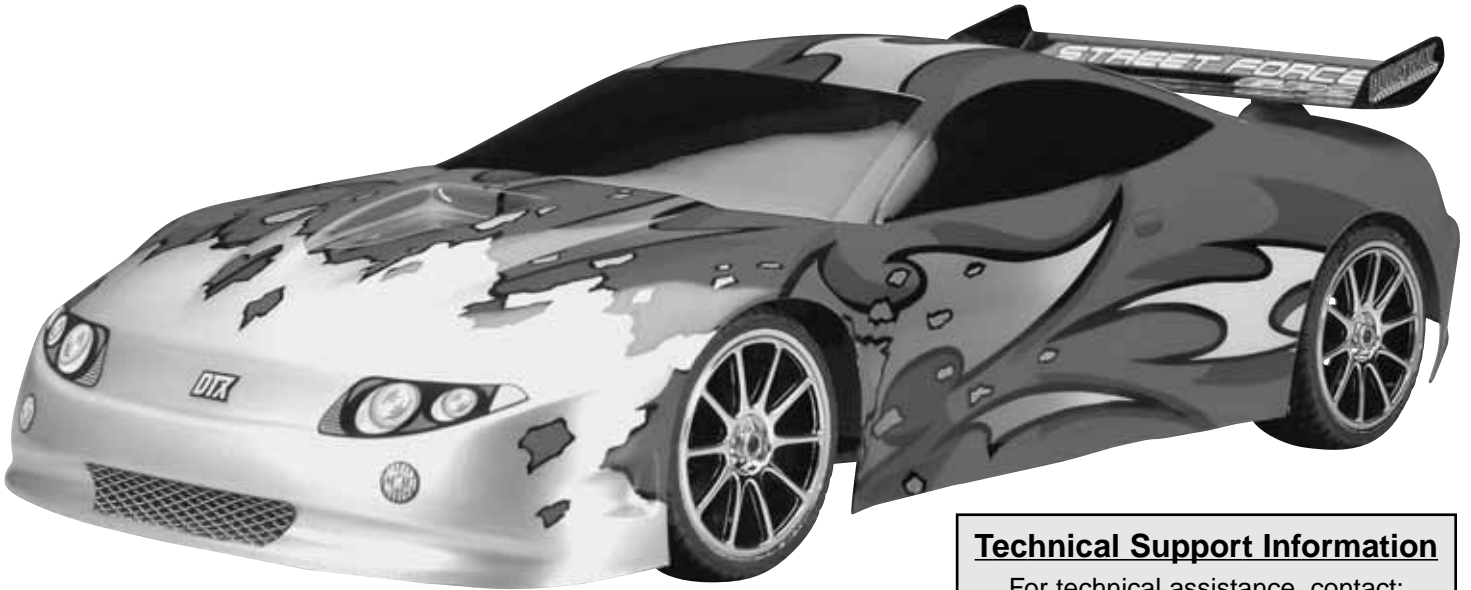


DURATRAX

STREET FORCE GP2™



Length: 16.5" [435mm]
Width: 7.7" [195mm]
Height: 4.6" [115mm]
Weight: 3.1 lb [1.4kg]
Wheelbase: 10.1" [255mm]

Technical Support Information

For technical assistance, contact:
DuraTrax Product Support
3002 N. Apollo Drive, Suite 1
Champaign, IL 61822
(217) 398-8970, Ext. 5
carsupport@duratrax.com

ASSEMBLY AND OPERATION MANUAL

Warranty

- **DuraTrax®** will warranty this kit for 90 days after the purchase date from defects in materials or workmanship. DuraTrax will either repair or replace, at no charge, the incorrectly made part. Exception: Specific parts covered under the Stress Tech™ Guarantee, see page 3.
- Make sure you **save the receipt or invoice** you were given when you bought your model! It is your proof of purchase and we must see it before we can honor the warranty.
- To return your Street Force GP2 for repairs covered under warranty, you should send your truck to:

Hobby Services
3002 N. Apollo Drive Suite 1
Champaign, Illinois 61822
Attn: Service Department
Phone: (217) 398-0007 9:00 am-5:00 pm Central Time M-F
E-mail: hobbyservices@hobbico.com

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

READ THROUGH THIS MANUAL BEFORE STARTING. IT CONTAINS IMPORTANT INSTRUCTIONS AND WARNINGS CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.

TABLE OF CONTENTS

Introduction.....	2
Safety Precautions.....	2
Helpful Hints.....	2
Stress-Tech™ Parts Guarantee.....	2
Repair Service.....	2
Specification & Description Changes.....	3
Screw Information.....	3
Required Items for Completion.....	3
Tools You Will Need.....	3
Finishing the RTR Version.....	4
Air Filter Installation.....	4
Radio Set-Up.....	4
Body Mounting.....	5
Assembly of the Pre-Built Version.....	6
Preparing the Radio System.....	6
Radio Set-Up.....	6
Air Filter Installation.....	9
Body Mounting.....	10
Carburetor Settings.....	10
Breaking-In the Engine.....	11
Engine Maintenance.....	12
Performance Tuning.....	13
Maintenance Tips.....	13
Assembly Guide.....	14
Engine Trouble Shooting.....	19

INTRODUCTION

Thank you for purchasing the DuraTrax Street Force GP2. This manual contains the instructions you need to build, operate and maintain your new nitro R/C touring car. Read over this manual thoroughly before building or operating the Street Force GP2.

SAFETY PRECAUTIONS

When the safety precautions are followed, the Street Force GP2 will provide years of enjoyment. Use care and good sense at all times when operating this radio controlled touring car. Failure to use this vehicle in a safe, sensible manner can result in injury or damage to property. You and you alone must insure that the instructions are carefully followed and all safety precautions are obeyed.

- Do not operate the Street Force GP2 near people. Spectators should be behind the driver or at a safe distance away from the vehicle.
- The engine and exhaust produce quite a bit of noise. If you are disturbed by the amount of noise this touring car produces, wear ear protection such as earplugs. Do not run this vehicle when or where it can disturb others.

- The engine and exhaust can become very hot. Avoid touching any of these parts during use and until they have cooled down.
- Model engine fuel is poisonous. Make sure you read and follow all of the precautions on the fuel container. Keep fuel out of the reach of children.
- Model engine fuel is flammable and when ignited has a flame that is difficult to see. Avoid sparks, flames, smoking, or any other ignition source when fuel is near.
- The engine emits carbon dioxide just like real cars. Do not operate this model indoors.
- Before turning on the transmitter, make sure that no one else is on your frequency.

HELPFUL HINTS

- Avoid working over a deep pile carpet. If you drop a small part or screw, it will be difficult to find.
- Place a mat or towel over your work surface. This will prevent parts from rolling off and will protect the work surface.
- Avoid running the touring car in cold weather. The plastic and metal parts can become brittle at low temperatures. In addition, grease and oil become thick, causing premature wear and poor performance.
- Test fit all parts before attaching them permanently.

STRESS-TECH™ PARTS GUARANTEE

We have engineered the Street Force GP2 to take the high speed abuse that makes R/C cars fun. We are so confident of the quality and durability of the Stress-Tech™ plastic parts that we will replace any Stress-Tech plastic part you break during the first 12 months you own the touring car. Just send in the part to us and we will send you a **Free** replacement. Please see the Street Force GP2 parts list for the items covered under the Stress-Tech guarantee.

To receive your free replacement part please send the following to the Hobby Services address listed on the cover of this manual:

- The broken part must be included.
- The part number and description of the broken part.
- Dated copy of your invoice or purchase receipt.
- Your name, phone number and shipping address.

