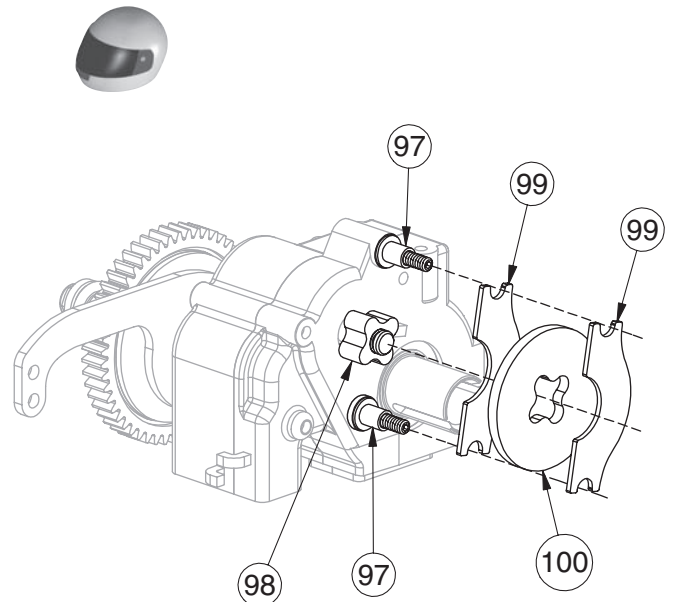


Figure E-17

# BAG E (Continued)

## Step E-18 Brake Lever Assembly:



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103

- ❑ 1. Place a 1/4" x .020 Washer (96) over each of the two 4-40 x 5/8" Set Screws (27) against the Brake Sleeve.
- ❑ 2. Hold the Brake Lever Clips (101) in position on the Brake Lever (102), slide the Brake Lever Clips over the 4-40 x 5/8" Set-Screws.  
**⚠ IMPORTANT NOTE:** Be sure the top Brake Lever Clip points towards the front of the Gearbox and the lower Brake Lever Clip points towards the rear.
- ❑ 3. Secure the Brake Lever Clips with two 4-40 steel Locknuts (95). Tighten the Nuts until they are just snug, then back them off about 1/8 - 1/4 turn, so the Brake Lever Clips are slightly loose.
- ❑ 4. Insert a 3/16" E-clip (103) into the groove in the end of the Brake Shaft (77) to retain the Brake Hub (98).

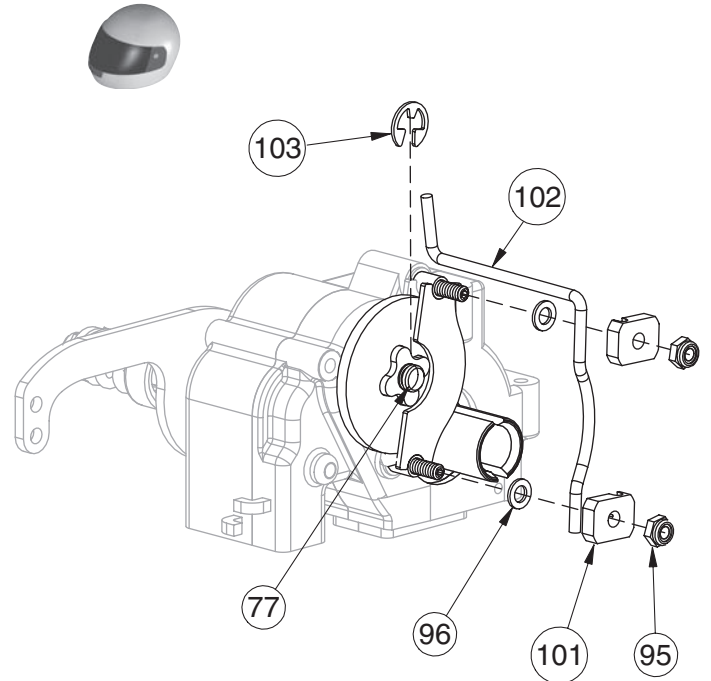


Figure E-18

## Step E-19 Gear Box Install:



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- ❑ 1. Place the Gearbox assembly onto the rear of the Chassis (19), align the bottom for the Gearbox Halves (82)(83) with the rectangular hole in the Chassis. The bottom of the Gearbox should be flush with the bottom of the Chassis.
- ❑ 2. Attach the Gearbox assembly to the rear of the Chassis with four 4-40 x 3/8" Flat-Head Screws (20)
- ❑ 3. Secure the Gearbox Brace (88) to the Chassis Brace (29) with two 4-40 x 3/8" Cap-Head Screws (17).

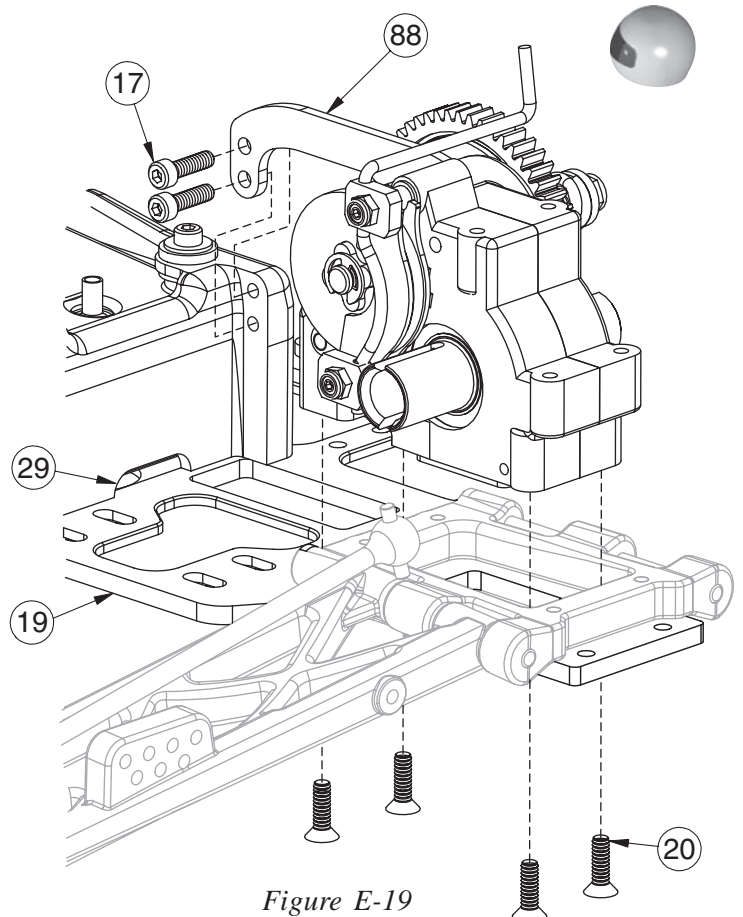
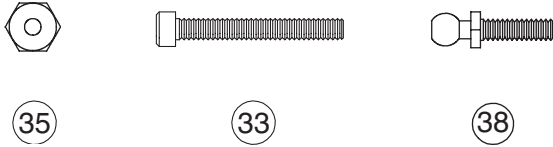



Figure E-19

# BAG E (Continued)

## Step E-20 Rear Shock Tower Assembly:



1. Insert two 4-40 x 7/8" Cap-Head Screws (33), one on each side of the Rear Shock Tower (123), through the outer holes in the Rear Shock Tower. The Screw should point towards the rear of the truck as shown in Figure E-20.
2. Secure the 4-40 x 7/8" Cap-Head Screws in the Rear Shock Tower, by threading a 4-40 Nut (35) over each Screw and tightening.  
 Use the included Team Losi Wheel Nut Wrench to secure the 4-40 nuts which can also be used to adjust the Slipper Clutch, or remove the wheel Nuts.
3. Thread a 3/8" Ball Stud (38) into the center hole on each side of the Rear Shock Tower.

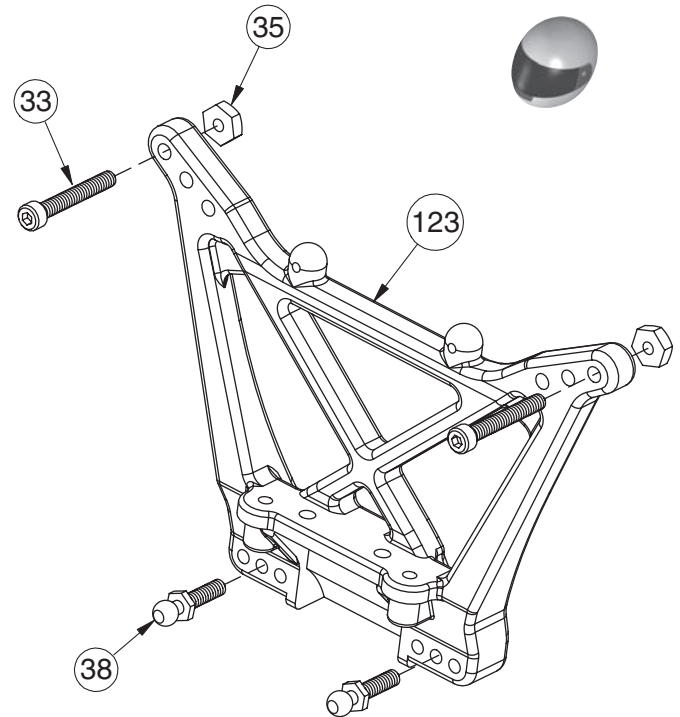
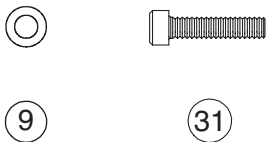


Figure E-20

## Step E-21 Rear Shock Tower Install:



1. Place the rear Shock Tower (123) over the rear of the Gearbox assembly (82)(83) so the holes in the Shock Tower line up with the holes in top of the Gearbox.  
*\*NOTE: The rear Shock Tower should fit tightly around the Gearbox, double check to make sure the holes are lined up properly before threading the screws in before proceeding.*
2. Place a gold Ball Stud Washer (9) over each of the 4-40 x 1/2" Cap-Head Screws (31). Secure the rear Shock Tower to the Gearbox by threading the 4-40 x 1/2" screws and Washers through the Shock Tower and into the Gear Box.

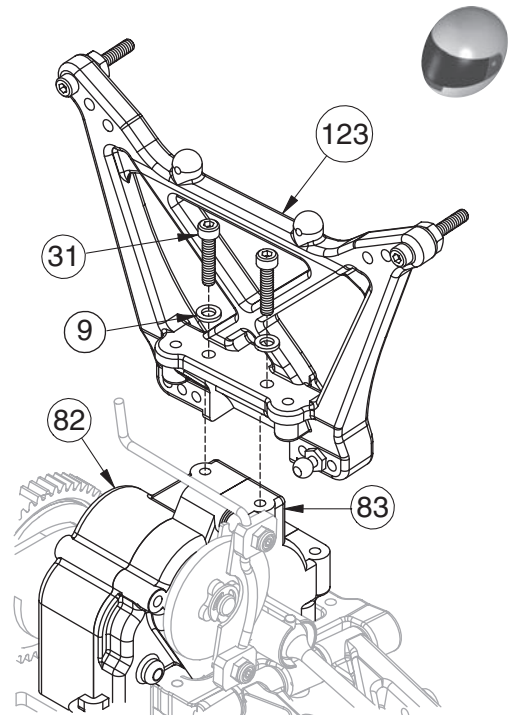
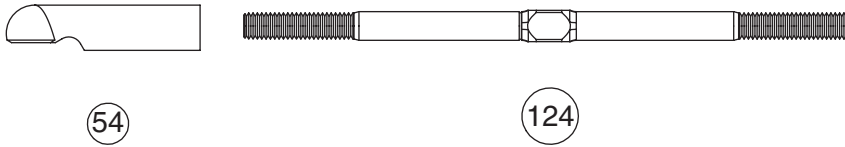



Figure E-21

# BAG E (Continued)

## Step E-22 Rear Camber Tierod Assembly:



 There is a small Container/Package of White Grease used in Step E-6. It is recommended that a small amount of this Grease be applied to the threads of the Turnbuckles before trying to thread on the Plastic Rod Ends. Please use this lube sparingly as its use is recommended in later steps.

*\*NOTE: The two ends of the turnbuckle are threaded opposite directions. The end closest to the groove, next to the square, has standard right-hand threads, the opposite end has left-hand threads. This allows the length of the Tierods to be easily adjusted after installation.*

- ❑ 1. Thread a plastic Rod End (54) onto each end of the 3.0" Turnbuckles (124). Tighten both Rod Ends equally until the same length amount of threads are showing on each side of the Turnbuckle.
- ❑ 2. Adjust the Rod Ends equally in or out until they are oriented the same direction and length as Figure E-22B. Place the Tierod directly over the picture to attain the correct length.
- ❑ 3. Make one of each shown in figure E-22B.

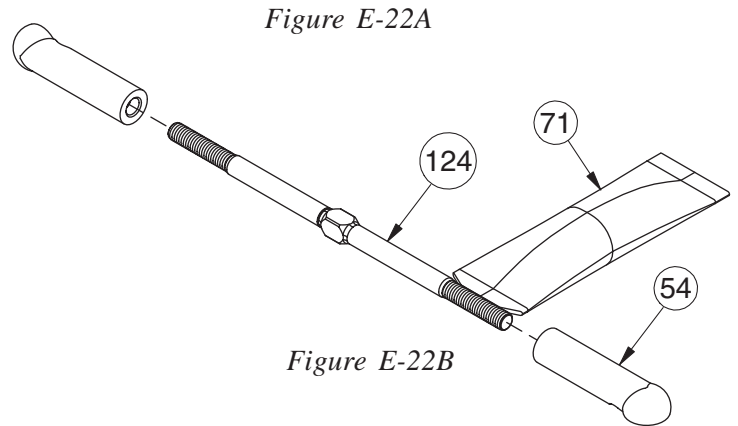
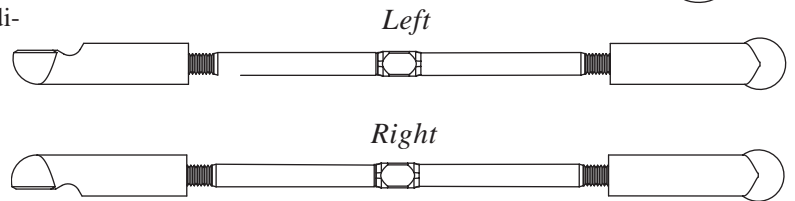



Figure E-22B



## Step E-23 Rear Camber Link Install:

*\*NOTE: Assure that the groove on all of the rear Turnbuckles are located on the drivers left-hand side for easier adjustment later.*

- ❑ 1. Place a Foam Thing (31) over each of the Balls Studs (38) in both the rear Shock Tower (123) and Rear Hub (113).
- ❑ 2. Using the left Tierod assembly from Figure E-22B, attach one end of the rear Camber Link assembly to the Ball Stud in the left Rear Hub, as shown in E-23.
- ❑ 3. Place the Cross Bone (107) into the Outdrive (66) and attach the opposite end of Camber Link to the Ball Stud in the rear Shock Tower.

 **IMPORTANT NOTE:** Ensure that the Cross Bone is installed in the Outdrive and has not fallen out.

- ❑ 4. Repeat Steps 1-3 for the right side of the car.

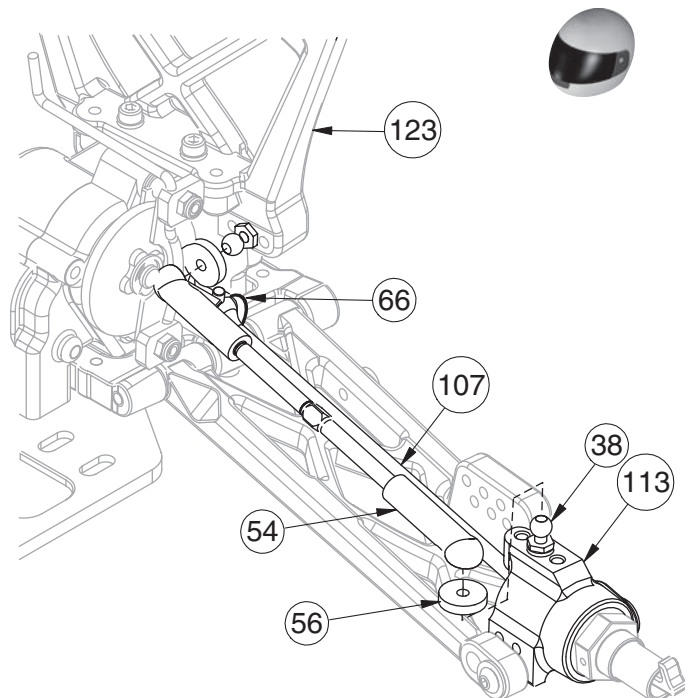


Figure E-23

# BAG E (Continued)

## Step E-24 Battery Box Install:



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36

1. Slide the Battery Box (125) into place on the back of the Chassis (19). The top flange of the Battery Box should fit between the Rear Shock Tower (123) and the Gearbox (82). The back of the Chassis should fit snug into the recess in the bottom of the Battery Box. Be sure that all the holes line up.
2. Place a gold Ball Stud Washer (9) over each of the 4-40 x 1/2" Cap-Head Screws (31). Secure the rear Shock Tower (123) and Battery Box to the Gearbox Halves (82)(83) by threading the 4-40 x 1/2" screws, with Washers attached, through the rear Shock Tower and Battery Box, into the Gearbox Halves.
3. Secure the bottom of the Battery Box to the Chassis with two 4-40 x 1/2" Flat-Head Screws (36).

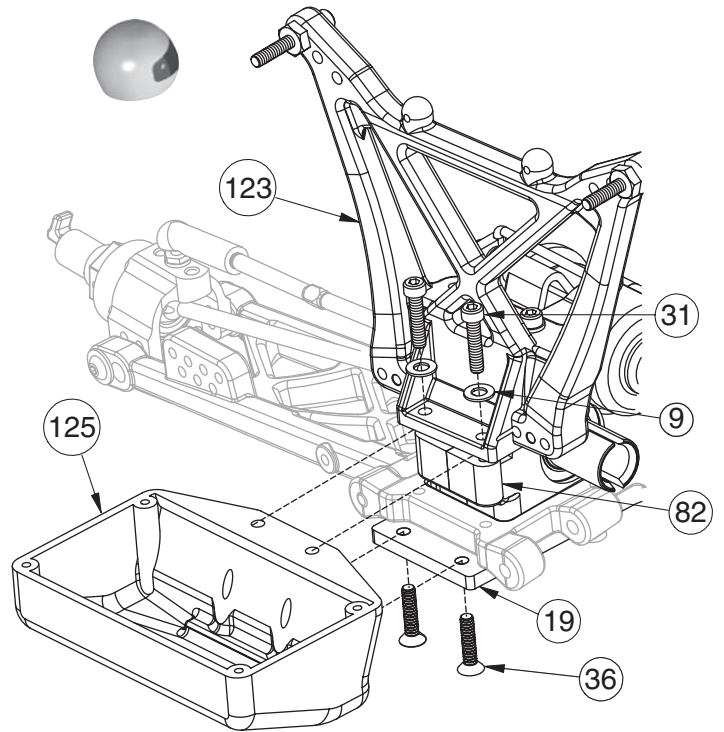
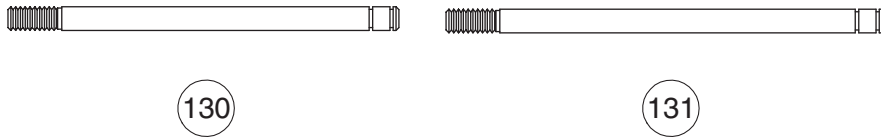


Figure E-24

# BAG F

## Step F-1 Shock Assembly:



- 1. Place a drop of Shock Fluid (132) on the grooved end of each Shock Shaft [front (130), rear (131)]. Then slide a Shock Shaft through the hex shaped end of the Shock Cartridge (114). Slide the Shock Shaft through until it is approximately midway between the threads and grooves, as shown in Figure F-1.

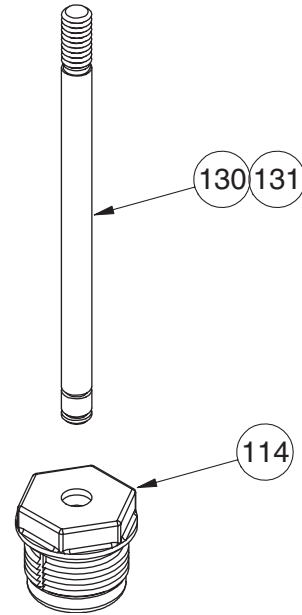
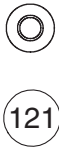


Figure F-1

## Step F-2 Shock End Install:



**! IMPORTANT NOTE:** Use caution when threading the Shock Shaft Ends onto the Shafts. Avoid gouging or scratching the Shock Shaft while gripping the Shock Shaft with pliers. By placing the edge of a towel over the shaft, then gripping the portion of the Shaft covered by the towel. This method will work very well to protect the Shock Shafts from damage.

- 1. Using needle nose pliers, or small vise grips, grasp the front Shock Shaft (130) between the grooves and thread a Shock End (133) all the way onto the Shaft.
- 2. Repeat Step 1 for the second front Shock Shaft and both rear Shock Shafts (131).
- 3. Carefully snap a 1/4" Shock Mount Ball (121) into each of the Shock Ends.

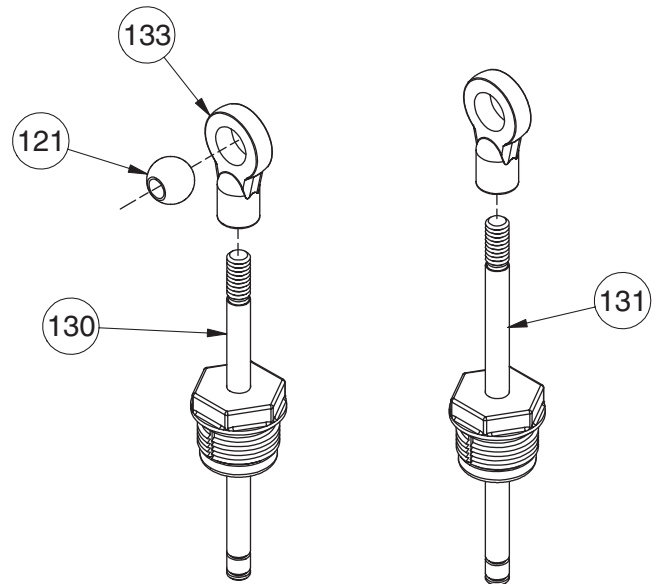


Figure F-2



# BAG F (Continued)

## Step F-3 Shock Piston Install:



(46)

1. Before installing the E-clip to the front Shock Shafts- the shorter of the two lengths, slide a Plastic Spacer (120) marked with a small "A" (0.120 Thick) over the front Shock Shaft next to the Cartridge. Once the Spacers are in place, snap a 1/8" E-clip into the groove closest to the Cartridge on both front Shock Shafts.

*\*NOTE: Shock Spacers are only used on the front Shock Shafts in this step.*

2. Snap a 1/8" E-clip (46) into the groove closest to the Shock Cartridge on both rear (long) Shock Shafts (130).

3. Slide a #55 (orange) Shock Piston (135) onto each of the front Shafts until it rests against the E-clip. Secure the Pistons to the front Shafts with a second E-clip.

**! IMPORTANT NOTE:** The orange #55 Shock Pistons are used on the front (short) Shock Shafts. The red #56 Shock Pistons are used on the rear (long) Shock Shafts.

4. Slide a #56 (red) Shock Piston (136) onto each of the rear Shafts until it rests against the E-clip. Secure the Pistons to the rear Shafts with a second E-clip.

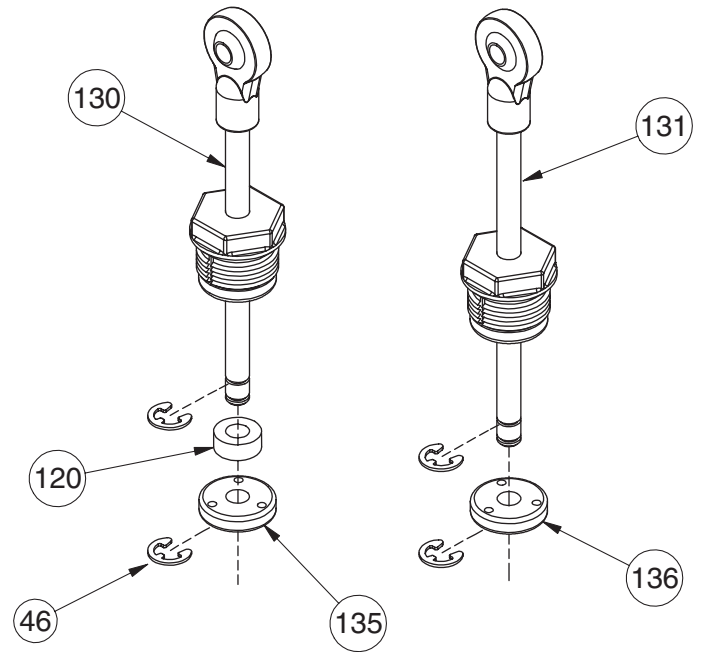


Figure F-3

## Step F-4 Filling the Shocks:

1. Match the short, front Shock Bodies (137) to the short, front Shock Shafts (130), and the long, rear Shock Bodies (138) to the long, rear Shock Shafts (131).

2. Fill the Shock Bodies with 40wt.Shock Fluid (132) up to the bottom of the threads on the inside of the Shock Body.

*\*NOTE: Be sure to match the front Shock Shafts with the front Shock Bodies.*

3. Insert the shaft assembly with the Cartridge against either E-clip or Shock Spacer (front). Slowly tighten the Cartridge about two full turns only. With the Cartridge still slightly loose, slowly push the Shock Shaft down into the Shock Body. This will bleed the excess fluid out of the Shock. Once the Shock Shaft is all the way in, tighten the Shock Cartridge the rest of the way.

4. Now, with the Shock Shaft still all the way in, secure the Cartridge by tightening it with a 7/16" Wrench or pliers approximately 1/8 of a turn. There should be no air in the Shocks as you push the Shaft in and out. If there is, the Shock needs more Fluid. If the Shock Shaft does not compress all the way, the Shock has too much Fluid in it and more must be bled out by loosening the cartridge approximately 1/4 turn and re-tightening (Shaft should be compressed during this process).

*\*NOTE: If leaking persists around the outside, tighten the cartridge more. Be careful not to over tighten and strip the threads on the Cartridge Body.*

5. Repeat Steps 2-4 for the remaining three Shocks.

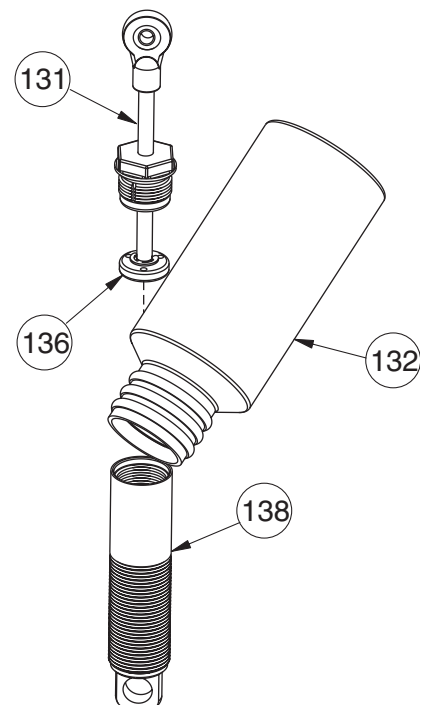


Figure F-4

# BAG F (Continued)

## Step F-5 Shock Adjustment Nut Assembly:

**\*Note: This step will only be used for maintenance purposes. These come pre-assembled in the kit.**

**\*NOTE:** Place a drop of Shock Fluid onto each O-ring before installing it into the Shock Adjusting Nut. This will allow the Nut to thread onto the Shock Body easily.

- ❑ 1. Place the O-ring (126) into the groove inside of the Shock Adjusting Nut (139). Be sure to seat the O-ring completely into the groove as shown in Figure F-5B.

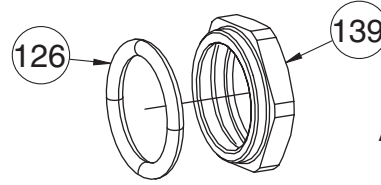


Figure F-5A



SECTIONED VIEW OF ASSEMBLED NUT WITH O-RING PROPERLY SEATED IN GROOVE.

Figure F-5B

## Step F-6 Spring Install:

- ❑ 1. Snap a Shock Spring Cup (140) onto each of the four Shock Shafts (130) (131) and slide it down around the Shock End (133).
- ❑ 2. Slide a red Shock Spring (141) over each of the shorter front Shocks so that the Spring rests on the Spring Cup. Slide a pink rear Spring (163) over the longer rear Shocks so that the Spring rests on the Spring Cup.
- ❑ 3. Thread a Shock Spring Adjustment Nut (139), with the hex end pointing up, on to the top of all four Shock Bodies (137), (138). Tighten the Shock Adjustment Nuts on to the Shocks until the nut just touches the Spring.

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

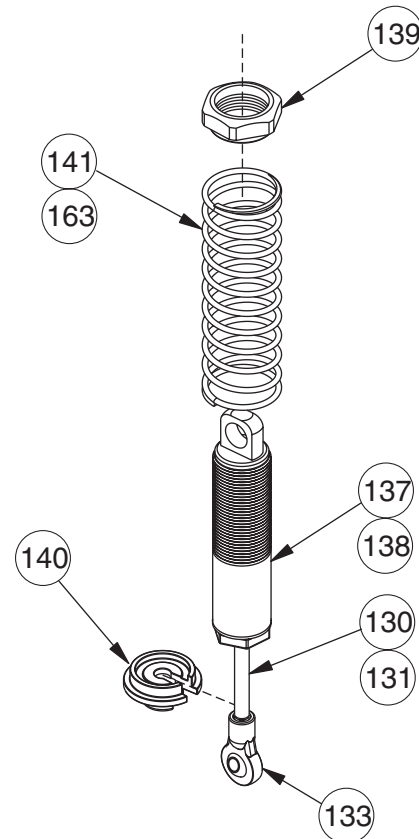


Figure F-6

# BAG F (Continued)

## Step F-7 Rear Shock Install:



31



95



142

❑ 1. Make sure that the Cross Bones (107) are in the Outdrives (60)(66) before continuing.

❑ 2. Insert a 4-40x 1/2" Cap-Head Screw (31) through the Shock Mount Ball (121) in one of the rear Shocks. Position the bottom of the Shock, with the Screw, behind the the Shock mounting area on the left rear Suspension Arm (118). Thread the Screw all the way into the second hole, on the top row, from the inside on the rear Arm, as shown.

❑ 3. Slide a short Shock Mount Bushing (142), large side first, over the upper shock mounting Screw (33) on the left side of the rear Shock Tower.

*\*NOTE: Before attaching the top of the Shock, make sure that the Dogbone is in place in the Outdrive.*

❑ 4. Place the top of the Shock Body (138) over the Shock Mount Bushing on the Rear Shock Tower (123) and secure it with a 4-40 Locknut (95).

❑ 5. Repeat Steps 1-4 for the right rear Shock.

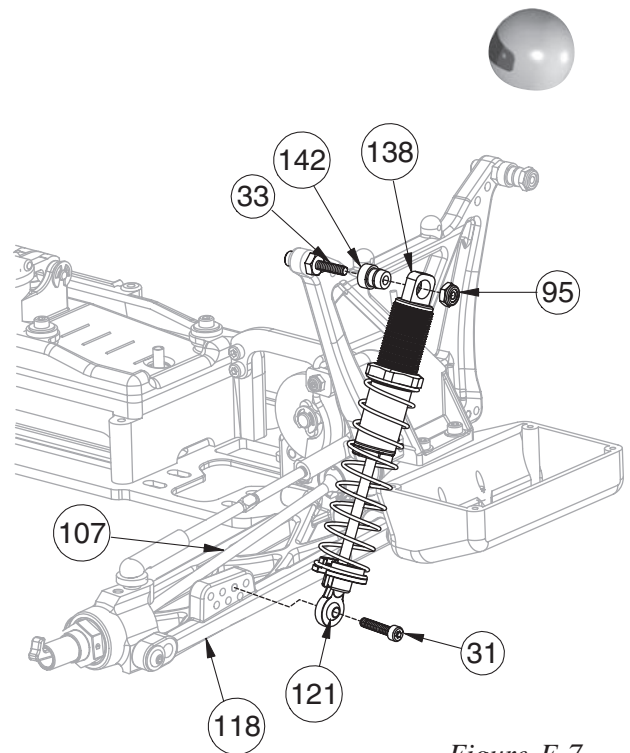


Figure F-7

## Step F-8 Front Shock Install:



31



95



143

❑ 1. Insert the Shock End (133) of a front Shock between the shock mounting rails of the front suspension Arm (48) and line up the hole in the Shock Mount Ball (121) with the middle hole in the Arm.

❑ 2. Attach the Shock End to the front Arm by threading a 4-40 x 1/2" Cap-Head Screw (31) all the way into the Arm.

❑ 3. Slide a long Shock Mount Bushing (143), large side first, over the Screw (33) on the left side of the Front Shock Tower (34).

❑ 4. Place the top of the Shock Body (137) over the Shock Mount Bushing on the front Shock Tower and secure it with a 4-40 Locknut (95).

❑ 5. Repeat Steps 1-4 for the right front Shock.

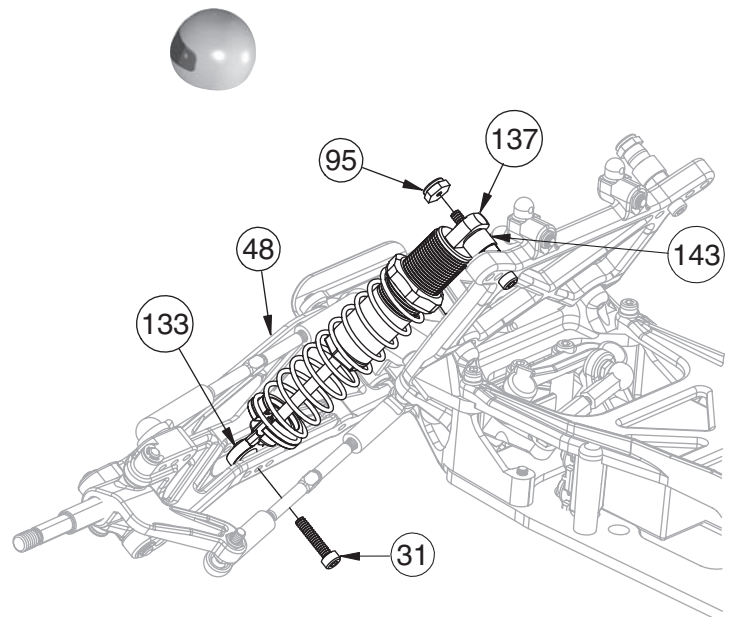


Figure F-8


# BAG G

## Step G-1 Tire Mounting and Install:




- 1. Inspect the inside of the Tires [front (144), rear (145)] for any excess material. If present, trim excess rubber to ensure proper seating of the Tire bead onto the Wheel (147). During Tire assembly, make sure that all lettering on the sidewall of the front Tires faces to the outside of the Wheel.

*\*NOTE: Do not set Tires on furniture as they may leave permanent stains.*


 It is recommended that you dampen a corner of a cloth with some rubbing alcohol and use it to clean off any residue from the bead of the Tire to ensure a clean gluing surface. Be sure to let the alcohol on the Tire dry before inserting the Foam Insert into the Tire.

- 2. Insert a Foam Liner (146) into the four Tires. Pull the Tires over the Wheels and squeeze the Tires to properly seat the bead into the grooves of the Wheels. Make certain that the Foam Liners are not pinched between the Tires and the Wheels.

 Team Losi Tire Glue (A7880 "Thick", A7881 "Thin") is the best Glue available for gluing R/C car Tires. This Glue was produced specifically for this purpose. The Team Losi (A7884) off-road Tire Gluing kit is also available to get the job done right. It includes a bottle of glue, an applicator tube, and a ten rubber bands. The rubber bands will be used to properly seat and hold the Tire bead onto the Wheel while gluing.

 **IMPORTANT NOTE:** *Read and follow adhesive manufacturers' safety warnings regarding use.*

- 4. The Tires now need to be glued to the Wheels. This can be done by using a fast-curing super glue or cyanoacrylate glue, available at your local hobby shop. Install a Tire gluing rubber band around the outside of the Tire, in line with the bead, to hold it onto the Wheel. Now slightly pull back the Tire bead from the Wheel and apply a thin bead of glue between the Tire bead and the Wheel, all the way around. Wait for this side to dry and do the same to the other side until the Tire is firmly adhered to the Wheel. Allow the glue to dry thoroughly before continuing.

 **IMPORTANT NOTE:** *Allow the Glue to dry before continuing.*

- 5. Install a Wheel Bushing (105) into each of the rear Wheels, align the holes in the bushing with the corresponding holes in the Wheel. Secure the Wheel Bushing by threading in two 2-56 x 1/4" Button-Head Screws (116) into each of the screw holes and tighten.

- 6. Install a 3/16" x 3/8" Bearing (114) into the backside of the front Wheel (Teflon seal facing out). Insert a Bearing Spacer (115) into the Wheel from the front side. Capture the Spacer with a second Bearing (Teflon seal facing out as well).

- 7. Install the front Wheels by sliding the front Wheel with Bearings over the front Axle (39) as shown in Figure G-1. Place a 3/16" x 0.015" Shim (149) over the Axle against the outside Bearing. Secure the Wheel by threading a 10-32 Locknut (150) onto the Axle and Tightening.

- 8. Mount the rear Wheels to the rear Axles (109) by lining up the Wheel Hex (112) with the hex in the rear Wheel and pushing the Wheel all the way onto the Axle, making sure the rear Wheels are pushed completely on and the Quick Change Lever is latched over the Wheel Bushing.

- 9. The rear Wheels can also be retained by using the Threaded Axle Adapters instead of the Quick Change system, by threading the 10-32 Locknuts on to the rear Axle Adapters and tightening.

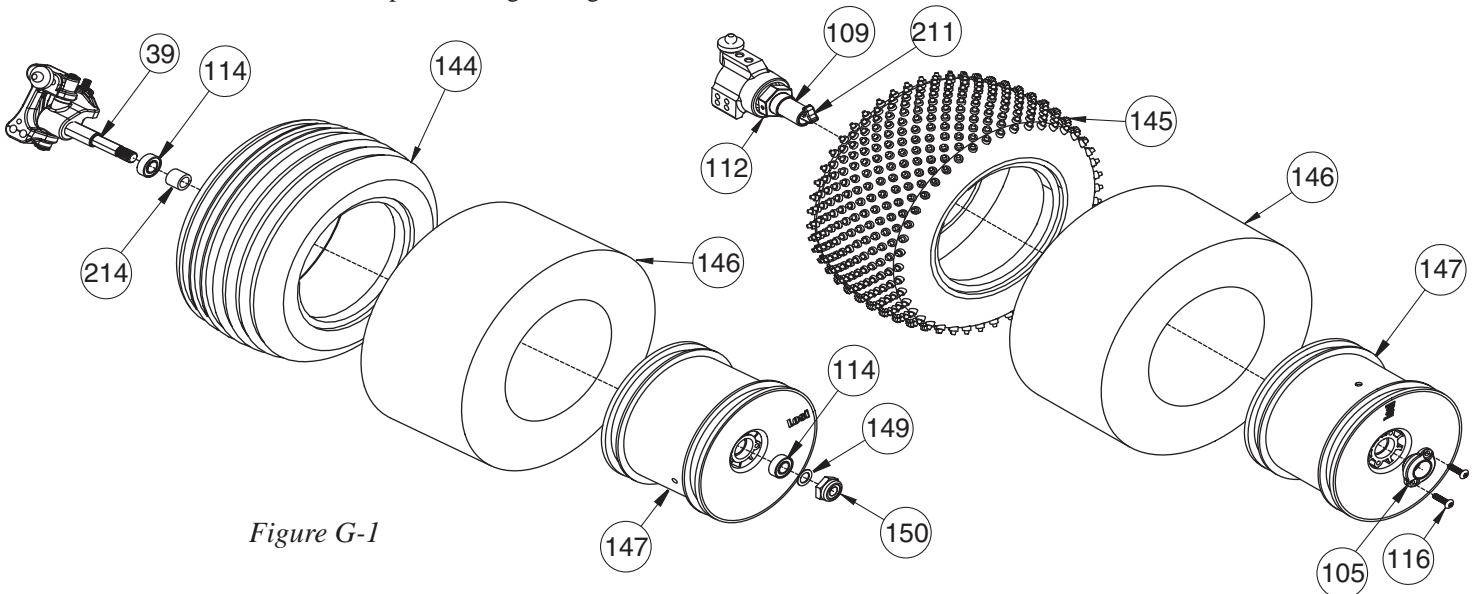


Figure G-1

# BAG G (Continued)

## Painting the Body and Wing

### BODY AND WING PAINTING

Prepare the Lexan Body and Wing for painting by washing them thoroughly (inside and out) with warm water and liquid detergent. Dry both the Body and Wing with a clean, soft cloth. Use the supplied Window Masks (206) to cover the windows *from the inside*. A high-quality 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 Wing. Use acrylic lacquer, acrylic enamel, or any other paints recommended for Lexan (polycarbonate). Apply paint to the inside of the Body and to the wing shown in Figure G-3B. Remove the tape for the next color and continue. Try to use darker colors first. If you use a dark color after a light color, apply a coat of white over the lighter color before applying the darker color. This will help prevent the darker color from bleeding through the lighter color.