REPAIR SERVICE

Repair service is available anytime.

- After the 90 day warranty, you can still have your Street Force GP2 repaired for a small charge by the experts at DuraTrax's authorized repair facility, Hobby Services, at the address listed on the front page of this manual.

To speed up the repair process, please follow the instructions listed below.

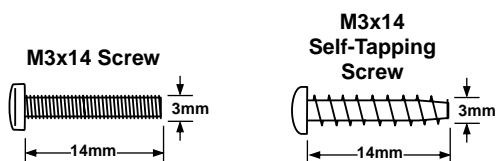
1. Under most circumstances return the **ENTIRE** system: touring car and radio. The exception would be sending in a Stress-Tech part. See the instructions under Stress-Tech Guarantee.
2. Make sure the transmitter is turned off, all batteries are removed and fuel is drained from the tank.
3. Send written instructions which include: a list of all items returned, a **THOROUGH** explanation of the problem, the service needed and your phone number during the day. If you expect the repair to be covered under warranty, be sure to include a proof of date of purchase (your store receipt or purchase invoice).
4. Also be sure to include your full return address.

SPECIFICATION & DESCRIPTION CHANGES

All pictures, descriptions and specifications found in this instruction manual are subject to change without notice. DuraTrax maintains no responsibility for inadvertent errors in this manual.

SCREW INFORMATION

Do not use too much force when tightening self-tapping screws into plastic. Overtightening will cause the threads in the plastic to strip. We recommend that you stop turning a self-tapping screw when you feel some resistance as the head of the screw comes in contact with the plastic. Avoid using powered screwdrivers when assembling this kit. They tend to overtighten the screws. Do not use thread locking compound on any self-tapping screws. The thread locking compound may damage the plastic. **IMPORTANT:** Use thread lock on any fastener that is threaded into metal or fastened with a nut. Vibration from the engine will cause the screws to loosen if thread locking compound is not used.



REQUIRED ITEMS FOR COMPLETION

To operate the Street Force GP2 these items are required:

- Fuel (DuraTrax Red Alert™ fuel - DTXP0520)
- Air Filter Oil (DTXC2465)
- Glow plug wrench (DTXR1170)
- It is also helpful to have a couple of extra glow plugs on hand (DuraTrax Carbon Speed DTXG3003)



The Nitro Starter Pack from DuraTrax (DTXP0200) includes fuel, deluxe wrench, fuel bottle, rechargeable glowplug starter and a glow plug.

For the Pre-Built version of the Street Force GP2, you will also need:

- 2-Channel radio with two standard servos (FUTJ14**).
- (12) "AA" batteries - four for the receiver and eight for the transmitter.
- Small bottle of thread locking compound (DTXR2010).

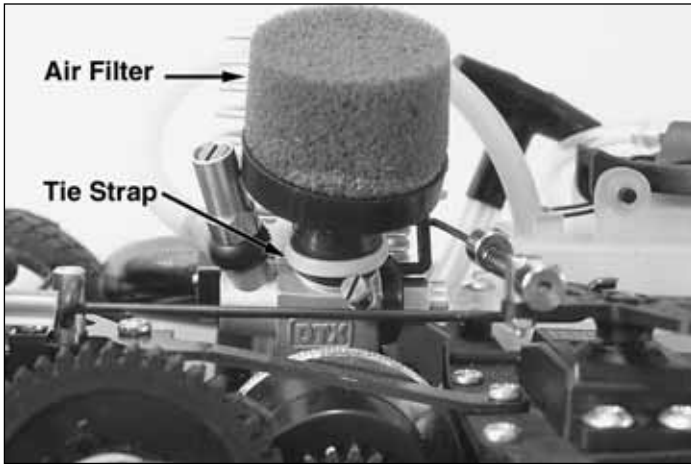
TOOLS YOU WILL NEED

To assemble the Pre-Built version (DTXC0052), you will need the following tools:

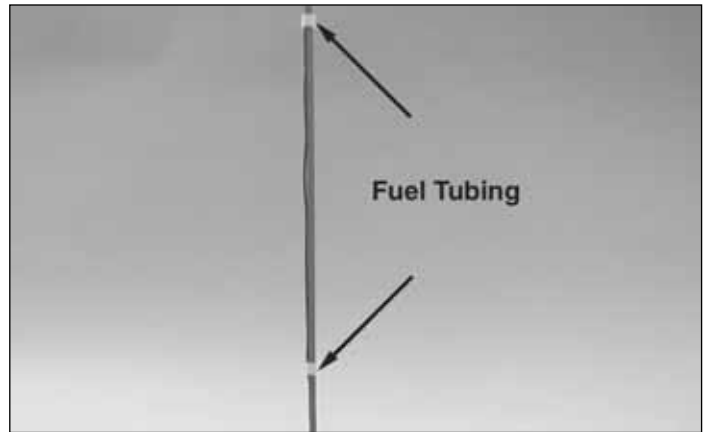
- Phillips head screwdriver (DTXR0122)
- Needle-nose pliers (DTXR0300)
- Hobby knife (HCAR0105), #11 blades (HCAR0211)

FINISHING THE STREET FORCE GP2 TOURING CAR RTR VERSION (DTXD52**)

AIR FILTER INSTALLATION

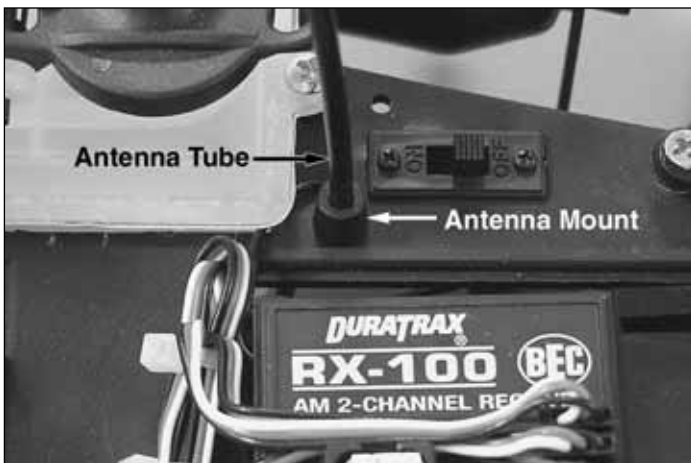


❑ 1. Install the air filter onto the carburetor. Using the included tie-strap, secure the air filter to the carburetor. Cut off any excess portion of the tie-strap to avoid interference.

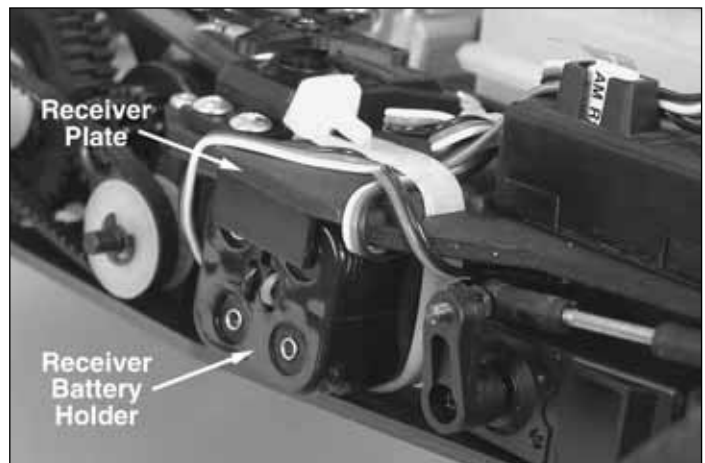
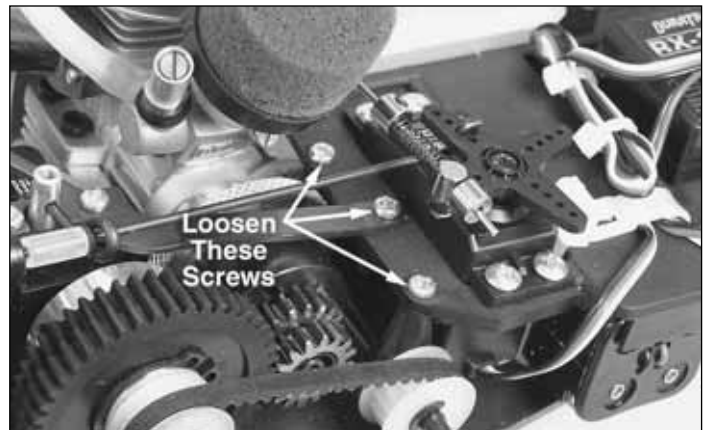