### STICKERS

Apply the stickers after the mounting of the Body and Wing is complete. Cut the stickers from the Sticker Sheet (207) that you wish to apply to the Body or Wing. Before removing the protective backing, find the desired location. Remove the backing completely and reattach an edge of the sticker to the shiny side of the backing material. Using the rest of the backing material as a handle, position the sticker and press firmly into place to complete its application.

## Step G-2 Body Trim and Install:

- ❑ 1. After Painting, trim the Body (205) along the trim lines (as shown in Figure G-2, emphasized by the dark shading), there is an indented trim line around the Body which can be used as a guide for trimming.
- ❑ 2. Make five 1/4"-diameter holes at the locations marked with dimples. There are two on the front hood, two on the back bed, and one on the window. These will be the Body mounting and Antenna Tube holes.
- ❑ 2. Cut out both side windows and front window as shown in Figure G-2. These cut outs allow for air to pass through the Body and cool the engine.

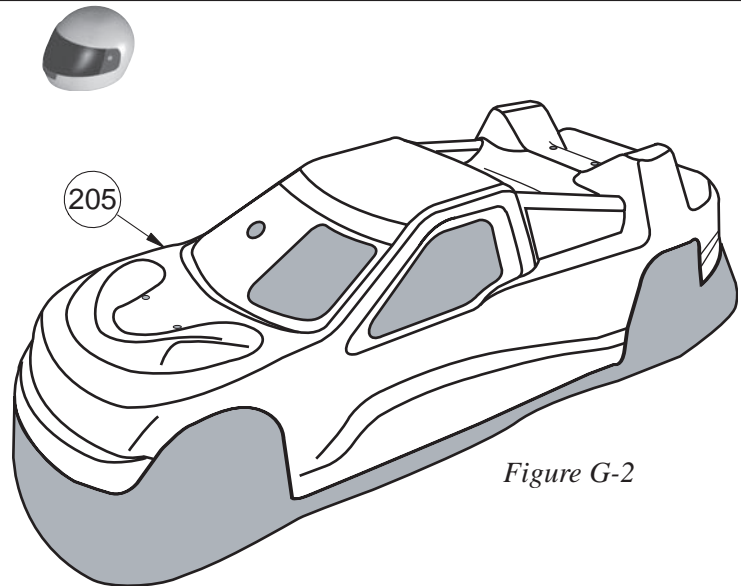
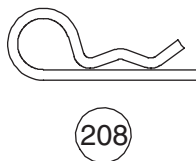


Figure G-2

## Step G-3 Rear Wing Install:



- ❑ 1. Trim the rear Spoiler (213) along the trim lines as shown in Figure G-3A.
- ❑ 2. Trim the area behind the cab area to allow for air filter and engine clearance as shown in Figure G-3A.
- ❑ 3. Cut a piece of Two Sided Tape (182) approximately 3/8" wide.
- ❑ 4. Apply the Two Sided Tape along the bottom, on the back side of the rear Spoiler. Remove the backing from the Tape and affix the Spoiler to the Rear of the Body (205) as shown in Figure G-3B.
- ❑ 5. Install the assembled Body onto the Chassis and secure it with four Body Clips (208) through the posts on the rear Shock Tower (123), and through the Body Mounts (37) on the front Shock Tower.

Figure G-3B

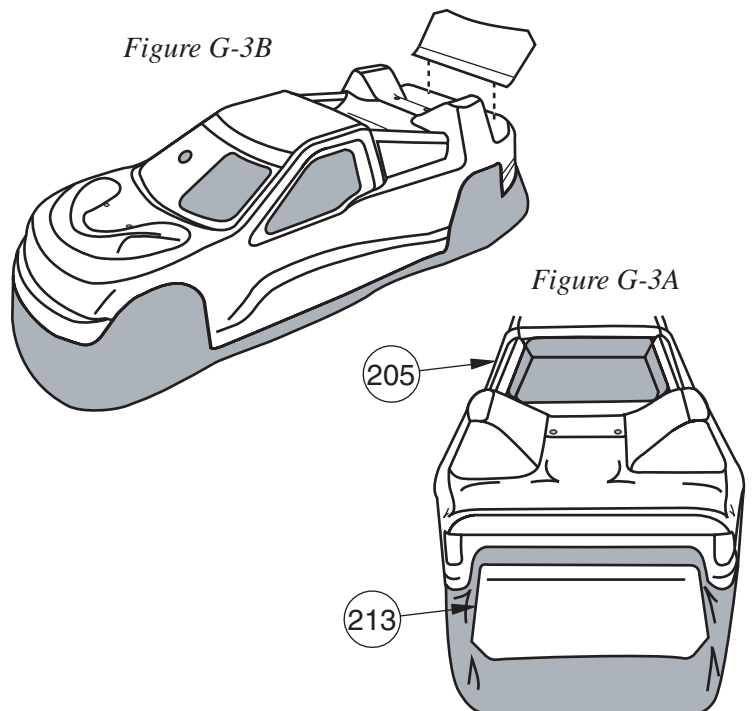




Figure G-3A



# Bag H

## Step H-1 Clutch Pin Install:

-  1. Remove any hardware that came installed on the crankshaft of 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, and should be placed between the head of the engine and glow plug. However the engine Manufacturer instructions should be followed.*

 **IMPORTANT NOTE:** A small amount of Thread-Lock compound must be used on the threads of the Clutch Pins.

-  2. Place a drop of Thread Lock (119) on the threads of each Clutch Pin (151).
-  3. Thread a Clutch Pin into each of the small holes in the Flywheel (152) and tighten with a .050" Allen Wrench, as shown.

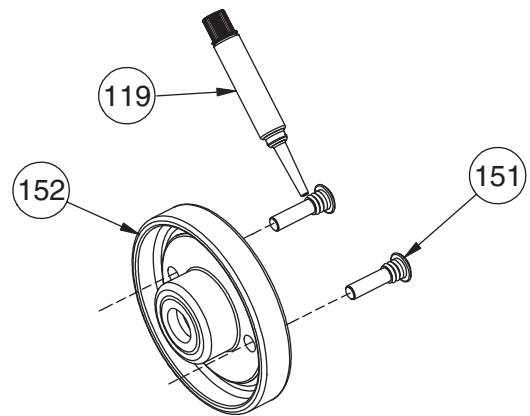
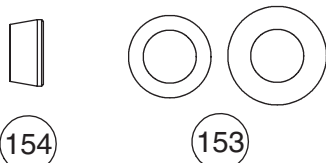





Figure H-1

## Step H-2 Flywheel Install:



-  1. Slide the correct size Flywheel Shim, for your engine, (153) over the crankshaft, and against the front Bearing on the engine. Slide the Flywheel Collet (154), large side first, over the crankshaft and next to the Shim.

 **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!*

-  2. Slide the Flywheel (152), Pins out, over the crankshaft. The Flywheel should be seated over the Collet. Thread the Clutch Nut (155) onto the crankshaft and tighten it using a 3/32" Allen wrench.

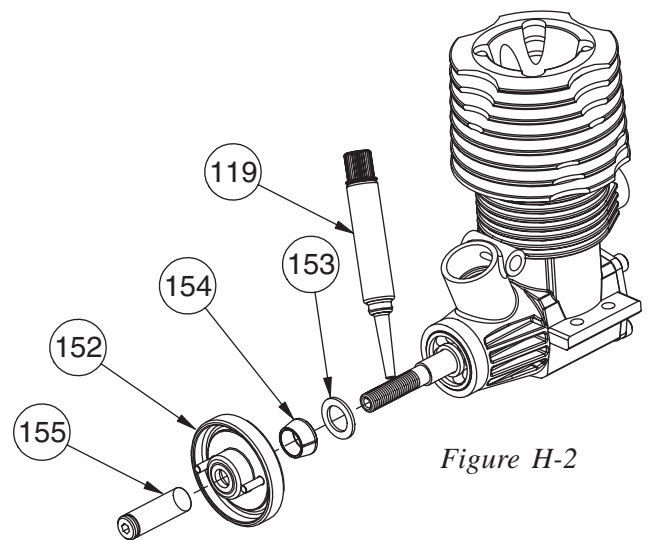





Figure H-2

## Step H-3 Clutch Shoe Assembly:

 **IMPORTANT NOTE:** The Clutch Shoes may come in a single piece, and must be completely separated to operate properly. Bend the Shoes along the cut and pull the two halves apart.

-  1. Hook the two ends of the Clutch Spring (156) together to form a loop as shown. Stretch the looped Spring over the two Clutch Shoes (157) so that the Clutch Shoes form a circle. Make sure that the holes in the Clutch Shoes are on opposite sides of the circle as shown.

 **LIGHTLY** sand the outer surface of the clutch shoes can improve their performance. Sand the shoes using a 400 grit, or finer sandpaper. Sand the shoe surface lengthwise, 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.

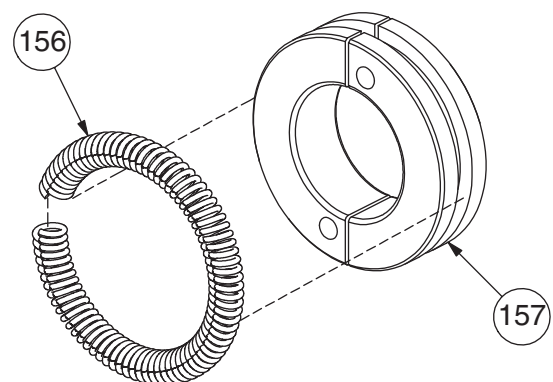


Figure H-3

# Bag H (Continued)

## Step H-4 Clutch Shoe Install:

**⚠ IMPORTANT NOTE:** Make sure that the Clutch Shoes are facing the correct direction as illustrated, when the motor has been installed. Position the Clutch so that the shoes are separated one on top, one on bottom. The top Clutch Shoe should be attached to the Pin at the left side of the Flywheel, as shown in Figure H-4, when looking at the engine from the front.

❑ 1. Slide the Clutch Shoe assembly over the Clutch Nut (155). Place each Clutch Shoe (157) over a Clutch Pin (151) and slide the Shoes all the way against the Flywheel (152). In order for the Shoes to slide over the Clutch Nut, they will have to be pulled apart slightly, stretching the Clutch Springs (156).

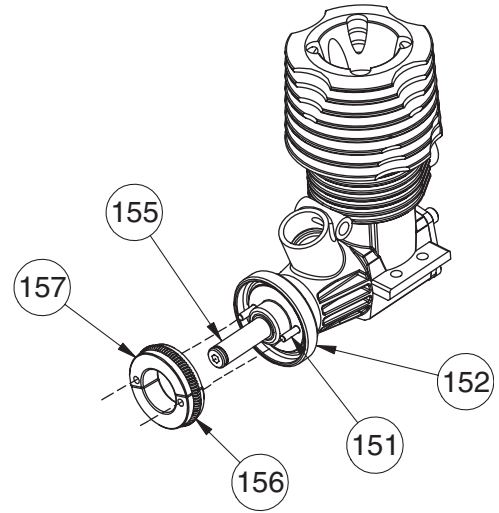
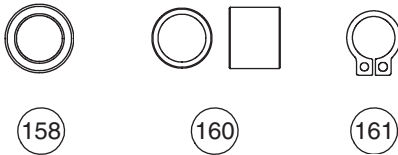


Figure H-4

## Step H-5 Clutch Bell Install:



❑ 1. Insert a 1/4" x 3/8" Clutch Bearing (158) into each side of the Clutch Bell (159).

❑ 2. Slide the Clutch Bell over the Clutch Nut (151) so that the gear faces out. Push the Clutch Bell all the way against the clutch assembly.

❑ 3. Place the Clutch Spacer (160) over the Clutch Nut and against the Clutch Bell. Secure the assembly by spreading the 1/4" Snap Ring (161) over the end of the Clutch Nut and into the groove in the Clutch Nut.

**⚠ 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.

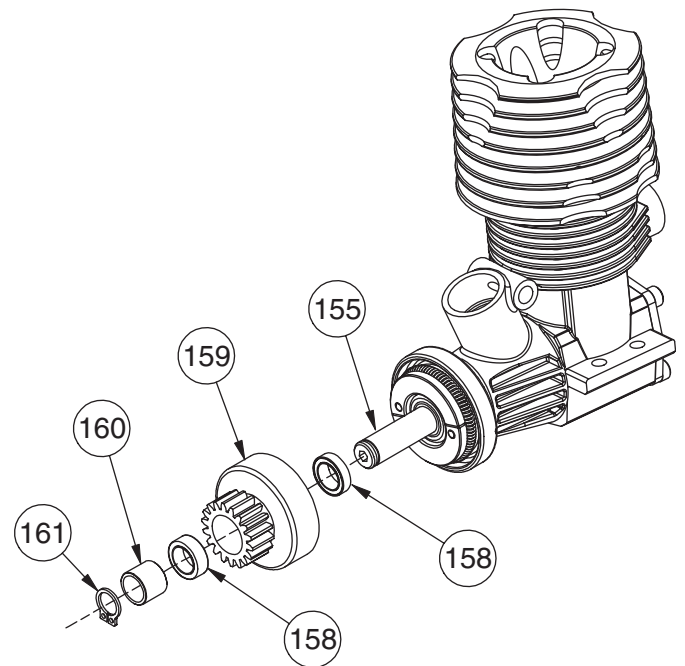
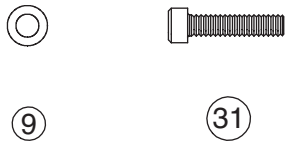



Figure H-5

# Bag H (Continued)

## Step H-6 Engine Mount Install:



1. Place a Ball Stud Washer (9) over the four 4-40 x 1/2" Cap-Head Screws (31). Insert a 4-40 x 1/2" Cap-Head Screw through the four holes in the engine as shown.

 Use Thread-lock compound on the threads of the Screws for the Engine Mounts to prevent the Screws from backing out.

2. Attach the engine to the Engine Mounts (164) by threading the four Screws into the four holes shown.

*\*NOTE: The two Engine Mounts should be positioned with the narrow end up as shown in Figure H-6.*

**! IMPORTANT NOTE:** Make sure that the Engine Mounts are installed correctly as indicated in Figure H-6. The larger holes should be positioned toward the front of the engine, and the four Screws should be installed into the smaller holes.

*\*NOTE: Engines equipped with pull starts can be installed in the XXX-NT AD2, in the same fashion as a non-pullstart engine.*

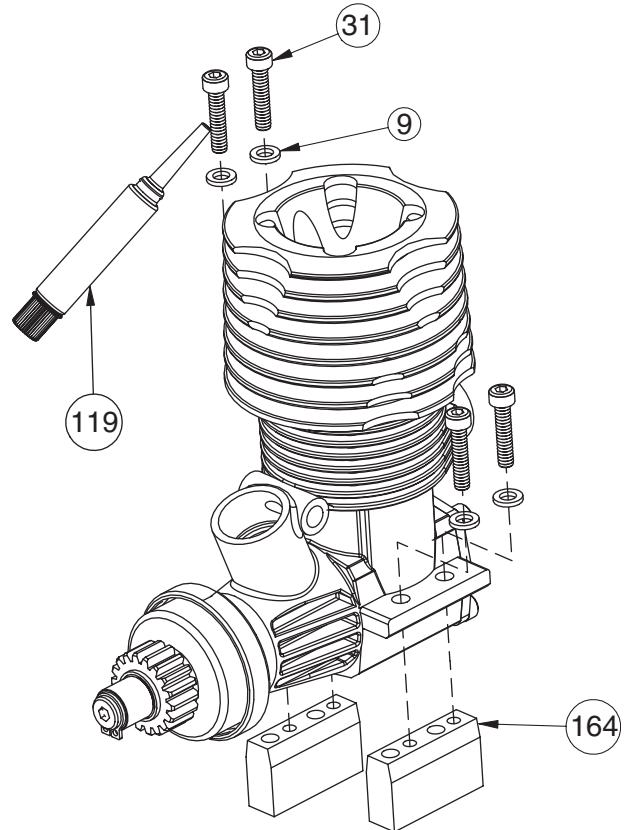


Figure H-6

## Step H-7 Carburetor Install:

1. Install the carburetor to the engine as per the instructions supplied with the engine. The carburetor throttle arm should be on the left side of the engine as shown. Check that the arm has equal throw from center, as shown in Figure H-7A. If the arm rotates more in one direction, loosen the nut securing the arm and re-position the arm.

*\*NOTE: If your engine comes equipped with a slide valve carburetor, the slide ball should be positioned to the left side of the engine pointing up and forward.*

2. Tighten the carburetor locking screws or other mechanism per the instructions included with your engine.

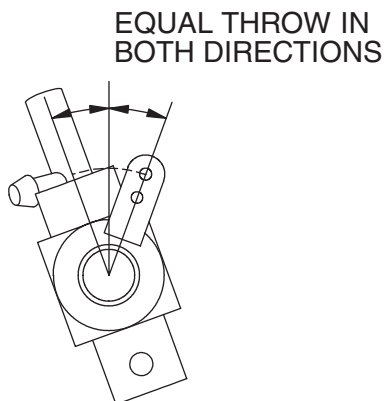


Figure H-7A

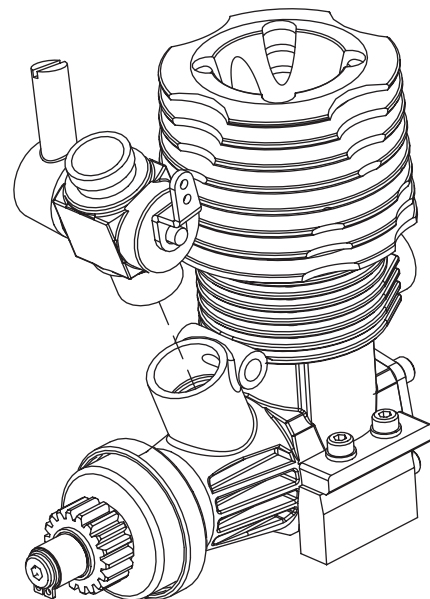


Figure H-7




# Bag H (Continued)

## Step H-8 Air Filter Install:

❑ 1. Press the paper Air Filter Element (165) into the large end of the Air Filter Boot (166). Be sure that the side of the Paper Element with the hole in it is inserted into the boot.

❑ 2. Slide the foam Pre-Filter (167) over the Paper Filter.

 Air filter oil should always be applied to the foam Pre-Filter before running. **Do not apply filter oil to the paper filter element.**

❑ 3. Attach the Air Filter Boot to the carburetor. Secure the boot to the carburetor with a 4" Tie-Strap (168). Tighten the Tie-Strap and cut any excess material off of the Tie-Strap.

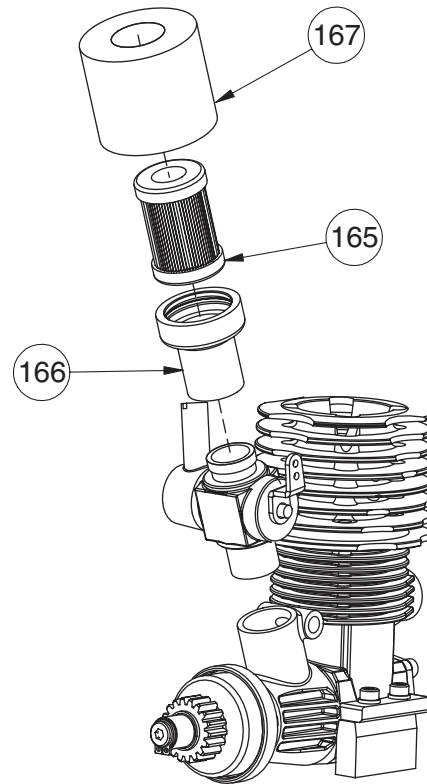


Figure H-8

## Step H-9 Exhaust Header Install:

❑ 1. Wet your finger with water and *lightly* moisten the exhaust port gasket (170) and slide it in the Header flange on the Exhaust Header (171).

❑ 2. Place the Exhaust Header, with the Gasket installed, over the exhaust port of the Engine and push the Exhaust Header onto the engine. To aid in installation the Header can also be twisted while being pushed on.