❑ 3. Frequently, there will be leftover wire protruding from the antenna tube. **Do not cut or coil the antenna!** Cut two pieces of fuel tubing 1/8" long and slide them over the outside of the antenna tube and wire. This is to help hold the excess antenna onto the tube and avoid getting the antenna wire cut in a roll over. Note the placement of the fuel tubing on the antenna tube.

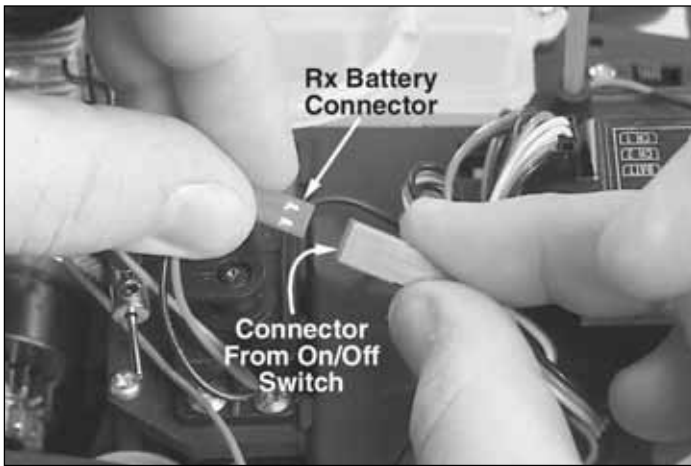
RADIO SET-UP



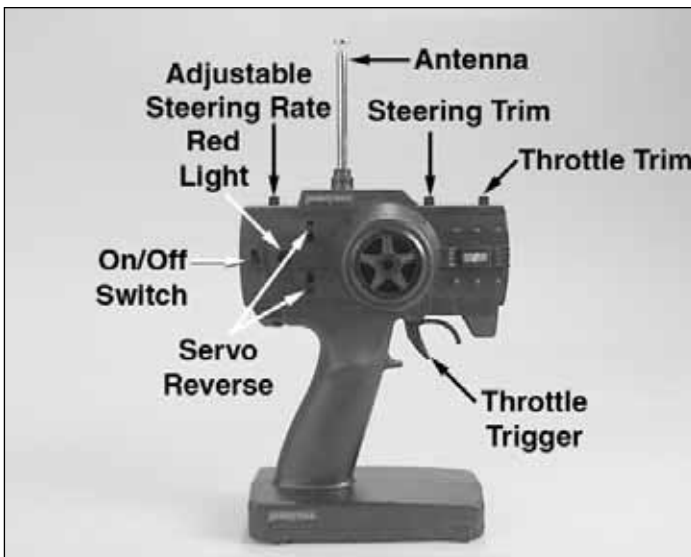
❑ 2. Remove the twist-tie from around the receiver antenna wire. Run the length of the antenna wire through your fingers to help straighten the wire out. This will make it easier to get the wire through the antenna tube. Slide the antenna wire through the antenna tube. Press the antenna tube into the antenna mount molded into the top of the radio plate.



❑ 4. It may be necessary to loosen the radio plate to remove the receiver battery holder. Install 4 "AA" batteries (included) into the receiver battery holder in the configuration molded into the battery holder. Install the receiver battery back into the receiver battery holder as shown. Make sure to re-tighten the radio plate screws once the receiver battery is in place.



❑ 5. Plug the male end of the wire from the receiver (RX) battery into the female end from the on/off switch.

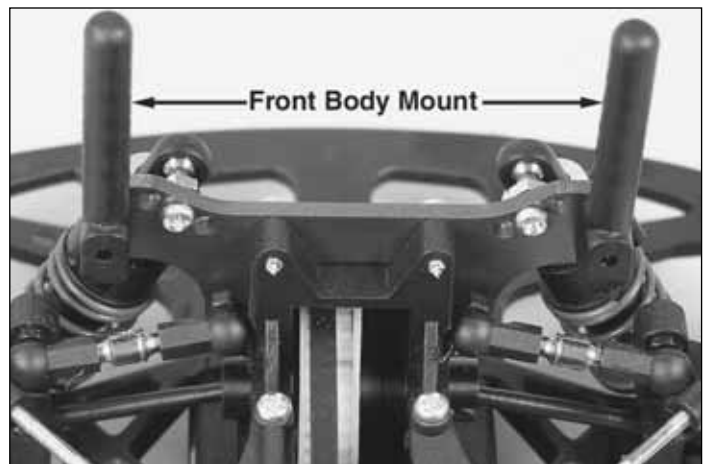
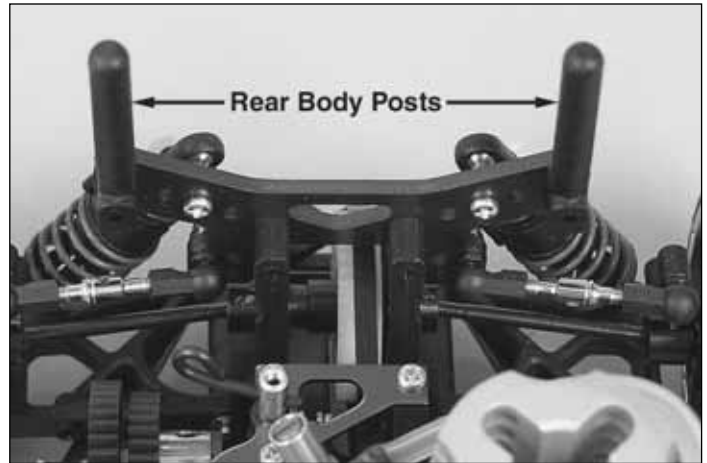


❑ 6. Install the transmitter antenna by screwing it into the hole on the top of the transmitter. Give the antenna a mild tug to make sure that it is properly secured in the transmitter.

❑ 7. Slide open the battery door on the bottom of the transmitter. Install eight (8) "AA" batteries into the transmitter in the configuration molded into the plastic on the battery holder. Reinstall the battery door.

❑ 8. **Warning:** Always extend the transmitter antenna before operating your vehicle. Turn on the transmitter using the switch on the side. The red light on the side of the transmitter should light up. If there is no light on, turn the transmitter off and check to ensure that the batteries are making contact with the metal contacts in the battery holder. Make sure the batteries are installed correctly. Turn the transmitter on and check for the red light. If the red light appears, turn off the transmitter. If the red light blinks, the batteries are low and should be replaced.

BODY MOUNTING



❑ 9. Raise the body posts to the upright position. Notice there is a molded pin that fits into a hole in the shock tower. This is to keep the body posts from swiveling during running. Tighten the screws in the body posts, making sure that the posts pull tight against the shock towers. You will have to remove the screws in the tops of the front shocks to get to the front body mount screws.