❑ 3. Align the straight portion of the Header to be perpendicular to the head of the Engine.

❑ 4. Hook one end of the Header Spring (169) into the lower hole on one side of the Header flange. Grasp the opposite end of the Spring with a pair of needle nose pliers and stretch the Spring around the case of the engine and hook it into the lower hole on the opposite side of the Header flange.

❑ 5. Attach the second Spring by following the instructions in Step 4 to the upper holes in the Exhaust Header.

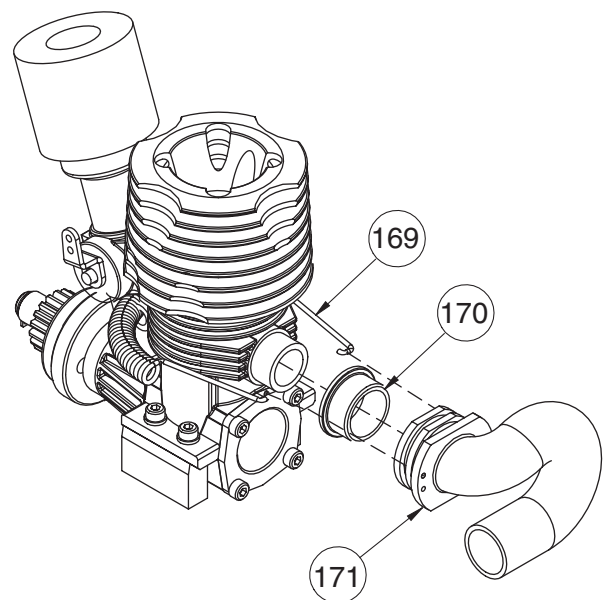


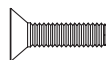
Figure H-9

# Bag H (Continued)

## Step H-10 Engine Install:



172



173

❑ 1. Place a Countersunk Washer (172) over each of the 5-40 x 1/2" Flat-Head Screws.

❑ 2. Position the engine in the Chassis (19) and line up the holes in the Engine Mounts (164) with the slots in the Chassis.

⚠ **IMPORTANT NOTE:** Use a Thread-Lock compound on the threads of the screws in the Engine Mounts to keep them from coming loose.

❑ 3. Thread the 5-40 x 1/2" Flat-Head Screw (173), with the Washers in place, all the way into each of the four holes in the Engine Mounts. Be sure all the Countersunk Washers fit down inside the slots in the Chassis. Do not fully tighten the Screws yet.

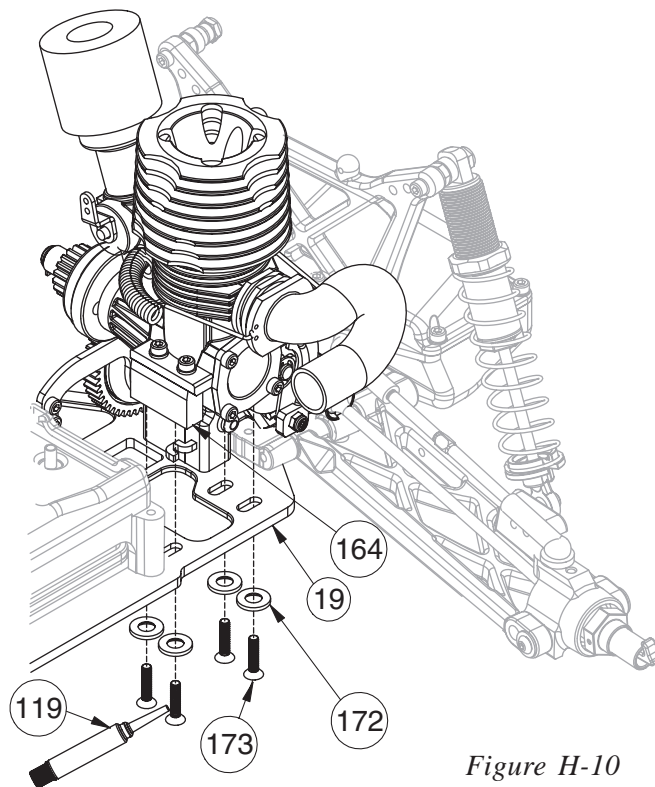



Figure H-10

## Step H-11 Gear Mesh Adjustment:

❑ 1. Adjust the Gear mesh between the Clutch Bell (159) and the Spur Gear (91) by sliding the Engine Mounts (164) in the slots of the Chassis (19). In order to function properly, the Gears should be as close as possible, but still have a small amount of backlash (space between the Gear teeth). You should be able to rock one Gear back and forth *slightly* while holding the other one steady. Be sure to check the Gear mesh all the way around the Spur Gear.

❑ 2. Once the engine alignment and Gear mesh are correct, tighten all of the Screws (173). Re-check the Gear mesh after all the Screws are tight to ensure the Engine Mounts did not move.

 Place a piece of paper between the Clutch Bell Gear and Spur Gear, Slide the engine forward until the paper is pinched between the Gears and Tighten the Engine Mounting Screws. This will give a small amount of space between the Gears for proper mesh.

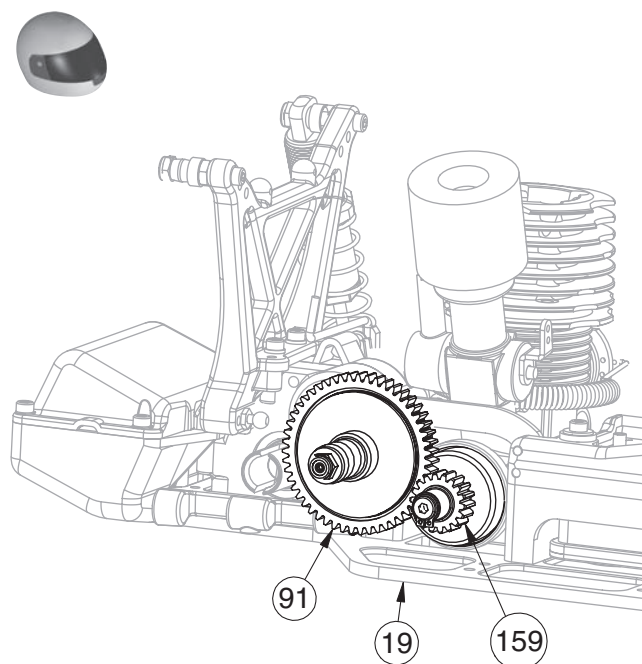


Figure H-11

# Bag H (Continued)

## Step H-12 Tuned Pipe Install:

- ❑ 1. Place the silicone Exhaust Coupler (174) over the end of the Exhaust Header (171) as shown.
- ❑ 2. Insert the Tuned Exhaust Pipe (175) into the opposite end of the Exhaust Coupler so that the exhaust outlet on side of the Pipe points away from the truck, and the mounting stud points straight up.

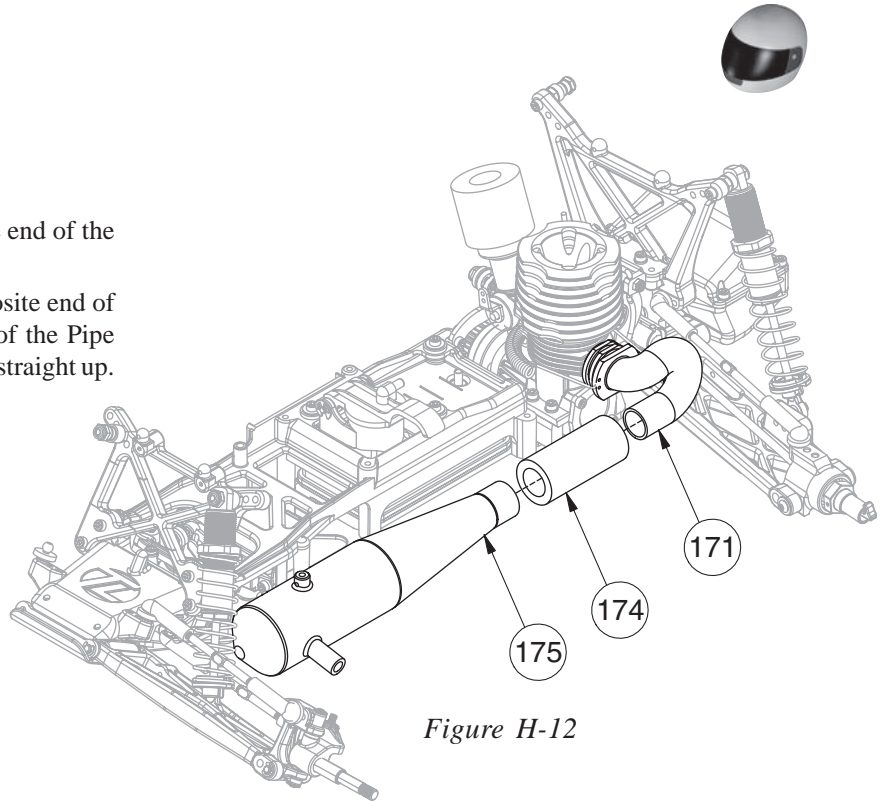
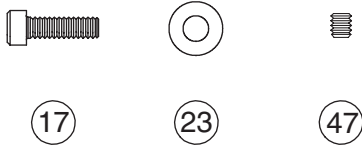


Figure H-12

## Step H-13 Pipe Mount Adjustment:



- ❑ 1. Insert the straight end of the Pipe Mount Bracket (177) into the unthreaded hole in the mounting stud on the Tuned Pipe (175) so that the bend is behind the mounting stud. Thread a 5-40 Set Screw (47) into the threaded hole at the top of the mounting stud of the Pipe but do not tighten completely.
- ❑ 2. Place a #4 Washer (23) over a 4-40 x 3/8" Cap-Head Screw (17). Position the loop of the Pipe Mount over the hole just forward of the Fuel Tank in the Center Brace (29). Place the 4-40 Screw and Washer through the loop in the end of the Pipe Mount and thread it until tight as shown in Figure H-13. Tighten the 5-40 Set Screw in the top of the Pipe Mount on the Pipe.

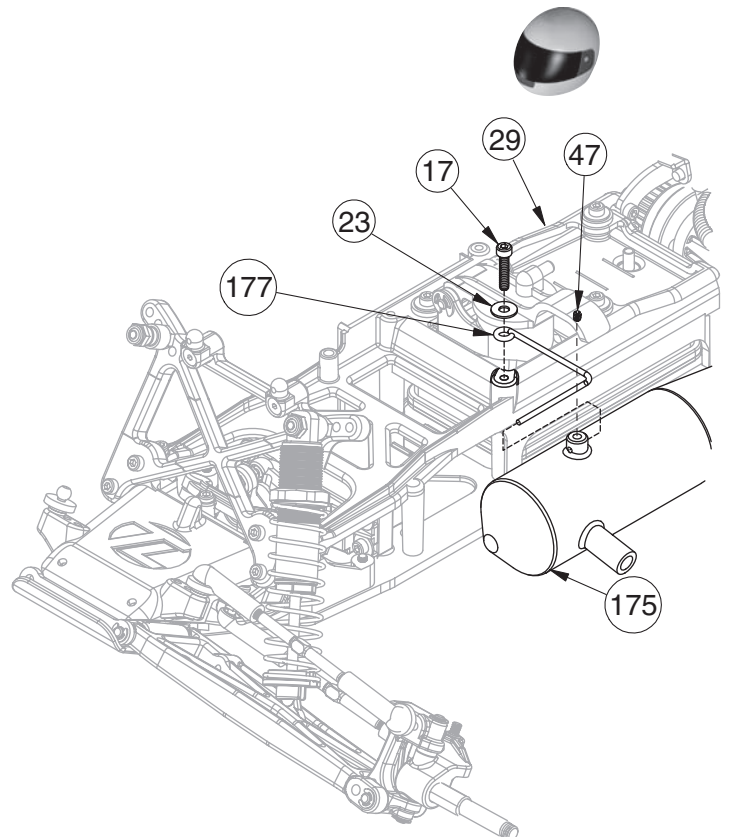


Figure H-13

# Bag H (Continued)

## Step H-14 Coupler Tie Strap Install:

- ❑ 1. Secure the Tuned Pipe (175) to the Coupler (174) by wrapping an 8" Tie Strap (180) around the Coupler, and the pipe, and tighten.
- ❑ 2. Secure the Coupler to the Exhaust Header (171) by wrapping another 8" Tie Strap around the Coupler and Header and tighten. Cut off the extra length from both Tie Straps.

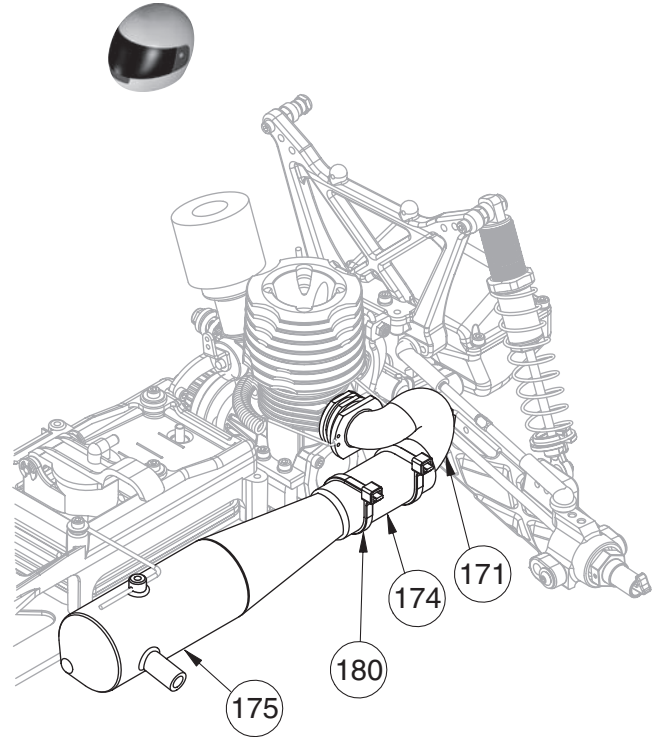


Figure H-14

## Step H-15 Pressure and Fuel Line Install:

- ❑ 1. Cut an 10.5" (280mm) length of Fuel Tubing (176) from the piece supplied.
- ❑ 2. Cut one end of the 10.5" piece of Fuel Tubing at a 45° angle as shown in Figure H-15A. Install the uncut side of the tubing to the forward fitting on the top of the Fuel Tank (30).
- ❑ 3. Wind the Fuel Tubing into a small loop and insert it into the rectangular slot in the chassis brace (29) as shown and clip the Fuel Line into the Fuel Line Clip (84) on the Chassis. Insert the cut end of the tubing into the inside (small) hole in the tuned pipe. This fuel line will serve as the fuel tank pressure line.
- ❑ 4. Attach one end of the Fuel Tubing to the rear fitting on the top of the Fuel Tank, and attach the other end to the fitting on the carburetor. This will be your Fuel Line.

**! IMPORTANT NOTE:** Make sure that the cut section of Fuel Tubing is inserted all the way into the Tuned Pipe.

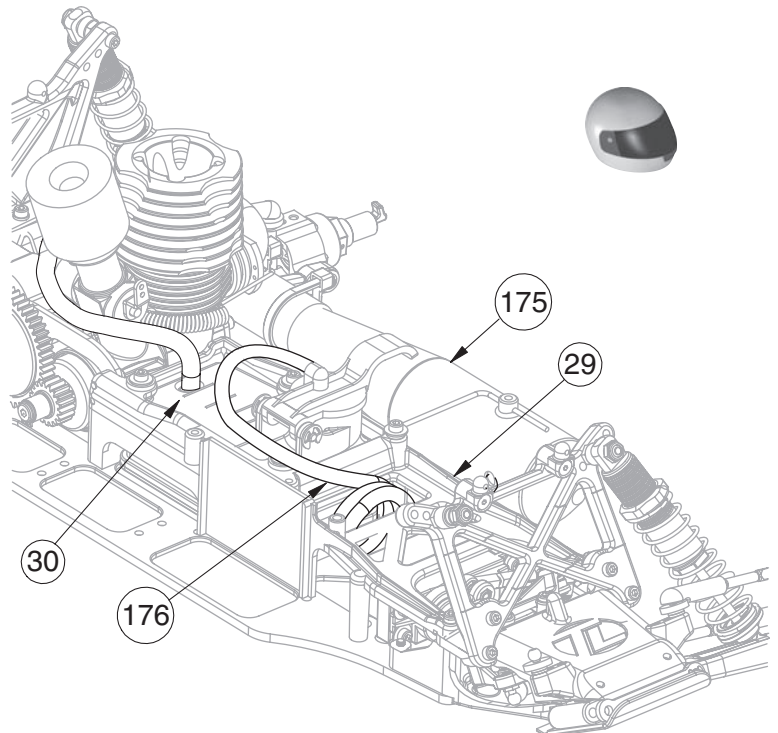


Figure H-15

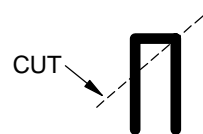



Figure H-15A

# Bag I

## Step I-1 Receiver Install:

 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.

- ❑ 1. Cut a piece of Two-Sided Tape (182) to the same size as the bottom of the receiver (receiver not included). Remove the backing from one side of the Tape and attach it to the bottom of the receiver.
- ❑ 2. Remove the backing from the remaining side of the Two-Sided Tape and attach the receiver to the side of the Chassis Brace (29), between the two Receiver Box guide rails as shown. The receiver should be mounted so that it is at least 1/8" above the Chassis (19) and so that the Antenna is to the front of the truck.
- ❑ 3. Plug the steering servo into the slot marked "Channel 1" on the receiver.

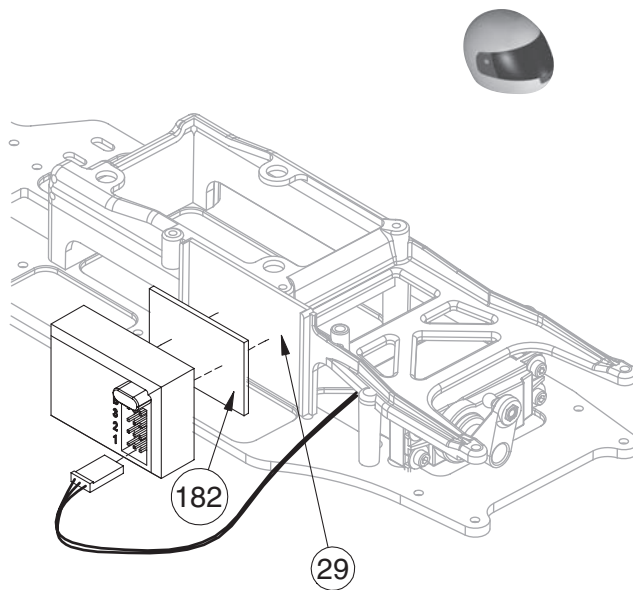


Figure I-1

## Step I-2 Antenna Tube Install:

- ❑ 1. Route the antenna wire up, through the antenna mounting post in the Chassis Brace (29).
- ❑ 2. Slide the antenna wire through the Antenna Tube (183) (a small drop of oil in the Tube will make this easier).
- ❑ 3. While pulling the wire through the Antenna Tube, slide the Antenna Tube down and push it firmly into the antenna mounting post on the Chassis Brace.
- ❑ 4. Fold the wire over the Antenna Tube and place the Antenna Cap (184) over the Tube 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 Antenna Tube.*

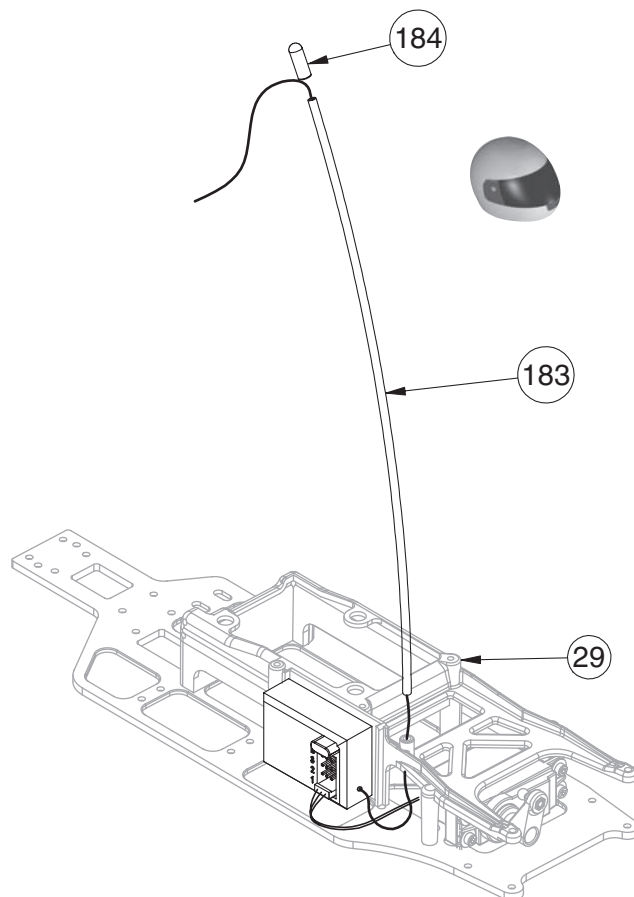


Figure I-2

# BAG I (Continued)

## Step I-3 Receiver Pack Install:



(17)

1. Place the battery pack into the Battery Box (125), so that the power lead is to the right side of the Chassis. Cut two small pieces of the Battery Spacer Foam (185) to fit inside the Battery Box on each side of your battery pack. The foam should fit tightly between the battery pack and the sides of the Battery Box to prevent the battery pack from moving around inside the box while running your truck.