❑ 10. Apply the decals to the body.



BODY CLIP

❑ 11. Remove the body clips from the parts bag. On the front body posts place a body clip in the bottom hole of each post. On the rear body posts place a body clip in the third hole from the bottom in each post. Place the body onto the body mounts. On each body post place a body clip to secure the body onto the chassis. The excess body post can be trimmed off if desired.

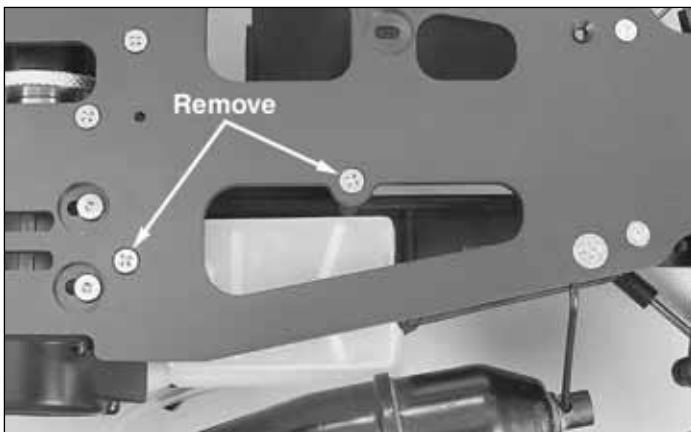
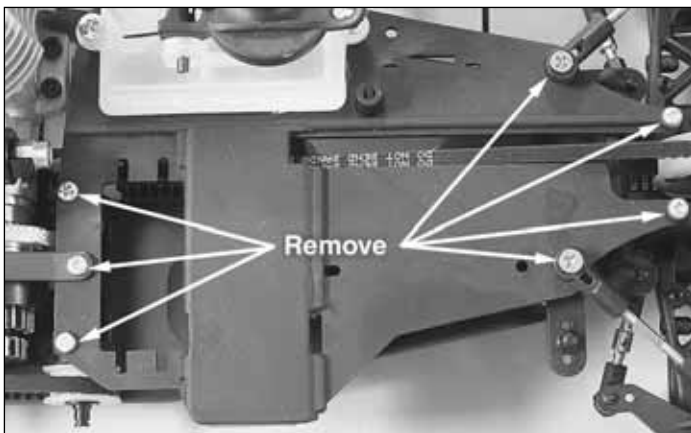
You are ready to go! Watch the DVD for information on breaking in the engine and turn to page 10 for performance and maintenance tips.

ASSEMBLY OF THE STREET FORCE GP2 TOURING CAR PRE-BUILT VERSION (DTXC0052)

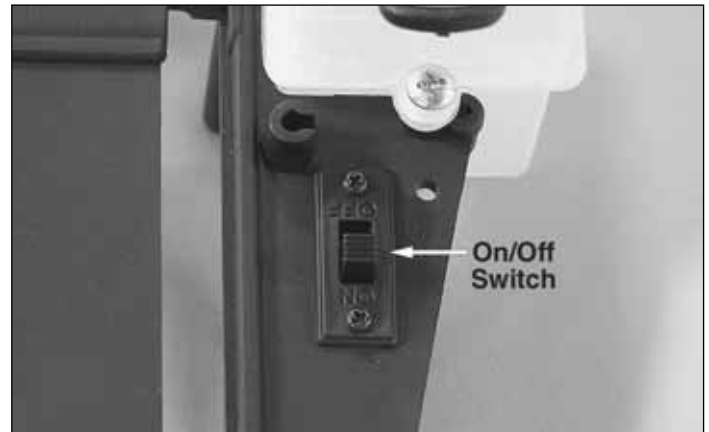
PREPARING THE RADIO SYSTEM

- ❑ 1. Install the "AA" batteries in the transmitter and the receiver holders.
- ❑ 2. Extend the transmitter antenna.
- ❑ 3. Connect the steering servo, throttle servo and receiver battery to the receiver.
- ❑ 4. Extend the receiver antenna.
- ❑ 5. Adjust the servo trims of the transmitter to the neutral position.
- ❑ 6. Switch on the transmitter.
- ❑ 7. Switch on the receiver.
- ❑ 8. Operate the steering and throttle control. Make sure the servo arms move in proportion to the movement of the steering wheel and throttle trigger.
- ❑ 9. Switch off the receiver, then the transmitter.

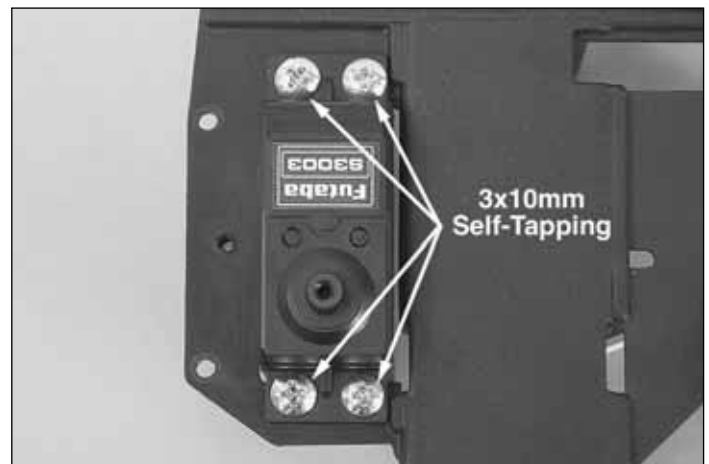
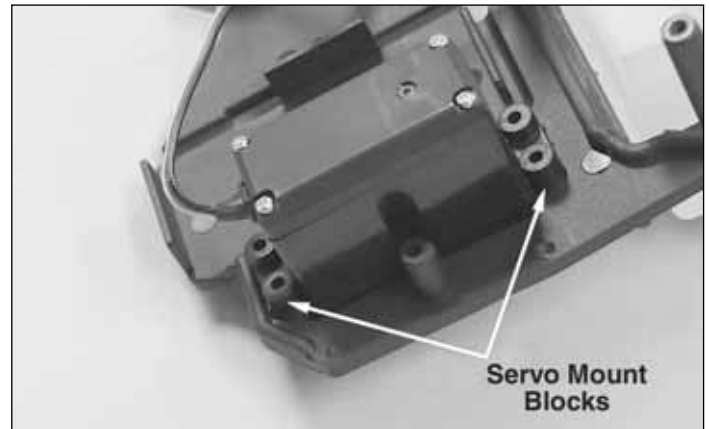
RADIO SET-UP



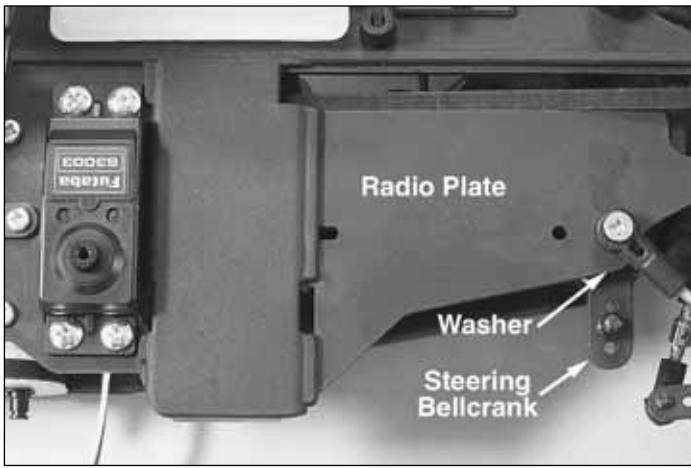
- ❑ 1. Remove the radio plate from the chassis by removing the 9 screws as indicated in the above photos.



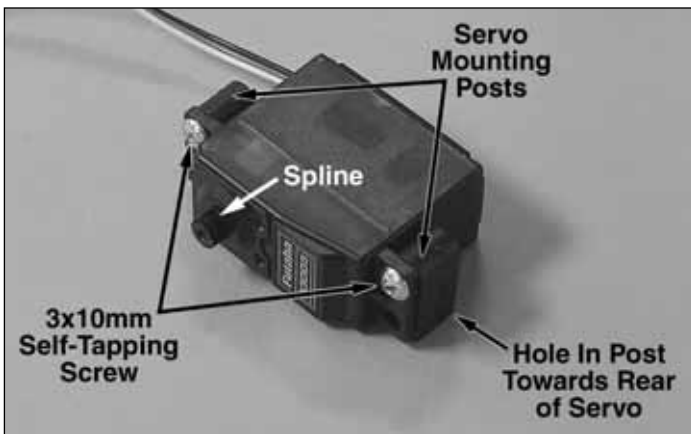
- ❑ 2. Install the on/off switch into the slot in front of the fuel tank. Remove the face plate from the switch, then install the switch up through the bottom of the radio plate, and then install the face plate onto the top of the radio plate. Re-install the two screws through the face plate and into the switch to secure it to the radio plate. Be careful to put the switch plate on correctly with respect to on and off switch positions.



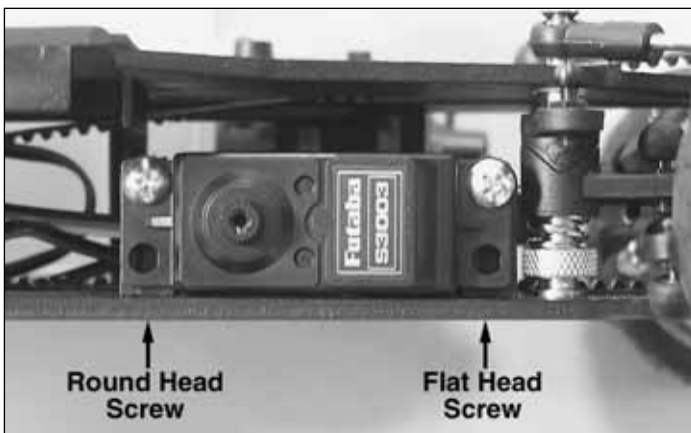
- ❑ 3. Install the throttle/brake servo into the slot next to the fuel tank. Place the two servo mount blocks onto the bottom of the radio plate. Then install the four 3x10mm self-tapping screws through the servo into the servo mounts. Route the servo wire through the slotted hole between the servo and the receiver battery holder.



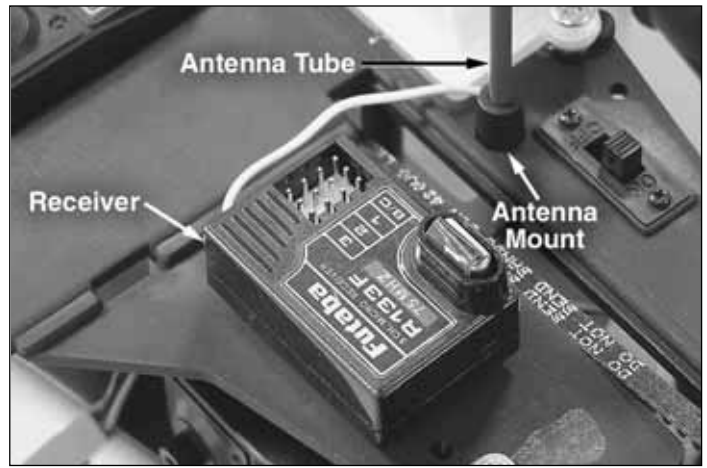
4. Reinstall the radio plate onto the chassis. Make sure to reinstall the washer between the steering bellcrank and the radio plate.



5. Using two 3x10mm self-tapping screws, install the two servo mounting posts onto the steering servo as shown (note location of servo spline). Note that the hole in the bottom of the servo mounting posts are off-center. Install the posts with the hole in the bottom of the post as shown in the photo. This is to help prevent the servo from hitting the center belt.

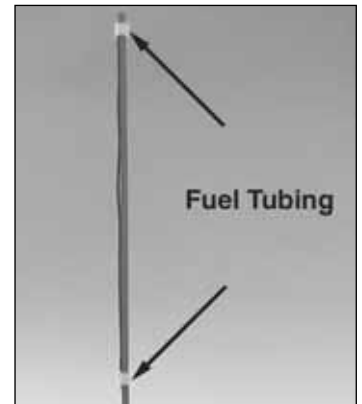


6. Install the steering servo onto the chassis from underneath using a 3x10mm flat head, self-tapping screw in the front hole which is countersunk; and a 3x10mm round head, self-tapping screw in the slotted rear mounting hole. Route the steering servo wire through the slotted hole between the steering servo and the receiver battery holder.

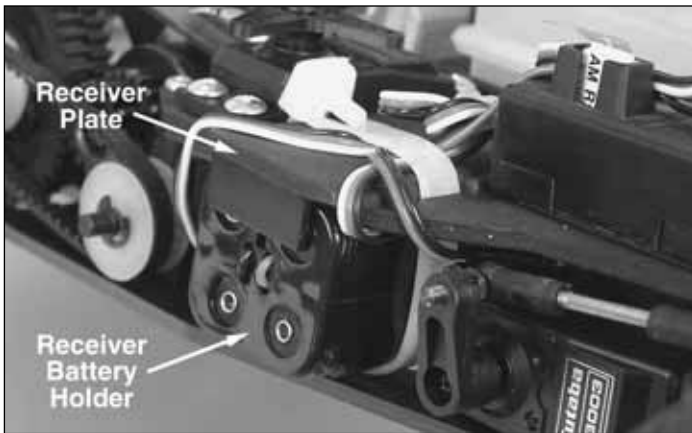
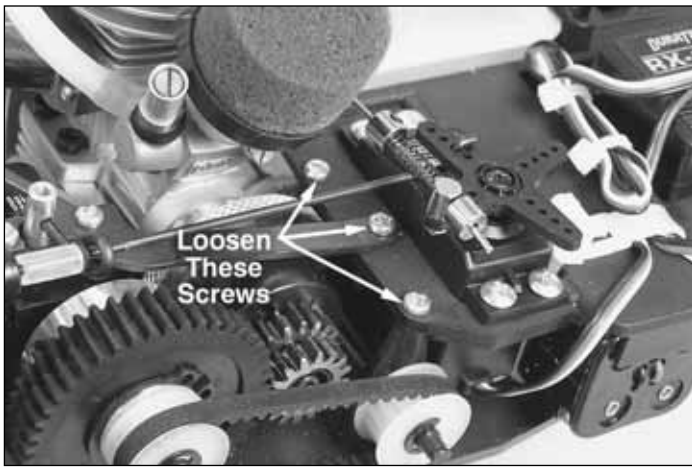


7. Install the receiver using the included double-sided tape onto the top of the radio plate as shown. Run the length of the antenna wire through your fingers to help straighten the wire out. This will make it easier to get the wire through the antenna tube. Slide the antenna wire through the antenna tube. Press the antenna tube into the antenna mount molded into the top of the radio plate.