2. Attach the Battery Box Lid (186) to the Battery Box with four 4-40 x 3/8" Cap-Head Screws (17). Be careful not to pinch the power lead in between the Battery Box and the Lid.

*\*NOTE: If your battery pack is smaller and fits loosely under the lid, cut a piece of Battery Spacer Foam to fit tightly between the lid and the battery pack. This will keep the battery pack from moving up and down in the battery box.*

3. Route the power lead forward through the rear Shock Tower and over the Gearbox., under the Brake Lever (102) and along the GearBox Brace (88).

4. The NiCad receiver packs depicted in Figure I-3A are common configurations available for sale, the following three assemblies will fit into the Battery Box of the XXX-NT AD2.



Figure I-3A

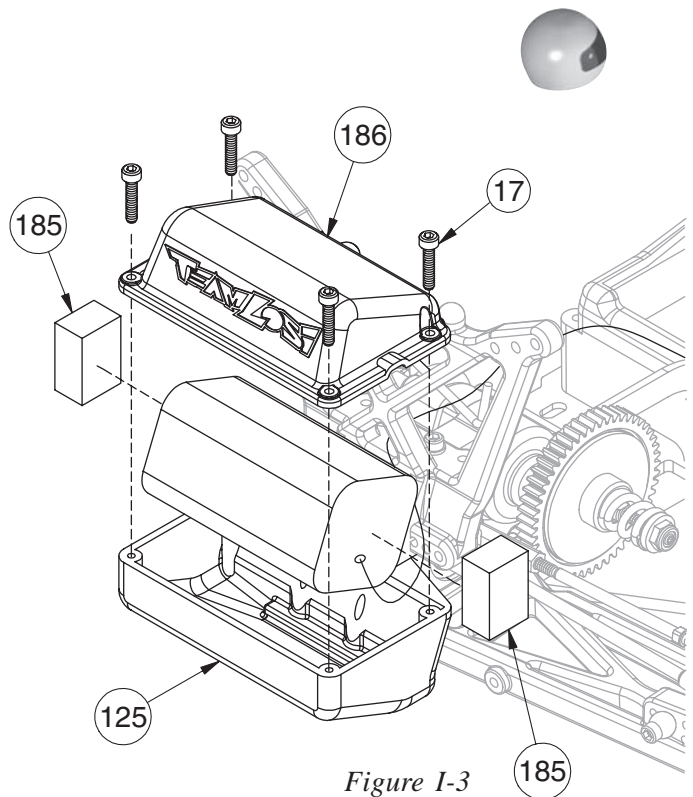


Figure I-3

## Step I-4 Throttle Servo Mount Install:



(20)

1. The top holes in the Throttle Servo Mounts (188) are offset slightly to accommodate different width servos. Look up your throttle servo in the table on page 9, Figure C-3C to determine what configuration to assemble the throttle servo mounts. The "WIDE" configuration is shown in Figure I-4A and the "NARROW" configuration is shown in Figure I-4B.

2. Attach the Throttle Servo Mounts to the Chassis (19) with two 4-40 x 3/8" Flat-Head Screws (20), so that the Mounts are oriented correctly, as shown in Figure I-4A or I-4B.



Figure I-4A

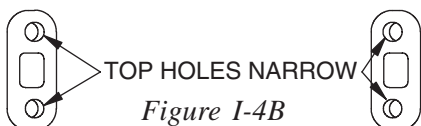


Figure I-4B

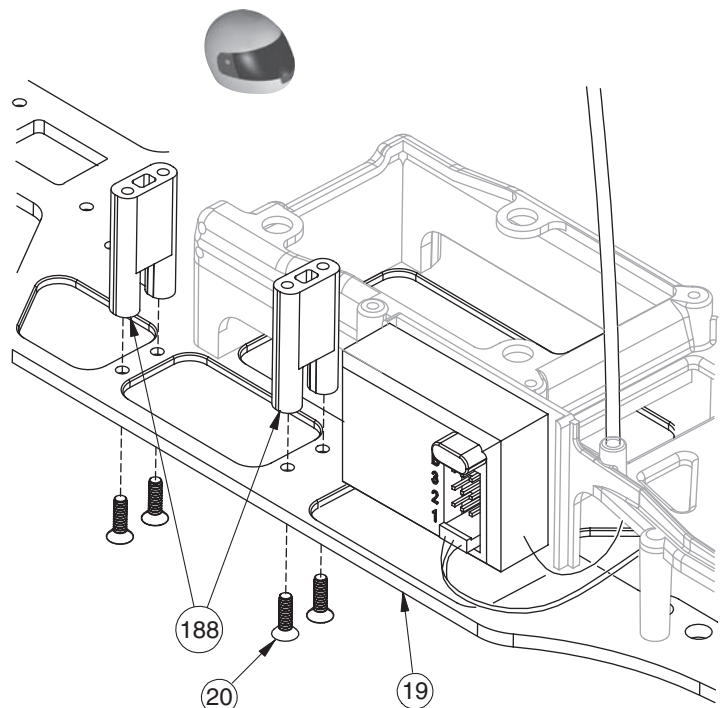
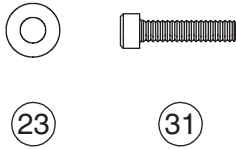


Figure I-4

# BAG I (Continued)

## Step I-5 Throttle Servo Install:



- ❑ 1. Attach the Grommets (supplied with your radio system) to the throttle servo per the radio system instructions.
- ❑ 2. Route the servo lead and plug through the slot in the bottom of the **front** Servo Mount (188) and plug it into the slot marked "Channel 2" in the receiver.
- ❑ 3. Position the throttle servo and Switch Mount (189) over the Throttle Servo Mounts so that the servo output shaft is to the **front of the truck**, and the Switch Mount is to the right, as shown in Figure I-5.
- ❑ 4. Place a #4 Washer (23) over each of four 4-40 x 1/2" Cap-Head Screws (31). Thread a Screw through each of the four Grommets in the servo, through the slots in the Switch Mount, and into the four holes in the top of the Servo Mounting Posts.

**! IMPORTANT NOTE:** Do not overtighten 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.

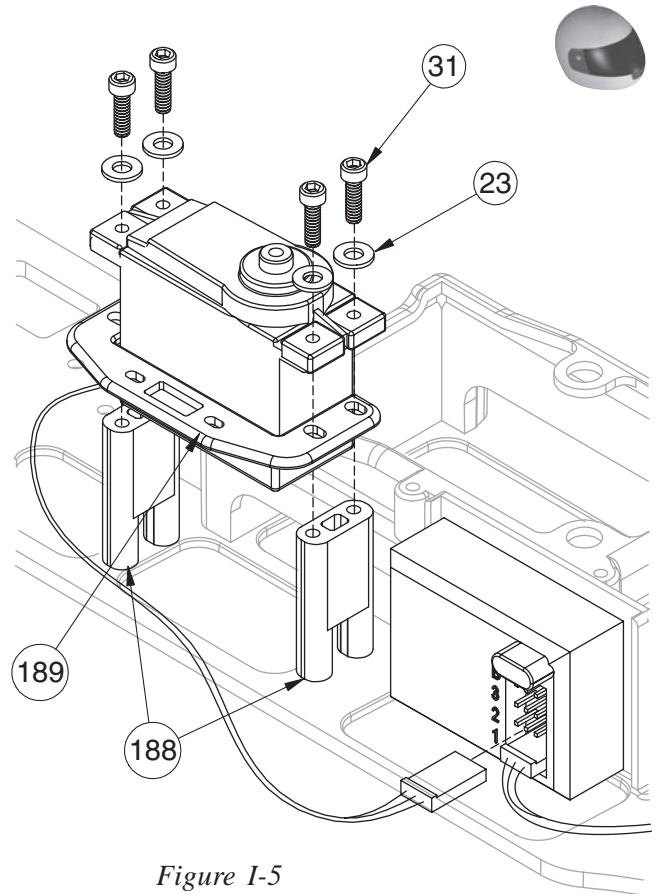


Figure I-5



# BAG I (Continued)

## Step I-7 Switch Install:

- ❑ 1. Remove the two small screws from the switch (supplied with radio system). Place the switch, from the bottom, into the Switch Mount (189), with the on position towards the front of the truck.
- ❑ 2. Place the switch top plate (if applicable) over the switch, on top of the switch mount. Line up the holes in the switch with the holes in the top plate and secure the switch to the Switch Mount with the two screws from the switch.
- ❑ 3. Plug the switch lead into the slot marked "Battery" in the receiver. Plug the opposite end into the batter lead.
- ❑ 4. Plug the battery lead into the free end of the switch and make sure that the switch is in the "off" position. Use a couple of small tie-straps to secure the battery lead to the Gearbox Brace. This will keep the wires away from any moving parts such as the Gears, Throttle and Brake Linkages, etc.

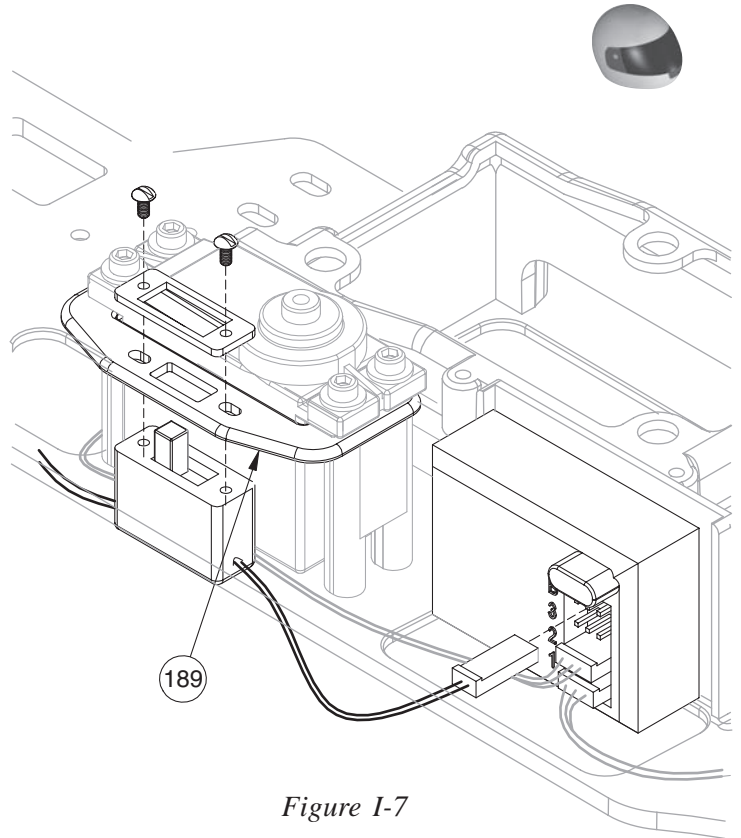


Figure I-7

## Step I-8 Receiver Cover Install:



17

- ❑ 1. Slide the Receiver Cover (198) into place over the rails on the Chassis Brace (29), so that the top lip of the Chassis Brace fits up inside the Receiver Cover, and the notches at the bottom of the Receiver Cover fit into the holes in the Chassis (19). Be careful to arrange the radio wires so that they fit through the mouse-holes in the bottom of the Receiver Cover and are not pinched under the cover.
- ❑ 2. Place the fuel line under the tab protruding from the side of the Receiver Cover, this will keep the Pressure Line secured out of the way. Ensure that the Pressure Line is not pinched.
- ❑ 3. Slightly bend the Throttle Return Spring Eyelet (199). Place the Throttle Return Spring Eyelet over one of the 4-40 x 3/8" Cap-Head Screws (17), and thread the Screw through the forward hole in the Receiver Cover and into the Chassis Brace.
- ❑ 4. Thread the other 4-40 x 3/8" Cap-Head Screws (17) through the rear hole in the Receiver Cover (198) and into the Chassis Brace.

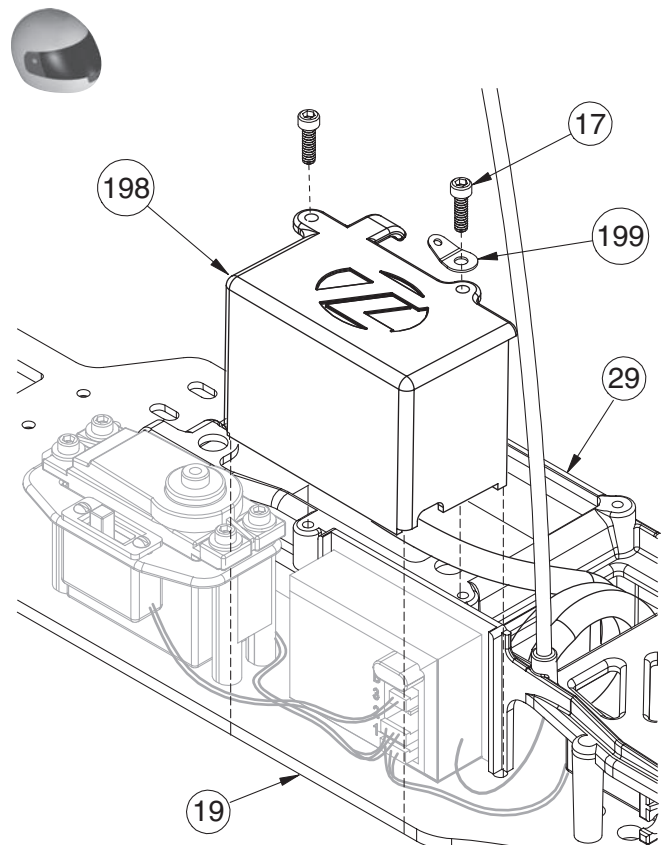


Figure I-8



# BAG I (Continued)

## Rotary Valve Carburetors

If your engine comes equipped with a rotary valve carburetor, complete the steps in Figure I-9 through Figure I-15. If your engine comes equipped with a slide valve carburetor, skip ahead to page 48 and complete the steps in Figure I-16 through Figure I-22.

### Step I-9 Throttle Z-Bend Assembly:



- ❑ 1. Slide a Linkage Collar (192) over the end of the Throttle Z-bend Wire (191) (the shorter of the two), and position it approximately 1/4" (6mm) from the Z-bend. Secure the collar with a 4-40 x 1/8" Set Screw (193).
- ❑ 2. Place the Throttle Over-ride Spring (194) over the wire and against the collar. Slide a plastic Over-ride Slider (195) onto the Wire, so that the long end is towards the Z-bend.
- ❑ 3. Place a Linkage Collar over the end of the Wire, so that the Spring is not compressed, and secure it with a 4-40 x 1/8" Set Screw (193). The Collar should be positioned close to the end of the Wire. Final adjustments will be made later.

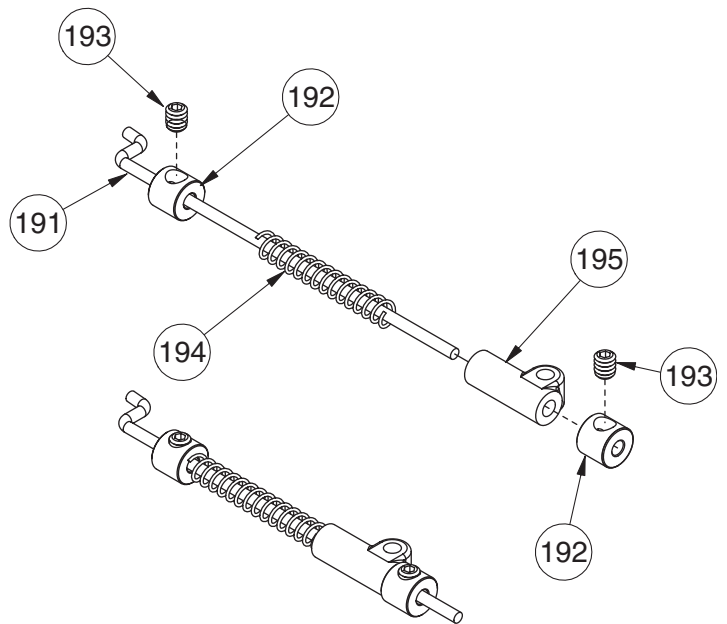


Figure I-9

### Step I-10 Brake Z-Bend Assembly:



- ❑ 1. Slide a Linkage Collar (192) over the end of the long, Brake Z-bend Wire (197), and position it approximately 2 1/4" (60mm) from the Z-bend. Secure the Collar in place with a 4-40 x 1/8" Set Screw (193).
- ❑ 2. Slide a plastic Over-ride Slider (195) onto the Wire (191), so that the long end is towards the Z-bend. Place a 0.5" long piece of Fuel Tubing (176) over the Wire and against the Slider.
- ❑ 3. Slide a Linkage Collar over the end of the Wire until it just touches the Fuel Tubing. Secure it with a 4-40 x 1/8" Set Screw. Once again, final adjustments will be made later.

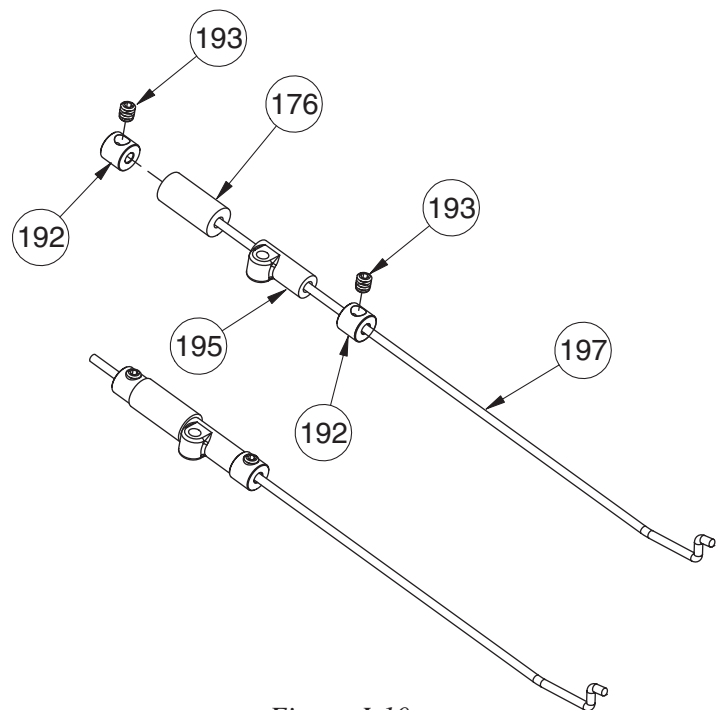


Figure I-10

# BAG I (Continued)

## Rotary Valve Carburetors

### Step I-11 Rotary Carb Servo Arm:

- ❑ 1. For rotary valve carburetors, you will need to remove the straight, shorter arm of the Throttle Servo Arm (190), as shown in Figure I-11. Cut off the Arm with heavy duty clippers or a Dremel™ hobby tool.

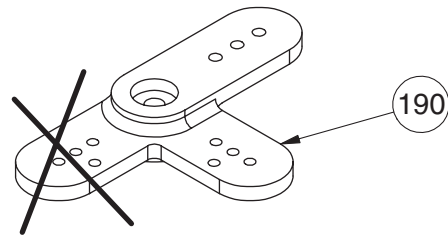


Figure I-11

**⚠ IMPORTANT NOTE:** Follow all cutting tool manufactures warnings and wear eye protection.

### Step I-12 Servo Insert Install:

- ❑ 1. Determine which Throttle Servo Spline Insert (200) will fit your throttle servo by referring to the table on page 9, Figure C-3C.
- ❑ 2. Press the correct Throttle Servo Spline Insert into the hexagonal hole in the bottom of the Throttle Servo Arm (190).