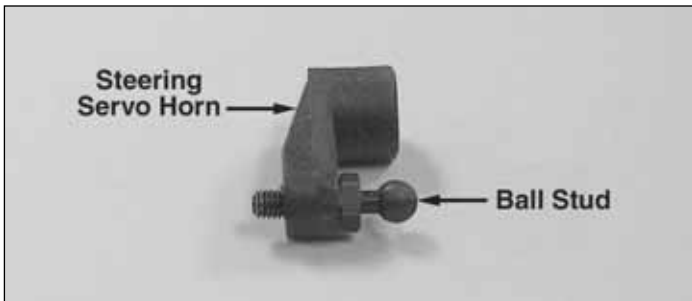
8. Frequently, there will be leftover wire protruding from the antenna tube. **Do not cut or coil the antenna!** Cut two pieces of fuel tubing 1/8" long and slide them over the outside of the antenna tube and wire. This is to help hold the excess antenna onto the tube and avoid getting the antenna wire cut in a roll over. Note the placement of the fuel tubing on the antenna tube.



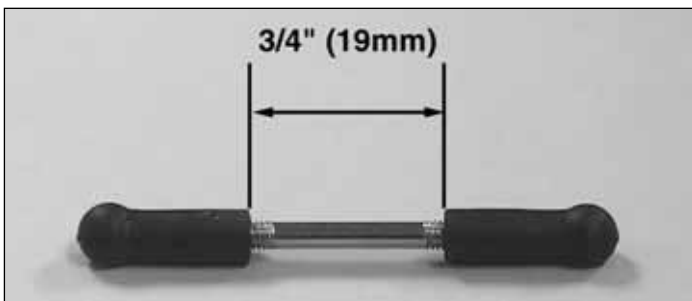
9. Plug the switch wire into the battery ("BATT") slot on the receiver. Plug the steering servo and throttle servo wires into the receiver. See your radio instructions to determine which channel is steering and which is throttle.



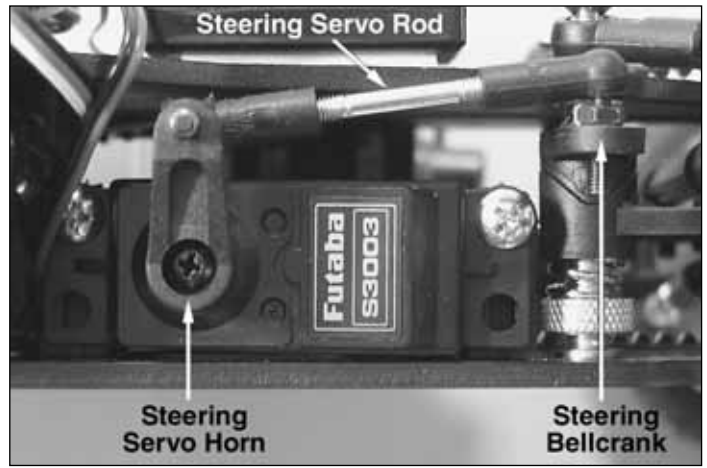
❑ 10. Install the four “AA” batteries into the receiver battery holder as shown. It may be necessary to loosen the radio plate slightly to fit the receiver battery in. Make sure to re-tighten the radio plate screws once the receiver battery is installed.



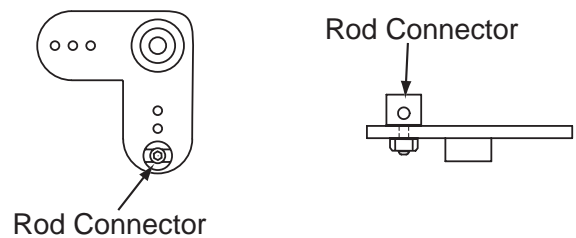
❑ 11. Thread the ball stud into the correct steering servo horn (included) for your steering servo as shown. Test fit the servo horn onto your servo first to make sure it is the correct one.



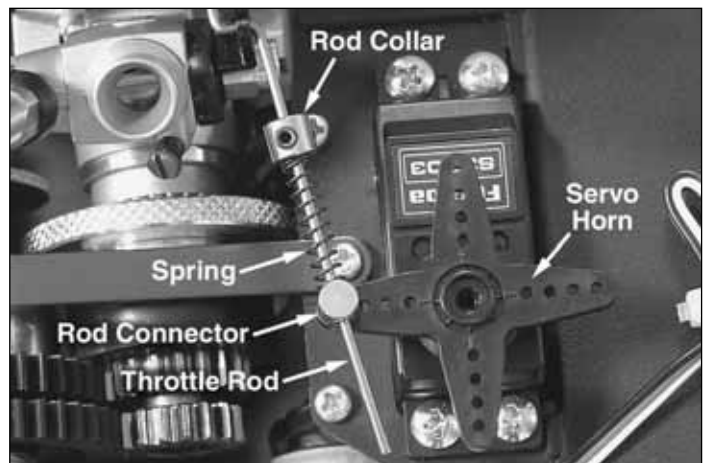
❑ 12. Thread the two ball ends onto the steel rod. There should be 19mm or 3/4" between the two ball ends.



❑ 13. Snap one end of the rod onto the steering servo horn. Snap the other end onto the steering arm. Turn the transmitter on and center the steering trims. Install the steering servo horn onto the steering servo as shown. Then turn the transmitter and receiver off.

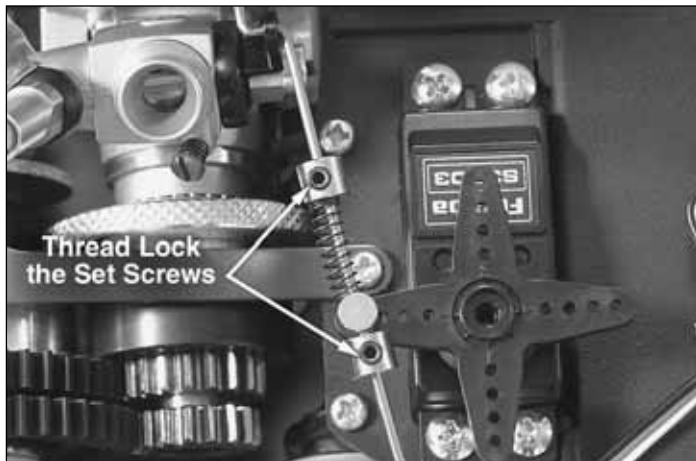


❑ 14. Install the rod connector into the hole farthest away from the center on the short servo horn (included). **Note: This hole is slightly enlarged.** Place the small metal washer and 2mm nut onto the bottom of the rod connector. Make sure not to over-tighten the nut. The rod connector must swivel freely. Apply a small amount of thread lock onto the nut to prevent it from falling off during running.



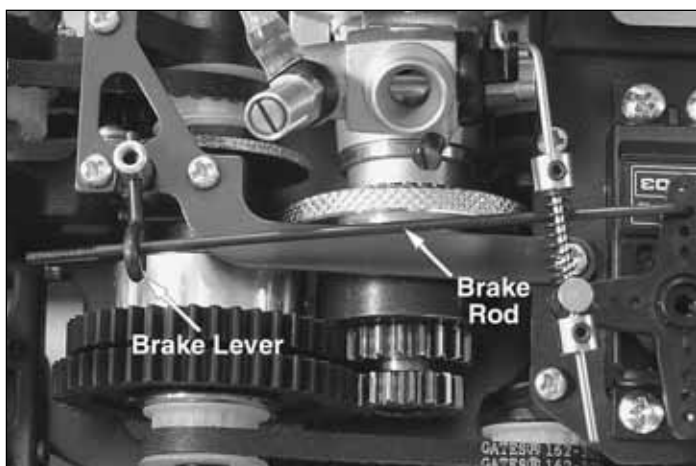
❑ 15. Locate the small rod with a z-bend at one end. Install the z-bend end of the rod into the lower hole of the throttle arm on the carburetor. Turn the transmitter on again and

center the throttle trim on it. Install a set screw into one of the rod collars. **NOTE:** Only thread the set screw in slightly so that the rod collar will slide over the throttle linkage rod. Place the metal rod collar and the throttle linkage spring onto the throttle rod (Do not tighten the rod collar yet). Install the throttle servo horn onto the throttle servo as shown.