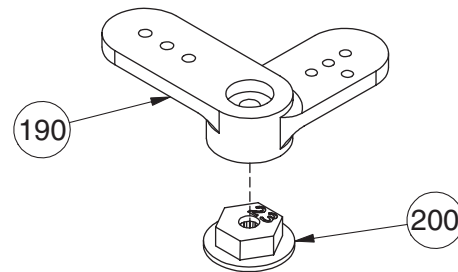
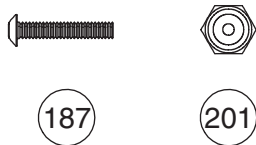


Figure I-12

### Step I-13 Linkage Assembly:



- ❑ 1. Attach the throttle linkage to the Throttle Servo Horn by inserting a 2-56 x 1/2" Button-Head Screw (187) through the Over-ride Slider (195) and into the inner hole in the Longer tab of the Throttle Servo Horn (190). Once the Screw is snug up against the Over-ride Slider, unscrew it one full turn to allow some movement between the Arm and the Slider. Secure the screw with a 2-56 Lock Nut (201).
- ❑ 2. Insert the Brake Linkage Z-bend (197) from the bottom, through the middle hole in the shorter tab of the Throttle Servo Horn.

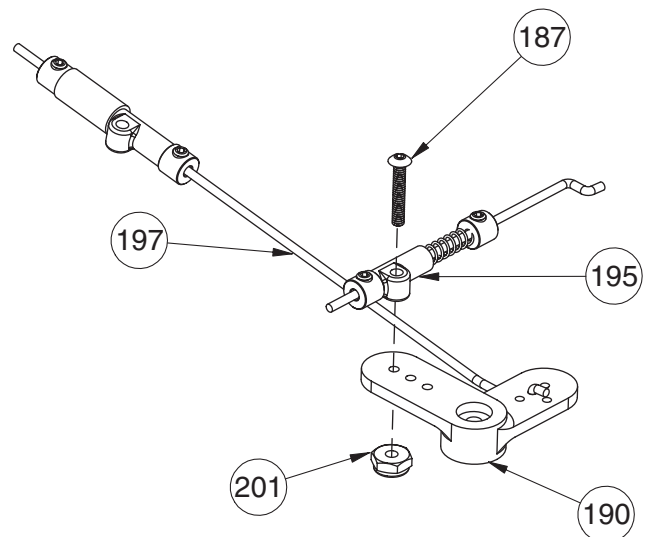


Figure I-13

# BAG I (Continued)

## Rotary Valve Carburetors

### Step I-14 Brake Collar Install:



- ❑ 1. Install the Throttle Linkage Z-bend wire (191) in the top hole of the Throttle Servo Arm so that the wire is positioned on the side of the Arm toward the engine.
- ❑ 2. Ensure the servo is centered by turning the radio and receiver to the on position, before proceeding.
- ❑ 3. Press the Throttle Servo Arm (190) and Throttle Servo Spline Insert (200) onto the output shaft of the servo, and secure it with the screw included with your servo. Be sure the servo output shaft is centered and the Servo horn is aligned properly, as shown.
- ❑ 4. Insert the end of the Brake Lever (102) through the hole in the Over-ride Slider (195) on the Brake Linkage.
- ❑ 5. Place a Linkage Collar (192) over the end of the Brake Lever and secure it with a 4-40 x 1/8" Set Screw (193).

*\*NOTE: The slider should fit loosely under the linkage collar to prevent binding.*

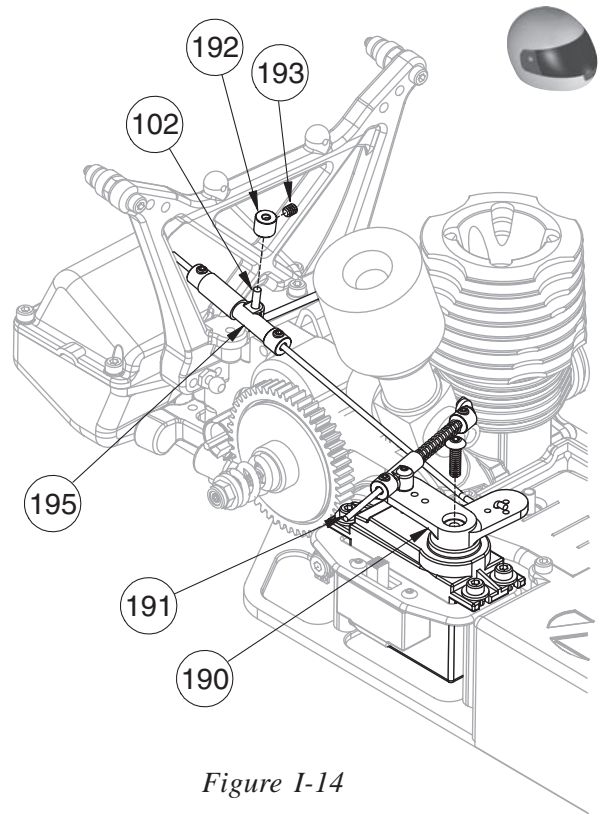


Figure I-14

### Step I-15 Throttle Return Spring Install:

- ❑ 1. Attach one end of the Throttle Return Spring (202) to the hole in the Eyelet (199). Attach the other end of the spring to the hole toward the edge of the Servo Arm (190) as shown.
- ❑ 2. Remove the Air Filter (165) from the Air Filter Boot (166). Check to see that the Throttle Return Spring is holding the carburetor closed, and that the linkage is not pulling the carburetor open.
- ❑ 3. Looking through the Air Filter Boot into the carburetor, check the opening of the small, half-moon area near the side. This opening should be approximately 1/32" (1mm) in the fully closed position. If it is not, refer to your engine instructions and adjust the idle adjustment screw until the opening is 1/32" (1mm) with the throttle closed.

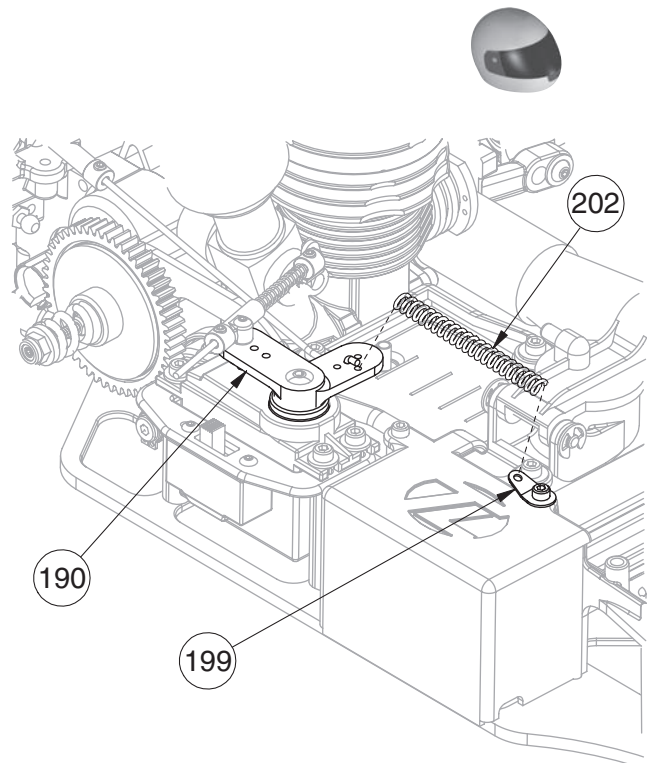


Figure I-15

#### NOTE:

Once you have completed the radio installation for a rotary valve carburetor, skip ahead to page 51 and begin at Figure I-23.

# Bag I (Continued)

## Slide Valve Carburetors

NOTE: If your engine comes equipped with a slide valve carburetor, complete the steps in Figure I-16 through Figure I-22.

### Step I-16 Throttle Linkage Assembly:



193

- ❑ 1. Thread the 4mm Ball Cup (204) all the way onto the end of the Threaded Throttle Rod (203). Slide a Linkage Collar (192) over the other end of the Throttle Rod, and up against the Ball Cup. Secure the collar with a 4-40 x 1/8" Set Screw (193).
- ❑ 2. Place the Throttle Over-ride Spring over the rod and against the Collar. Slide a plastic Over-ride Slider (195) onto the rod, so that the long end is away from the Ball Cup.
- ❑ 3. Place a Linkage Collar over the end of the rod, so the springs are not compressed, and secure it with a 4-40 x 1/8" Set Screw. The collar should be positioned at the end of the rod. Final adjustments will be made later.

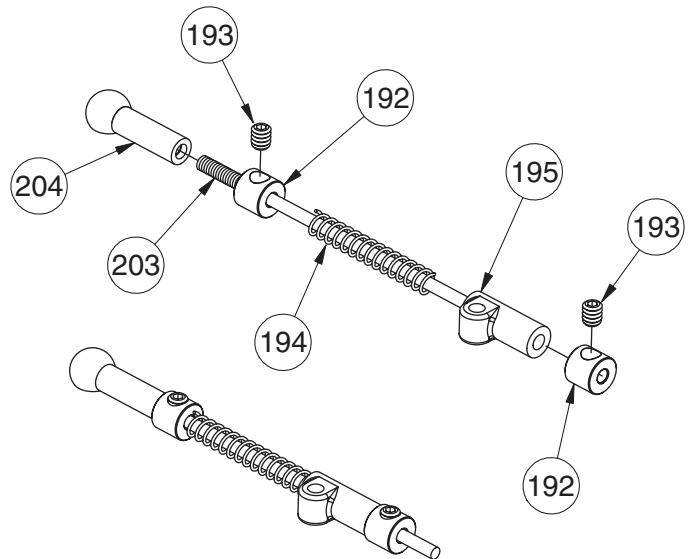


Figure I-16

### Step I-17 Brake Z-Bend Assembly:



193

- ❑ 1. Slide a Linkage Collar (192) over the end of the long, Brake Z-bend Wire (197), and position it approximately 1/4" (60mm) from the Z-bend. Secure the Linkage Collar in place with a 4-40 x 1/8" Set Screw (193).
- ❑ 2. Slide a plastic Over-Ride Slider (195) onto the wire, so that the long end is towards the Z-bend. Place a 0.5" piece of Fuel Tubing (176) over the wire and against the slider.
- ❑ 3. Slide a Linkage Collar over the end of the wire until it just touches the Fuel Tubing. Secure it with a 4-40 x 1/8" Set Screw. Once again, final adjustments will be made later.

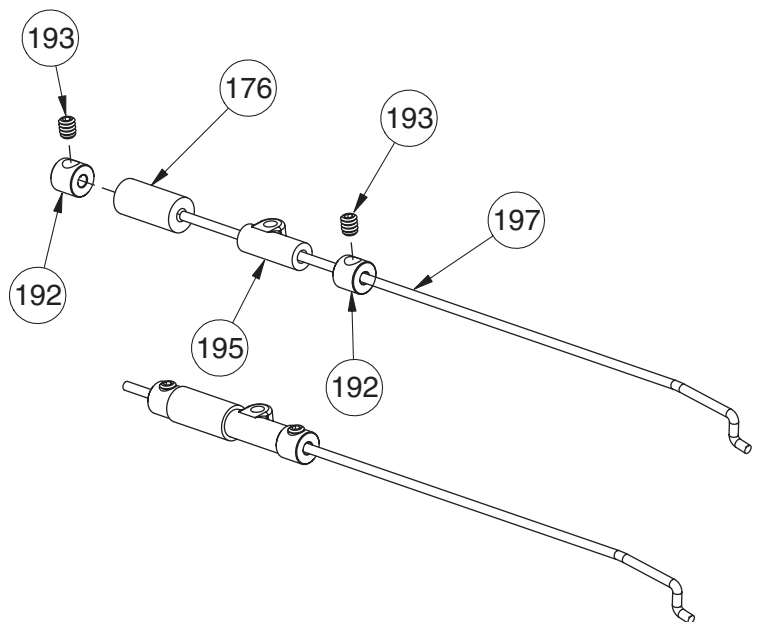


Figure I-17

# Bag I (Continued)

## Slide Valve Carburetors

### Step I-18 Slide Carb Servo Arm:

- ❑ 1. For slide valve carburetors, you will need to remove the shorter, perpendicular Arm of the Throttle Servo Arm (190), as shown in Figure I-18. Cut off the Arm with heavy duty clippers or a Dremel™ hobby tool.

**! IMPORTANT NOTE:** Follow all cutting tool manufactures warnings and wear eye protection.

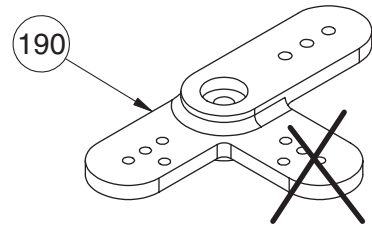


Figure I-18

### Step I-19 Servo Insert Install:

- ❑ 1. Determine which Throttle Servo Spline Insert (200) will fit your throttle servo by referring to the table on page 9, Figure 9C.
- ❑ 2. Press the correct throttle servo spline insert into the hexagonal hole in the bottom of the Throttle Servo Arm (190).

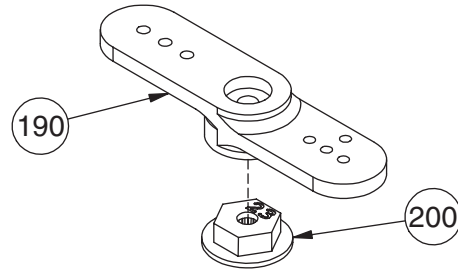


Figure I-19

### Step I-20 Linkage Assembly:



187



201

- ❑ 1. Attach the throttle linkage to the Throttle Servo Arm by inserting a 2-56 x 1/2" Button-Head Screw (187) through the Over-ride Slider (195) and into the middle hole in the longer arm of the Throttle Servo Horn (190) from the bottom. Once the Screw is snug up against the Over-ride Slider, unscrew it one full turn to allow some movement between the Arm and the Slider. Secure the screw with a 2-56 Lock Nut (201).

- ❑ 2. Insert the Brake Linkage Z-bend (197) from the top, through the middle hole in the shorter arm of the Throttle Servo Horn (190).

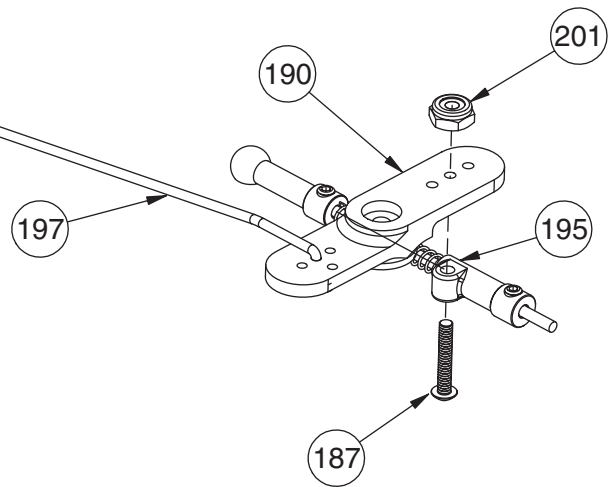


Figure I-20

# Bag I (Continued)

## Slide Valve Carburetors

### Step I-21 Brake Collar Install:



193

1. Snap the 4mm Ball Cup (204) onto the ball on the carburetor. Make sure the ball is pointing toward the right side of the truck and slightly upward.
2. Ensure the servo is centered by turning the radio and receiver to the on position, before proceeding.
3. Press the throttle Servo Arm (190) and Throttle Servo Spline insert (200) onto the output shaft of the servo, and secure it with the screw included with your servo. Be sure the servo output shaft is centered and the Servo Arm is aligned properly, as shown.
4. Insert the end of the Brake Lever (102) through the hole in the Over-ride Slider (195) on the Brake Linkage.
5. Place a Linkage Collar (192) over the end of the Brake Lever and secure it with a 4-40 x 1/8" Set Screw (193).

*\*NOTE: The slider should fit loosely under the Linkage Collar to prevent binding.*

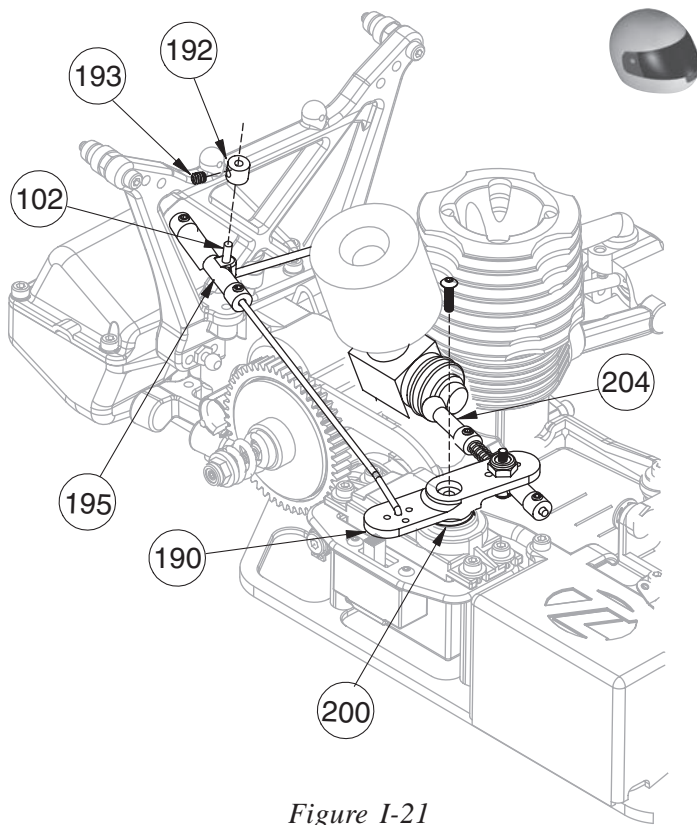


Figure I-21

### Step I-22 Throttle Return Spring Install:

1. Attach one end of the Throttle Return Spring (202) to the hole in the Eyelet (199). Attach the other end of the spring (190) to the middle hole closest the edge of the Servo Arm as shown.
2. Remove the Air Filter (165) from the Air Filter Boot (166). Check to see that the Throttle Return Spring is holding the carburetor closed, and that the linkage is not pulling the carburetor open.
3. Looking through the Air Filter Boot into the carburetor, check the opening of the small, half-moon area near the side. This opening should be approximately 1/32" (1mm) in the fully closed position. If it is not, refer to your engine instructions and adjust the idle adjustment screw until the opening is 1/32" (1mm) with the throttle closed.

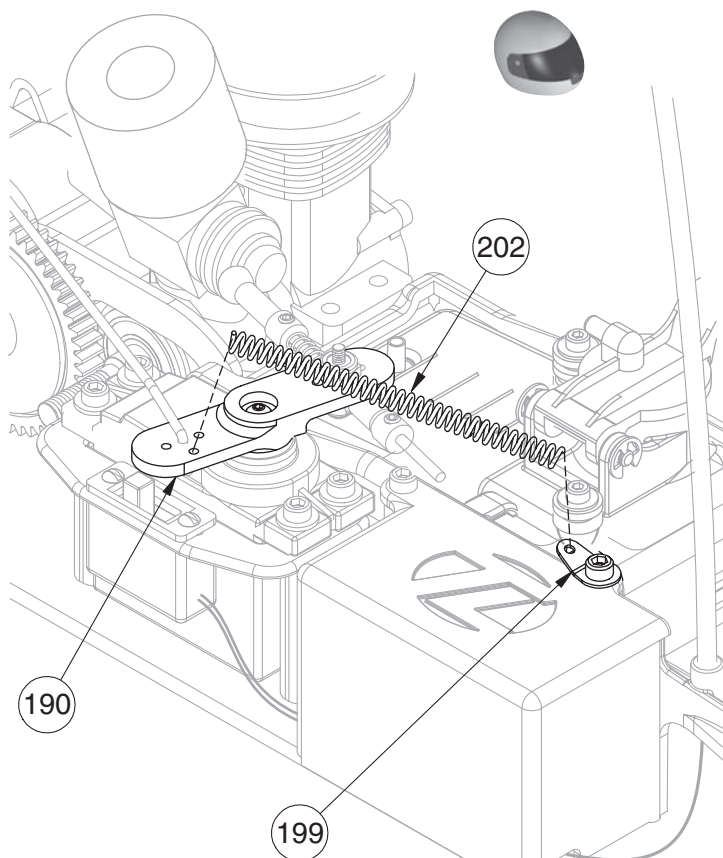


Figure I-22

# BAG I (Continued)

## Step I-23 Throttle Linkage Adjustment:

- ❑ 1. Turn your transmitter switch on followed by the receiver switch (or plug in the extension wire if not using a switch).
  - ❑ 2. With the throttle control on the transmitter in the neutral position and the trim centered, check to make sure the carburetor opening is in the fully closed position. Adjust the position of the collar (192) along the throttle wire until there is a 0.020" gap between the override slider(195) and collar. This will be the correct idle position.
  - ❑ 3. Move the transmitter throttle control to full throttle. The throttle servo should open the carburetor and push backward on the Brake Lever. If the servo rotates the wrong direction, refer to your radio manufacturer's instructions for reversing the servos.
  - ❑ 4. With the throttle still in the neutral position and the carburetor fully closed, check to see that the collar at the front of the brake over-ride slider is not touching the slider. If it is, loosen the setscrew (193) and move the collar forward so that it does not touch the over-ride slider while the brake lever (102) rests in the forward position against the brake caliper. Loosen the setscrew in the collar at the rear of the brake linkage wire (197) and move the collar until the short piece of fuel line has a slight amount of pre-load on it. Tighten the setscrew in this collar.
- \*NOTE: This collar can be adjusted later to change the amount of "panic", or full brake that the truck has.*
- ❑ 5. Loosen the setscrew in the collar at the front side of the brake over-ride slider and move the collar until it just touches the slider. Tighten the setscrew in the collar. This will be the final location of this collar.
  - ❑ 6. 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 3/8" in the brake direction.
  - ❑ 7. 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.
  - ❑ 8. 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 7A to ensure that the servo horn is installed properly.
  - ❑ 9. 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.

### ROTARY VALVE INSTALATION

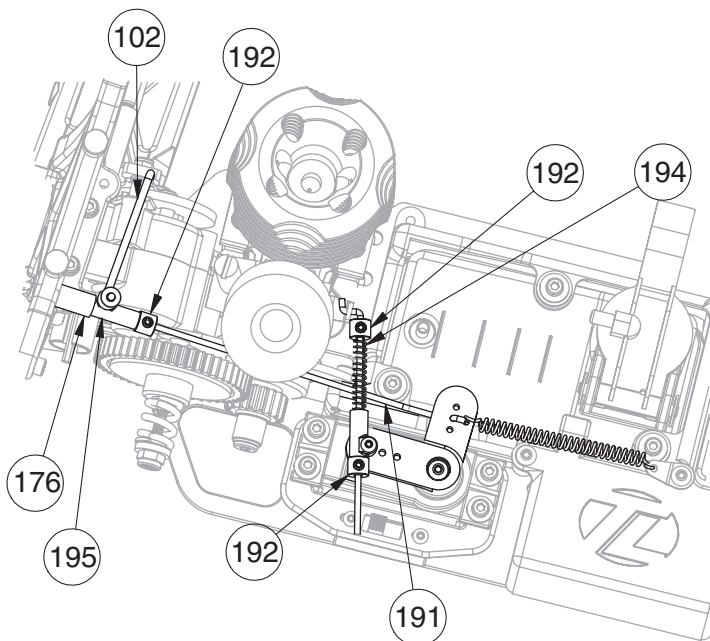


Figure I-23A

### SLIDE VALVE INSTALATION

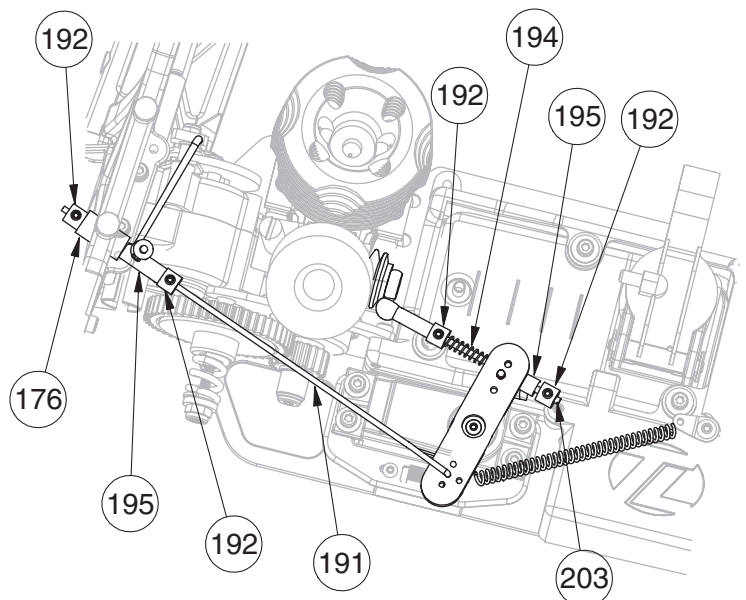


Figure I-23B

# Bag I (Continued)

## Step I-24 Air Filter Install:

- ❑ 1. Turn the radio switch off, and then turn the transmitter off. **Make it a habit to always turn the transmitter on first and off last.**
- ❑ 2. Once the throttle and brake linkages are adjusted, replace the Air Filter (165) in the Air Filter Boot (166).

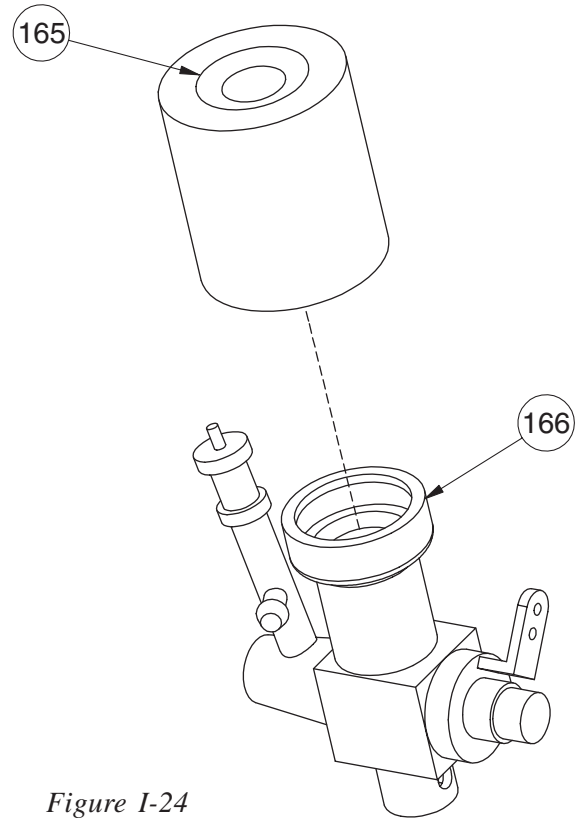


Figure I-24





# FINAL CHECKLIST

BEFORE RUNNING YOUR XXX-NT AD2 for the first time, you should run down the following checklist — in order — and complete the listed tasks. This simple checklist will help to make the first run with your new XXX-NT AD2 truck much more enjoyable.

- 1. Adjust the rear differential-**  
Never let your Differential Slip! See *Adjusting The Differential* in the tips section.
- 2. Check for proper radio linkage adjustments**  
Refer to the Radio Installation section one last time and ensure that all linkages and collars are properly adjusted.
- 3. Check for free suspension movement**  
All suspension arms should be very free. Any binds will cause the truck to handle poorly. The steering should also operate very freely.
- 4. Set the rear ride height**  
The rear ride height should be set so that the arms are level with the surface, with fuel. See the *Rear Ride Height* section of the tips.
- 5. Set the front ride height**  
The front ride height should be set so that the front suspension arms are level with the surface, with fuel.
- 6. Adjust the camber**  
The front camber should be set to 1-1/2 degrees of negative camber (top of tire leans in) at ride height. Adjust the front camber with the tires straight. The rear camber should be set to 0-1 degrees of negative camber at ride height.
- 7. Adjust toe-in/toe-out**  
The front tie rods should be adjusted evenly until the front tires have 1-degree of toe-in.
- 8. Set transmitter trims**  
The steering trim tab on the transmitter should be adjusted so that the truck rolls straight when you are not touching the steering wheel/stick. The throttle trim tab should be adjusted as per the Radio Installation section of the manual.
- 9. Check fuel lines**  
Ensure that all fuel lines are properly connected.

## TIPS FROM THE TEAM

**TUNING THE ENGINE-** should be done following the manufactures instructions.

By turning the needle valve clockwise, the fuel mixture will become leaner – meaning that the engine will draw less fuel. When the needle valve is turned counter-clockwise, the fuel mixture becomes richer- meaning that the engine will draw more fuel. The high speed needle affects the fuel mixture at mid tofull throttle while the low sped needle only affects the fuel mixture at idle and the low end of the throttle band.

**THE AIR FILTER-** pre-filter should be changed when it becomes covered with dust or dirt. The cleaner the filter remains, the better the engine can breathe and run. If the air filter is allowed to become too dirty some of the dust or dirt can find its way into the engine and cause problems. If the air cleaner should ever come off while operating your truck, **stop immediately. Reattach the air filter before continuing!** Never run without an air filter, use a Tie Strap to secure the filter from coming off.

**OILING THE FOAM PRE-FILTER** Is essential to keep dust from entering the paper air filter element and potentially finding its way into the engine. Good filter oil can be found in most automotive sections or motorcycle shops. These specialty oils are very sticky and will attract and hold the dust on the foam. When using this type of oil, be careful not to over oil the foam. Squeeze out any excess oil before installing the foam pre-filter over the paper element. **Never** oil the paper element. When the foam needs cleaning wash it out using one of the specialty foam filter cleaners or a light detergent like Simple Green. Be sure to rinse away any residual cleaner and let the foam dry before oiling and reinstalling it.

**TO SHUT THE ENGINE OFF-**, simply bump flywheel with wrench or plastic tool handle, never use your finger.

**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 depends 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 or NiMH receiver pack, it is recommended that a minimum battery size of 1000 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.

**ATTACHING THE RECEIVER** to the center brace with the thick double sided servo tape provided in the kit. This will help absorb the shock and vibration that is transmitted through the chassis by the engine. This type of Servo Tape available from Team Losi, LOSA4004, can be

# Tips and Parts (Continued)

found at most hobby shops. This can also help prevent glitching and increase the life of your receiver and is the recommended method most the team racers.

The object of the receiver cover is to completely cover all openings and crystal socket to keep water or fuel out. Any liquid that enters the receiver can cause radio failure, keep the receiver dry.

**THE CLUTCH BEARINGS** included in the kit 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 **LOSA6913**. 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. If necessary, you may clean the bearings with Motor Spray or Nitro Cleaner, and lubricate with one drop of Mobile1™.

If you clean your truck with a silicone product like Armour-All, be careful to keep it out of the clutch and the fuel tank. This will cause the clutch to slip and/or the Engine to run poorly.

**THE BRAKE ROTOR** on your XXX-NT AD2 should be inspected after every 2-3 hours of running. When the rotor wears to half the original thickness, the rotor should be replaced. Attach the new rotor by following the instructions located in this manual.

**THE GEAR BOX**, or transmission, is the heart of every race car. The XXX-NT AD2 transmission is no exception. Although the XXX-NT AD2 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 ones that we found to work the best is included in the kit. These greases protect 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.

The XXX-NT AD2 includes a 51-tooth kevlar Spur Gear and 18-tooth Clutch Bell. The overall internal drive ratio of the transmission is 4.11. To calculate the final drive ratio, first divide the spur gear size by the pinion size. For this case divide 51 (Spur Gear size) by 18 (Clutch Bell size)  $51/18 = 2.83$ , This tells you the external drive ratio. Next, multiply the external drive ratio by the internal drive ratio (4.11),  $2.83 \times 4.11 = 11.63$ . This means with a 51-tooth Spur Gear and 18-tooth Clutch Bell the overall drive ratio is 11.63.

**ABOUT THE DIFFERENTIAL** Never allow the diff to slip; Always make sure the slipper slips before the diff. You can check this by holding the right rear tire and the spur gear in one hand and then turn the left rear tire. Watch the slipper spring and plate. As you turn the left rear tire the spring and plate should turn. This means the slipper is slipping before the diff. If the spring and plate don't turn your diff is too loose or the slipper is too tight.

If you have ever melted a differential it's because the diff was too loose and slipping. Always make sure your slipper will slip before the differential. It will help take some load off the differential and transmission. A good starting point for the slipper is to tighten the slipper nut all the way down and then back it off 5 full turns. Remember this is just a starting point. After every 1-3 runs check and make sure the diff is still tight and not slipping. Hold the right tire and the spur gear in one hand and rotate the left tire, as you rotate the left tire, the slipper spring and plate should turn. This means the slipper is slipping before the differential. If the spring and plate are not turning, your differential is slipping. You never want the diff to slip, if it does. Loosen the slipper a little and tighten the diff.

To tighten the diff place the 1/16" Allen wrench through both the Slot in the outdrive and Screw. This will lock the diff screw and the outdrive together. While holding the Allen wrench in place, turn the right rear tire forward about 1/8 of a turn. Check the differential adjustment again and repeat the tightening process as necessary until the differential is no longer slipping. See "**Adjusting the Slipper**" on the following page, and then continue from here.

The final differential adjustment check should be made by placing the car on carpet, grass, or asphalt and punching the throttle. The differential should not slip (slipping produces a "barking" sound). If it does, tighten the diff in 1/8-turn increments as described above until the slippage stops. Once the diff has been adjusted, it should still operate freely and feel smooth. If the diff screw starts to get tight before the diff is close to being adjusted properly, the diff should be disassembled and inspected; you may have a problem with the differential assembly. Refer to the assembly instructions to ensure that the diff is properly assembled and that all parts are properly seated in the assembly.

There are a few things you should know about differentials. First, when rebuilding your diff, you should always replace the small, diff nut. Second, after the diff has been run a time or two, it is not uncommon for the balls to seat into the rings and create a slightly loose adjustment. So, after your first and second runs, check the adjustment to avoid slippage. Third, remember: Never let the diff slip. Doing so can damage the diff balls, rings, and gear. Always make sure that the slipper will slip before the diff a little at a time till the Diff no longer slips.

**SLIPPER ADJUSTMENTS** should be done after the diff is properly adjusted. If you have just finished adjusting the differential, loosen the slipper adjustment nut four full turns (e.g., 360 degrees x 4) to return the adjustment to the setting originally described in the assembly instructions. To make the final adjustments, place your truck on the racing surface and give the truck full throttle. The slipper should slip for one or two feet. If the slipper slips for more than two feet, you'll need to tighten the adjustment nut. If the slipper doesn't slip for at least one foot,

# Tips and Parts (Continued)

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back off the adjustment nut 1/8 of a turn and retry. If you can't hear the slipper when you punch the throttle, hold the front of the truck with the rear wheels still on the track and give the truck full throttle. The truck should push against your hand with reasonable force and the slipper only slipping slightly. Don't expect the slipper to make up for poor driving or set-up. You still have to use the throttle and maintain the shocks and chassis. The slipper will help you drive more comfortably and help accelerate of corners and land jumps.

**CHANGING THE GEARS** on your XXX-NT AD2 is a very simple process. There are several different clutch bell gears available for the XXX-NT AD2. When changing to a different size gear, you will need to re-set the gear mesh. To adjust the gear mesh, loosen the four screws securing the engine mounts to the chassis and reposition the engine. When the desired gear mesh is achieved, tighten all four screws. In conditions where more torque (bottom end) is desired, the 18-tooth clutch bell can be replaced with the 17-tooth clutch bell. The gear mesh will need to be readjusted by loosening the four screws that hold the engine in place as mentioned above.

**FUEL** for nitro engines is available at most hobby shops. It is highly recommended that you use a fuel specially blended for R/C cars like White Lightning or Blue Thunder. Avoid using model airplane/helicopter fuel as the quantity and type of lubricant may not meet the extreme needs of R/C cars. We have found that no more than 20% nitro content is needed for optimum performance.

**THE MOST SENSITIVE ADJUSTMENTS**, and the most used by the Team Losi race team, are the number of washers under the front camber link ball studs and the anti-squat. See these two sections and try to familiarize yourself with the way that these adjustments affect the handling of the XXX-NT AD2.

**CAMBER**, We suggest one to two degrees of negative camber at the front measured 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, run between 0 and 1 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 toe-in, 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 XXX-NT AD2.

**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.

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

**FRONT CARRIER CAMBER LOCATION** is another adjustment that is almost always run in the middle location. This location keeps the truck flatter (less roll). The outside location also helps the truck stay tighter in turns with a more precise steering feel. Moving the link to the inner hole will make the steering react slightly slower. The advantage to the inner hole is that it can increase on-power steering and help the truck get through bumps better.

**WASHERS UNDER THE FRONT CAMBER LINK BALL STUD** can be added or removed. This is one of the most important adjustments on the XXX-NT AD2 Truck. You should get a feel for how the number of washers affects the handling. Adding washers will make the truck more stable and keep the front end flatter. Removing washers will make the steering more aggressive. This can be good in some conditions, but can also make the truck difficult to drive in others. The best all-around adjustment is with one washer as per the assembly instructions.

**FRONT CAMBER LINK LENGTH** is another adjustment that is difficult to make a generic statement because it can have slightly different results on various conditions. The following is a summary of how this adjustment will usually impact the handling of the XXX-NT AD2. A longer front camber link will usually make the truck feel stiffer. This will help keep the truck flatter with less roll, but can make the truck handle worse in bumpy conditions. A shorter front camber link will result in more front end roll. This will increase high-speed steering and make the truck better in bumps. Too short of a front link may make the truck feel twitchy or "wandery" meaning that it may be difficult to drive straight at high speed.

**FRONT SHOCK TOWER LOCATIONS** can be adjusted easily by simply moving top of the shock to another hole in the shock tower. The standard location (second hole out in the tower) works best on most tracks. Moving the top of the shock out one hole will result in an increase in steering and the truck will react quicker. Moving the top of the shock to the inside hole in the tower will slow the steering response time and make the truck smoother in bumps.

# Tips and Parts (Continued)

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The bottom of the shock can also be moved in or out on the suspension arm. Moving the bottom of the shocks to the inside hole in the arm will result in more low-speed steering and less high-speed steering. Mounting the shocks in the inside hole will require limiters in the shocks to limit the travel, and the springs should be changed to stiffer ones. Moving the bottom of the shocks to the outside hole will reduce overall travel, increase high-speed steering, and reduce low-speed steering. This position may be good for oval tracks and high-traction surfaces.

**REAR SHOCK TOWER LOCATIONS** can be changed just as easily as the front. Again, the standard location is the best place to start for most tracks. Moving the top of the shock in on the shock tower results in less side-bite (traction in corners) but makes the truck smoother in bumps. Sometimes a stiffer spring is used in combination with the inside holes in the tower. Moving the top of the shocks to the out will give the truck more forward traction and side bite as well as keeping the truck from bottoming out on big jumps.

Moving the bottom of the rear shocks to the outside hole in the arm will improve stability but may not handle bumps as well. You may also notice that the truck is faster in the turns. The downside is that the truck will not straighten out or "square up" as well. Moving the shocks to the inside hole will increase forward traction and be more stable in bumps. At times a stiffer spring or a sway bar (LOSA4142) may be needed when moving the shock in on the arm.

**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 height should be set so that the arms are level with the ground. Adjust the rear ride height in the same way as described in the front ride height section.

**REAR HUB CAMBER LOCATIONS** is best set according to the settings described in this manual. You should start with the inner hole in the top of the hub (hole "A"). As you move out on the hub, it will tend to make the truck feel a bit stiffer. This results in the truck accelerating straighter and also makes it a bit easier to line up for jumps. Running the inner hole will typically make the truck go through bumps better. The inner hole may also give the feeling of more steering. This steering generally comes from the rear end though. What this means is that the rear end of the truck may swing a bit more — at times even sliding more.

**REAR CAMBER LINK LENGTH** can be another useful adjustment. It is virtually impossible to make a blanket statement for exactly how the length of the camber link will affect the handling under all conditions. The following is our experience with how the length of the camber link will typically affect the handling of the XXX-NTAD2. A longer rear camber link will usually result in more rear traction. With a longer link, the truck can start to drive more square, or point-to-point. This can make it difficult to corner at high speed. A shorter rear camber link will generally result in more steering from the rear of the car due to increased chassis roll. This can make it easier to change directions quicker, but can cause the rear of the truck to roll around if the link is too short. A shorter rear link will usually go through bumps better than a long link as well.

**FRONT ARM LENGTH ADJUSTMENT (VLA)**, the XXX-NTAD2 is like having four trucks in one. With the addition of a longer rear arm position and a shorter front arm position you can have many different setups to suit your driving and handling needs. The kit setup comes with the long rear arm position and a standard length front arm position. The new hole on the front arm is actually the inner hole (shorter arm). We have done many hours of testing and found that the kit setup is the best all-around setup for most tracks.