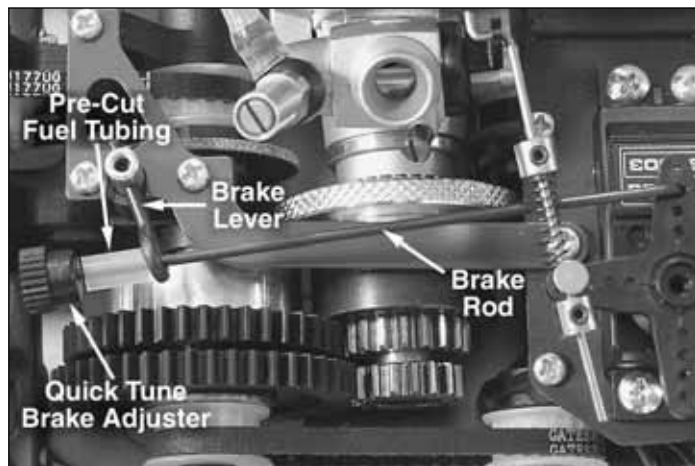


16. Make sure the carburetor is at the idle setting (refer to the throttle stop screw, page 10). Then, install the second rod collar onto the end of the throttle linkage rod. The rod collar should slide up against the throttle linkage rod connector as shown.

17. Slide the first rod collar against the throttle linkage spring, slightly compressing the spring. Tighten the set screw in the rod collar. **You should apply a small amount of thread lock to the set screws in the wheel collars to prevent them from loosening during running.**

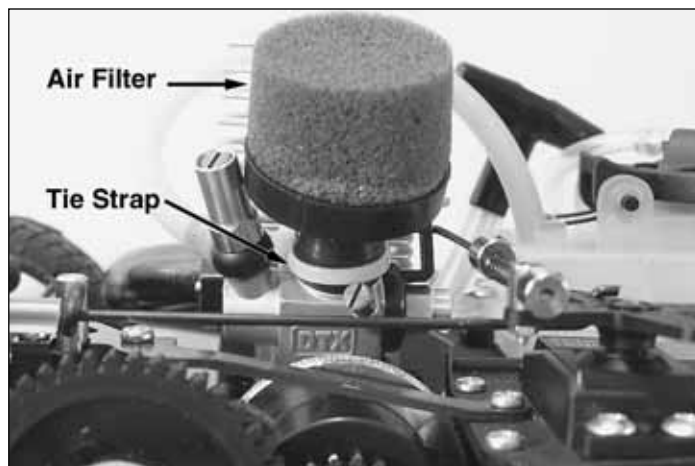


18. Lift the throttle linkage servo horn off of the servo. Install the remaining z-bend wire from the bottom into the hole farthest from the center of the servo horn. **Note:** This hole is slightly enlarged. Slide the threaded end of the brake linkage rod through the brake lever.



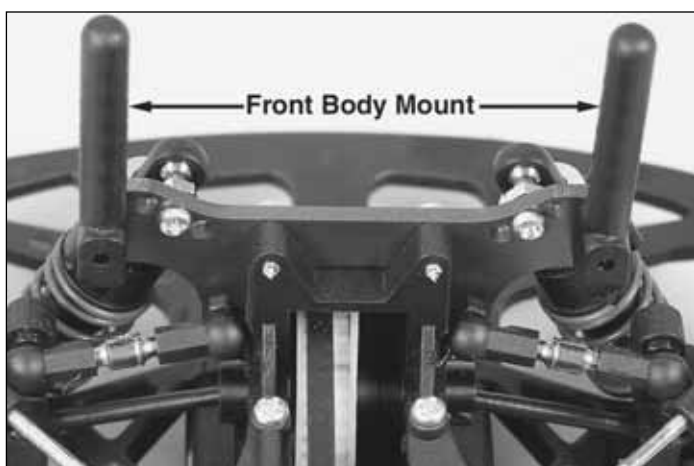
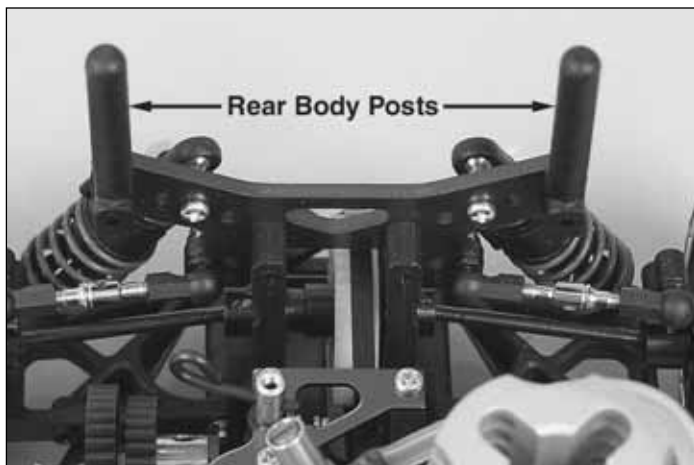
19. Slide the pre-cut 5mm (1/4") piece of fuel tubing onto the threaded end of the brake linkage rod. The fuel tubing should slide all the way up against the brake lever. Then thread the quick tune brake adjuster onto the brake linkage rod. **Note:** The transmitter should still be on for this step. Thread the quick tune brake adjuster on until it almost touches the pre-cut piece of fuel tubing. **Note:** At this position the car should roll freely. Move the transmitter trigger to apply the brakes and try to gently move the vehicle. If the car rolls freely the quick tune brake adjuster should be threaded on farther. If the car does not move then the linkage is set up correctly. Install the servo horn screw into the throttle servo.

AIR FILTER INSTALLATION



20. Install the air filter onto the carburetor. Using the included tie-strap, secure the air filter to the carburetor. Cut off any excess portion of the tie-strap to avoid interference.

BODY MOUNTING



❑ 21. Raise the body posts to the upright position. Notice there is a molded pin that fits into a hole in the shock tower. This is to keep the body posts from swiveling during running. Tighten the screws in the body posts, making sure that the posts pull tight against the shock towers. You will have to remove the screws in the tops of the front shocks to get to the front body mount screws.

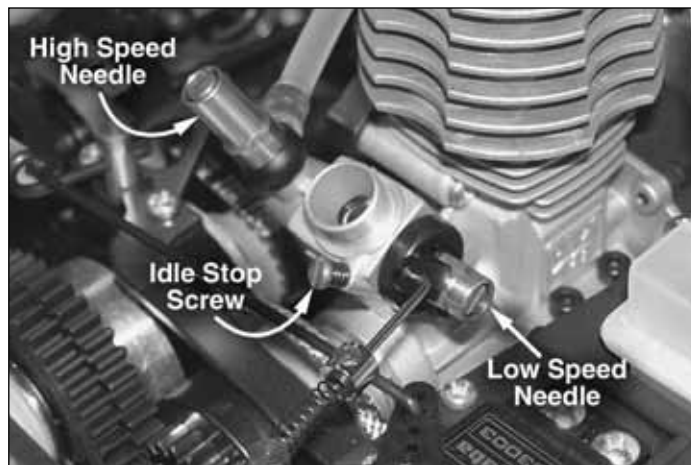
❑ 22. Apply the decals to the body.