Shortening the front arm length will give you less steering, and the truck will drive much smoother. This can be good on tracks where the front of the truck feels twitchy, such as high-bite; blue-groove tracks. One thing to keep in mind is; as you shorten the front arm, you are actually making the camber link longer in relation to the front arm. Knowing this, you may want to shorten the front camber link when using the short arm location. The longer front arm setting (stock setup) will have more all-around steering, which is key on tracks where front grip is important.

**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. The easiest procedure that we have found is the following — remember to leave the engine mounts attached to the engine: First, drain the fuel tank and remove the fuel line from the carburetor. You want to remove the line that runs to the carburetor. Remove the screw that holds the pipe-mounting wire in place. Remove the four screws from the bottom of the chassis that hold the engine mounts in place. Slide the engine out of the left side of the chassis while positioning the engine so that the short throttle linkage can be removed from the throttle arm on the carburetor. To reinstall the engine, simply reverse the steps above.

**WORKING ON THE CLUTCH** is easier than it may seem. 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 from the clutch bell. With the outside bearing 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. Once the clutch bell is in place, install the outside bearing, 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 tips on our website, [WWW.TEAMLOSI.COM](http://WWW.TEAMLOSI.COM) for the latest updates and additional tuning tips.

Good luck with your new XXX-NTAD2. We're sure you will be pleased with its superb performance.

# SPARE PARTS LIST

<u>KEY #</u>	<u>KIT/PART DESCRIPTION</u>	<u>PART NO.</u>	<u>SPARE PARTS DESCRIPTION</u>
1	Servo saver bottom	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
2	Servo saver post	LOSA1610	Steering Hardware Set
3	Servo saver top	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
4	Servo saver spring	LOSA1610	Steering Hardware Set
5	Servo saver spring cap	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
6	6-40 locknut	LOSA1610	Steering Hardware Set
7	4-40 mini locknut	LOSA6306	4-40 Aluminum Mini Nuts (10)
8	Steering idler arm	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
9	Ball stud washer	LOSA6215	#4 Narrow Washers (10)
10	1/4" Ball Stud	LOSA6006	Ball Studs w/Rod Ends 4-40 x 1/4" (4)
11	3/16" Ball Stud	LOSA6001	Ball Studs w/Rod Ends 4-40 x 3/16" (4)
12	Steering drag link	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
13	3/32" x 3/16" ball bearing	LOSA6912	3/32" x 3/16" Bearings for Steering (XX/T, All XXX)
14	Front Kickplate	LOSA9714	XXX-NT Graphite Fr. Kickplate, Bulkhead, and Steering Brace
15	Steering brace	LOSA9714	XXX-NT Graphite Fr. Kickplate, Bulkhead, and Steering Brace
16	3/32" x .930" Hinge Pin	LOSA1146	Front Outer & Kingpins 3/32" (XX, 'CR', XXX)
17	4-40 x 3/8" Cap-Head screw	LOSA6206	4-40 x 3/8" Cap-head screws (10)
18	Threaded insert	LOSA4224	Threaded Chassis Inserts - Short and Long
19	Chassis, Lightened, AD2	LOSA4017	XXX-AD2 Lightened Chassis - Hard Anodized
20	4-40 x 3/8" Flat-head screws	LOSA6206	4-40 x 3/8" Flat-head Screws
21	4-40 x 5/8" Flat-head screw	LOSA6233	4-40 x 5/8" Flat-head Screw (10)
22	Servo Arm	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
23	#4 washer	LOSA6350	#4 and 1/8" Hardened Washers
24	Servo mounting post	LOSA1620	XXX Steering/Servo Mount Assembly (Molded)
25	Steering servo mount bushings	LOSA9415	XXX-NT Servo Mounts, Arms, and Switch Mount
26	Short plastic rod end	LOSA1615	Short Ball Cups and Threaded Rod
27	4-40 x 5/8" threaded rod	LOSA1615	Short Ball Cups and Threaded Rod
28	Rubber tank mounting grommet	LOSA9313	Fuel Tank Mounting Set
29	Chassis brace	LOSA9962	Graphite Top Chassis Brace
30	Fuel tank	LOSA9310	Fuel Tank (75 cc), w/Insert
31	4-40 x 1/2" cap head screw	LOSA6204	4-40 x 1/2" Cap Head Screws
32	Front bulkhead	LOSA9714	Graphite Front Kickplate, Bulkhead, and Steering Brace
33	4-40 x 7/8" cap-head screw	LOSA6216	4-40 x 7/8" Cap-Head Screws
34	Front shock tower	LOSA9722	Graphite Front Shock Tower (XXX-T)
35	4-40 zinc nut	LOSA6300	4-40 Hex Nuts (10)
36	4-40 x 1/2" Flat-head screw	LOSA6220	4-40 x 1/2" Flat-Head Screw (10)
37	Front Body Mounts	LOSA4118	Front Bumper, and Body Mounts
38	3/8" ball stud	LOSA6000	Rod End w/Balls, 4-40 x 3/8
39	Front Axle, AD2	LOSA1027	Front Axle, QC Rim
40	Right Front Sindle	LOSA1126	Spindles & Carriers- VLA
41	Right Spindle Carrier	LOSA1126	Spindles & Carriers- VLA
42	Left Front Spindle	LOSA1126	Spindles & Carriers- VLA
43	Left Spindle Carrier	LOSA1126	Spindles & Carriers- VLA
44	1/8" x 1.250" HINGE PIN	LOSA6088	Hinge Pins 1/8" x 1.246, Ti-Nitride
45	Spindle spacer	LOSA2216	.050 Hub Spacer XX4
46	1/8" E-clip	LOSA6100	E-Clips 1/8"
47	5-40 setscrew	LOSA6228	5-40 Hardened Setscrews
48	Front Suspension Arm	LOSA9712	Graphite Front Suspension Arms- VLA
49	Front Pivot	LOSA4126	Front and Rear Pivot Block Set (all XXX)
50	1/8" x .960" HINGE PIN	LOSA6086	Hinge Pin, 1/8" x .960", Ti-Nitride
51	1/8" x 1.420" HINGE PIN	LOSA6089	Hinge Pin, 1/8" x 1.42", Ti-Nitride
52	Front Hinge Pin Brace	LOSA9956	Aluminum Front Inner Hinge Pin Brace - Hard Ano. (all XXX)
53	Front Bumper	LOSA4131	Front Skidplate/Bumper - Black
54	Long Ball Cup	LOSA6015	Super Duty Ball Cups
55	2-3/8" Titanium Turnbuckle	N/A	N/A
56	Foam Thing	LOSA6003	Foam Things (Linkage Rings)
57	Diff Nut	LOSA2911	One-Piece Diff Nut/Carrier

# SPARE PARTS LIST

<u>KEY #</u>	<u>KIT/PART DESCRIPTION</u>	<u>PART NO.</u>	<u>SPARE PARTS DESCRIPTION</u>
58	Concave Diff Washers	LOSA2909	Monster Diff Diff Screw and Hardware
59	Allen wrenches	N/A	N/A
60	Male outdrive	LOSA2905	Monster Diff Male Outdrive
61	Drive ring	LOSA2903	Monster Diff Drive Rings
62	Clear diff grease	LOSA3065	Silicone Differential Compound
63	5mm x 8mm bearing	LOSA6907	5mm x 8mm Ball Bearings
64	55 tooth diff gear	LOSA2925	'XXX-NT' Diff Gear Only (4.11:1)
65	3/32" diff balls	LOSA6951	3/32" Carbide Diff Balls
66	Female outdrive	LOSA2906	Monster Diff Female Outdrive
67	Diff screw	LOSA2909	Monster Diff Diff Screw and Hardware
68	Foam diff seal	LOSA2909	Monster Diff Diff Screw and Hardware
69	Thrust washer	LOSA3018	Heavy Duty Thrust Assembly Set
70	5/64" Caged thrust assembly	LOSA3018	Heavy Duty Thrust Assembly Set
71	White thrust bearing grease	LOSA3066	Teflon™ Thrust Bearing/Assembly Grease
72	3/8" Short head ball stud	LOSA6007	Studded Balls w/Ends
73	Top shaft	LOSA9931	Aluminum Slipper Shaft and Gear
74	5/16" x .065 Pin, spirol	LOSA6406	1/16" Pin Assortment (5/16", 3/8", 7/16")
75	4-40 x 7/8" Flat-head screw	LOSA6226	4-40 x 7/8" Flat-Head Screws (10)
76	3/16" C-clip	LOSA6102	C-clips, .1875" (3/16") - Large
77	Brake shaft	LOSA2923	XXX-NT Center Brake Shaft and Hardware
78	3/8" x .078 Spirol pin	LOSA6406	1/16" Pin Assortment (5/16", 3/8", 7/16")
79	Compound gear	LOSA2927	XXX-NT Compound Gear and Brake Hub
80	3/16" x 3/8" Bearing	LOSA6903	3/16" x 3/8" Ball Bearing
81	1/2" x 3/4" Bearing	LOSA6908	1/2" x 3/4" Bearings w/Teflon Seal (XX Trans)
82	Right gearbox half	LOSA2920	XXX-NT Transmission Case Set and Brake Clips
83	Left gearbox half	LOSA2920	XXX-NT Transmission Case Set and Brake Clips
84	Fuel Line Clip	LOSA9316	Fuel Line Clip, (Qty. 4)
85	2-56 x 5/8" Cap-head screw	LOSA2921	XXX-NT Trans Screw Set
86	4-40 x 3/4" Cap-head screw	LOSA2921	XXX-NT Trans Screw Set
87	4-40 x 1-1/8" Button-head screw	LOSA2921	XXX-NT Trans Screw Set
88	Transmission brace	LOSA4028	XXX-NT Gearbox Brace - Hard Anodized
89	Slipper backing plate	LOSA3132	Slipper Backing Plate
90	Slipper pad	LOSA3123	Slipper Friction Pad
91	51T Spur gear	LOSA3907	51T/32P Kevlar Spur- Slip (XXX-NT)
92	Slipper spring adaptor	LOSA3135	Slipper Spring, Cup, Retainer, and Nut
93	Slipper Spring	LOSA3135	Slipper Spring, Cup, Retainer, and Nut
94	Spring retaining washer	LOSA3135	Slipper Spring, Cup, Retainer, and Nut
95	4-40 steel nylock halfnut	LOSA3135	Slipper Spring, Cup, Retainer, and Nut
96	Washer, 1/4" x .020	LOSA6350	#4 Washers, Hardened Washers
97	Brake sleeve	LOSA9411	Disk Brake Rebuild Kit
98	Brake rotor hub	LOSA2927	XXX-NT Compound Gear and Brake Hub
99	Brake caliper	LOSA9411	Disk Brake Rebuild Kit
100	Brake rotor	LOSA9413	Disk Brake Rotor (XXX-NT)
101	Brake lever clip	LOSA9412	Aluminum Brake Lever Clips
102	Brake lever	LOSA9411	Disk Brake Rebuild Kit
103	3/16" E-clip	LOSA6101	E-Clips, 3/16"
104	Rear pivot block	LOSA9834	Graphite Rear Pivot Block (AD2)
105	Wheel bushing	LOSA3102	Wheel Bushing/Hex Set, Plastic
106	10mm x 15mm Bearing	LOSA6943	10mm x 15mm Sealed Ball Bearing
107	Cross bone	LOSA3151	Cross Bone, XXX-AD2
108	4-40 x 3/32 Set screw	LOSA3161	Cross Bone, Rebuild Kit
109	Rear axle, AD2	LOSA3157	Rear Axle, AD2
110	1/16" X 3/8" Drive pin	LOSA3161	Cross Bone, Rebuild Kit
111	4-40 x 3/8 Button-head screw	LOSA6229	4-40 x 3/8 Button Head Screw, (6)
112	Wheel hex	LOSA3102	Wheel Hex, AD2, Plastic
113	Rear hub	LOSA9816	Alum Rear QC Hub Carriers, AD2
114	3/8" x 3/16" bearing	LOSA6903	3/16" x 3/8" Sealed Bearings (2)

# SPARE PARTS LIST

<u>KEY #</u>	<u>KIT/PART DESCRIPTION</u>	<u>PART NO.</u>	<u>SPARE PARTS DESCRIPTION</u>
115	Rear arm bushing	LOSA6261	Rear Arm Bushing, AD2
116	2-56 x 1/2" Button-head screw	LOSA6236	Button Head Cap Screws, 2-56 x 1/2"
117	1/16" x 1/2" Drive pin	LOSA3161	Cross Bone, Rebuild Kit
118	Rear Arm, Left	LOSA9815	Graphite Rear Suspension Arms (XXX-AD2)
119	Thread lock	N/A	N/A
120	2mm x 8mm Drive pin	LOSA2923	XXX-NT Center Brake Shaft and Hardware
121	Shock mount ball	LOSA2006	Swivel Suspension Balls .250"
122	Rear inner hinge pin	LOSA6094	Hinge Pins, 1/8 x 2.125" Ti-Nitride
123	Shock tower, rear	LOSA9824	Graphite Rear Shock Tower, 3 Hole, (XXX-AD2)
124	3.000" Titanium turnbuckle	N/A	N/A
125	Battery box	LOSA4031	Battery Box and Rx Cover Set (XXX-AD2)
126	Shock O-ring	LOSA5014	O-Rings, Shock Cartridge (8)
127	Shock cartridge body	LOSA5015	Double O-Ring Shock Cartridge (Front/Rear)
128	Shock cartridge spacer	LOSA5015	Double O-Ring Shock Cartridge (Front/Rear)
129	Shock cartridge cap	LOSA5015	Double O-Ring Shock Cartridge (Front/Rear)
130	Front shock shaft	LOSA5064	Shock Shaft 1.0" - Titanium Nitrided
131	Rear shock shaft	LOSA5062	Shock Shaft 1.2" - Titanium Nitrided
132	Shock fluid	LOSA5226	SILATECH Competition Shock Fluid 40wt
133	Shock end	LOSA5079	Shock Ends & Cups (4)
134	4-40 x 1/8" set screw	LOSA6227	Hardened Set Screws 4-40 x 1/8 (10)
135	Shock piston #55	LOSA5047	Teflon™ Shock Pistons #55, Orange
136	Shock piston #56	LOSA5046	Teflon™ Shock Pistons #56, Red
137	Front shock body	LOSA5055	.9" Threaded Shock Body Set w/Nuts
138	Rear shock body	LOSA5056	1.2" Threaded Shock Body Set w/Nuts
139	Shock spring adjuster nut	LOSA5049	Alum Shock Adjuster Nuts/W/O-ring
140	Spring cup	LOSA5079	Shock Ends & Cups (4)
141	Front shock spring (Red)	LOSA5152	2.5" Spring 2.6 Rate (Red)
142	Top shock mount bushing, short	LOSA5013	Upper Shock Mount Bushings (all XXX)
143	Top shock mount bushing, long	LOSA5013	Upper Shock Mount Bushings (all XXX)
144	Front tire	LOSA7505R	Front DIRECTIONAL Tires (Red) w/Foam Liners
145	Rear tire	LOSA7636R	Rear STEP-PIN Tires (Red) w/Foam Liners
146	Foam tire liners	LOSA7698	Truck Foam Liners - Firm
147	Wheel	LOSA7064	Solid-face Truck Wheels (Yellow) AD2
149	3/16" x .015" shim	LOSA6230	Shim Assortment (3/16", 1/4", 1/2")
150	10-32 locknut	LOSA6303	10-32 Locking Nuts (4ea Nylon & Steel)
151	Clutch pin/screw	LOSA9375	Flywheel Pins/Screws
152	Flywheel	LOSA9372	Flywheel w/Pins (2 Pin, Steel)
153	Flywheel shim	LOSA9376	Flywheel Collet w/shims
154	Flywheel collet	LOSA9376	Flywheel Collet w/shims
155	Clutch nut	LOSA9369	Clutch Nut
156	Clutch spring	LOSA9363	Clutch Springs for Machined Clutch Shoes
157	Clutch shoe	LOSA9362	Machined Teflon™ Clutch Shoesw/Spring
158	1/4" x 3/8" clutch bearing	LOSA6913	1/4" x 3/8" Ball Bearing
159	Clutch bell 18-tooth	LOSA9381	18-Tooth Clutch Bell
160	Clutch nut spacer	LOSA9369	Clutch Nut
161	1/4" clutch nut clip	LOSA9370	Clutch Nut Clips
162	4-40 x 5/8" cap-head screw	LOSA6221	4-40 x 5/8" Cap-Head Screw
163	Rear shock spring (Pink)	LOSA5150	2.5" Spring 2.3 Rate (Pink)
164	Engine mounts	LOSA9337	XXX-NT Engine Mount Set w/Hardware - Hard Anodized
165	Paper air filter element	LOSA9302	Paper Air Filter Element
166	Air filter boot	LOSA9304	Air Filter Boot (Rubber)
167	Foam pre-filter	LOSA9303	Foam Pre-Filter
168	4" tie-strap	LOSA9304	Air Filter Boot (Rubber)
169	Exhaust header spring	LOSA9349	Rear Exhaust Manifold Springs
170	Exhaust gasket, silicone	LOSA9348	Rear Exhaust Manifold Gaskets
171	Exhaust header	LOSA9347	Manifold Set, Rear Exhaust Engines
172	Counter-sunk washers	LOSA6260	Motor Mount Screws w/CS Washer:NT

# SPARE PARTS LIST

<u>KEY #</u>	<u>KIT/PART DESCRIPTION</u>	<u>PART NO.</u>	<u>SPARE PARTS DESCRIPTION</u>
173	5-40 x 1/2" Flat-head screws	LOSA6260	Motor Mount Screws w/CS Washer:NT
174	Silicone exhaust coupler tubing	LOSA9325	Silicone Exhaust Coupler Tubing
175	Tuned pipe	LOSA9332	Tuned Exhaust Pipe XXX-NT/Drake
176	Fuel tubing	LOSA9315	Fuel Tubing (24")
177	Pipe mounting bracket	LOSA9331	Pipe Mounting "L" Bracket w/Hardware
180	8" tie-strap	LOSA9325	Silicone Exhaust Coupler Tubing
181	Compound gear bushing	LOSA2927	XXX-NT Compound Gear and Brake Hub
182	Two-sided tape (thick)	LOSA4004	Servo Tape
183	Antenna tube	LOSA4002	Antenna Kit
184	Antenna cap	LOSA4003	Antenna Caps
185	Battery spacer foam	LOSA4015	XXX Battery Strap, Pad, and Foam Spacer
186	Battery box lid	LOSA4031	Battery Box and Rx Cover Set (XXX-AD2)
187	2-56 x 1/2" Button head screw	LOSA6236	2-56 x 1/2" Button Head Screws
188	Throttle servo mount	LOSA9415	XXX-NT Servo Mounts, Arms, and Switch Mount
189	Switch mount	LOSA9415	XXX-NT Servo Mounts, Arms, and Switch Mount
190	Throttle servo arm	LOSA9415	XXX-NT Servo Mounts, Arms, and Switch Mount
191	Throttle Z-bend wire	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
192	Linkage collar	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
193	4-40 x 1/8" set screw	LOSA6227	4-40 x 1/8" Hardened Set Screws
194	Throttle over-ride spring	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
195	Over-ride slider	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
196	Brake over-ride spring	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
197	Brake Z-bend wire	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
198	Receiver cover	LOSA4031	Battery Box and Rx Cover Set (XXX-AD2)
199	Throttle return spring eyelet	LOSA9409	Throttle Return Spring & Eyelet
200	Throttle servo splined insert	LOSA9415	XXX-NT Servo Mounts, Arms, and Switch Mount
201	2-56 locking nut	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
202	Throttle return spring	LOSA9405	Brake/Throttle Linkage Set
203	Throttle threaded rod	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
204	4mm ball cup	LOSA9410	Brake/Throttle Linkage Set (XXX-NT)
205	Body	LOSA8029	XXX-AD2 Truck Body W/ Window Mask
206	Window mask	LOSA8029	XXX-AD2 Truck Body W/ Window Mask
207	Stickers	LOSA8357	Sticker Sheet XXX-AD2
208	Body clips	LOSA8200	Body Clips
209	4-40 x 3/8 Button-head screw	LOSA6229	4-40 x 3/8 Button Head Screw, (6)
210	QC Retaining Spring	LOSA3103	Quick-Change Wheel Lever & Hardware
211	QC, Retaining lever, AD2	LOSA3103	Quick-Change Wheel Lever & Hardware
212	Threaded axle adapter, AD2	LOSA3104	Threaded Rear Axle Adapter & Pin
213	Spoiler	LOSA8029	XXX-AD2 Truck Body W/ Window Mask
214	Inner axle spacer	LOSA9941	Bearing Spacer/ Wheel Washer
215	Coupler, cross bone	LOSA3161	Cross-Bone Rebuild Kit





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