BODY CLIP

❑ 23. Remove the body clips from the parts bag. On the front body posts place a body clip in the bottom hole of each post. On the rear body posts place a body clip in the third hole from the bottom in each post. Place the body onto the body mounts. On each body post place a body clip to secure the body onto the chassis. The excess body post can be trimmed off if desired.

CARBURETOR SETTINGS



The High-Speed Needle

The “high-speed” needle is sticking up from the side of the carb. It is located in the brass housing, just above the fuel inlet. It controls the fuel to air mixture of the carb. The needle setting for break-in is 2 turns out from fully closed. Once the engine is broken-in, the high-speed needle would typically run from 1-1/4 to 1-3/8 turns out from closed, depending on the temperature, humidity and altitude above sea level. To richen the mixture, turn the needle counterclockwise; to lean, it turn the needle clockwise.

The Low-Speed Needle

The “low-speed” needle located on the side of the carburetor. It controls the fuel to air mixture at low throttle settings. There is a simple way of adjusting the low-speed needle correctly called the “pinch test.” With the engine at idle, pinch the fuel line and listen to how the engine speeds up or slows down. If the engine increases its speed for about 3 or 4 seconds and then loses speed, the needle is set correctly. If the engine loses RPM quickly, it is set too lean and the low-speed needle needs to be opened (counterclockwise) to richen the mixture. Pinch again to check the mixture. If the engine takes longer than 5 seconds to slow down, lean (clockwise) the low-speed needle and then pinch again to check the mixture. **Note: Make sure the high speed needle is set properly before the low speed needle is adjusted.**

The Idle Stop Screw

On the front of the carburetor, there is a black screw. This is called the idle stop screw. This increases or decreases the idle RPM without changing the fuel-to-air mixture. The barrel should be approximately 1.5mm (between 1/32" and 1/16") from fully closed.

BREAKING-IN THE ENGINE

Note: This engine was designed to racing tolerances and may take longer than 5 tanks to fully break-in.

To insure long life and good performance from your DuraTrax .18 engine, you **MUST** break-in the engine. The break-in period is critical for long life of the internal parts of the engine. This should be done over the first 5 tanks of fuel.

Some Things To Remember During Break-In

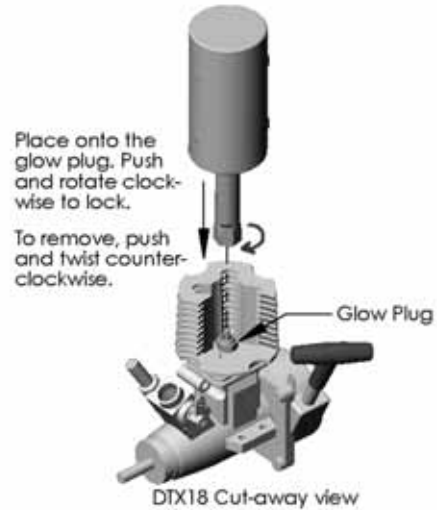
- 1. Run with the body off. This will keep the engine cooler.
- 2. Keep the air cleaner on at ALL times
- 3. Run on a smooth, hard surface. An empty parking lot is perfect.
- 4. Use the same fuel that you will use for normal running.
- 5. Resist the urge to accelerate and decelerate the touring car quickly. Apply throttle and brake slowly and smoothly.
- 6. Break-in puts stress on the glow plug and you can burn it out during break-in. Make sure you have an extra plug or two on hand.
- 7. Do NOT overheat the engine. You can check the head temperature by using one of the temperature gauges that is available or by putting a drop of water on the top of the cylinder head. If the water boils away immediately, shut off the engine and allow it to cool. If it takes more than 4 seconds to boil away, the engine is at proper running temperature for break-in.

Before running the engine, read the manual and watch the engine video that came with this kit.

There are several simple steps to starting the engine:

- 1. Install a glow plug. This threads into the top of the cylinder head.
- 2. Fueling - Fill the tank almost to the top. Leave a little air at the top of the tank.
- 3. Prime the Engine (when cold) - Wrap your finger with a shop towel and place it over the tuned pipe's exhaust exit. Pull the recoil gently until you can see fuel reach the carburetor (looking through the fuel tubing). **Note:** The engine should not require priming when hot unless you ran out of fuel).
- 4. Open the high speed needle valve exactly **2 turns** out (counterclockwise) from fully closed. The high-speed needle is sticking up from the carburetor inside the brass housing. All of the carburetor settings are adjusted with a flat bladed screwdriver. **Caution:** Do not overtighten the high speed needle or you can damage your engine.

- 5. **RTR Version ONLY:** Install the included "C" size battery into the included glow starter as shown.



- 6. Install the glow starter onto the glow plug and gently press the top of the glow starter down and turn in a clockwise direction. This will lock the glow starter onto the glow plug. To remove the glow starter, gently press down on the top of the glow starter and turn counter clockwise.
- 7. Start the engine by pulling the recoil - Use short, quick pulls. DO NOT pull the recoil starter's string to the end. You only need 10 to 12 inches of pull to start the engine.

Many times it is helpful to start the engine at around half throttle. Have a friend pull back on the throttle some while you start the engine. This may be an indicator that the low speed needle setting needs to be adjusted. When the engine starts, immediately return the throttle to idle. If this is not done the engine can over-rev and cause engine damage. If the engine is difficult to turn over with the recoil starter, especially if it is brand new, loosen the glow plug a half turn before starting the engine. This allows some compression to escape, but the engine will still start. Make sure you tighten the glow plug after the engine starts. If the recoil starter is still difficult to pull, the engine is flooded - there is too much fuel inside the engine. Remove the glow plug, and then turn the engine upside down and pull the recoil 5 or 6 times. This will clear the engine of fuel, and you will notice the recoil pulls easier. Replace the glow plug and repeat the starting procedure.

Tanks 1-2

Your first two tanks of fuel should be running the touring car at a very rich high-speed needle valve setting. This allows the fuel to carry as much oil as possible into the engine to lubricate the internal parts during the break-in.

- 1. After a minute or two of running back and forth at medium speeds, slowly accelerating and decelerating the touring car, make sure the engine is not overheating by putting a drop of water on the cylinder head. If it boils away within 4 seconds, stop the engine and allow it to cool. Open the high-speed needle around a 1/4 turn before starting again. This is a good habit to get into every time you run to

ensure that the engine does not overheat during any run. Looking at the smoke that comes out the exhaust is also an indicator of how rich or lean the engine is running. If there is a good amount of smoke coming out of the exhaust, then chances are good that you are running rich.

□ 2. Run the touring car back and forth at a medium speed until the tank is almost out of fuel. Do not allow the tank to run out of fuel. This leans out the engine and can cause overheating.

□ 3. Stop the engine and allow the engine to cool before the second tank. This normally takes around 10 minutes.

How To Stop Your Engine

You may have been wondering how to stop the engine. All you have to do is pinch the fuel line that runs to the carburetor and from the bottom of the fuel tank. Pinching this line will restrict the fuel flow and the engine will quit within a few seconds.

Tanks 3-5

Turn in the needle valve (clockwise) around 1/8 turn from the previous setting for each additional tank. Run the car back and forth. You should notice that the car will perform better during each run. Stop the car periodically to check for overheating. If it is too hot, stop the engine. Wait for it to cool, and then turn the high speed needle valve counterclockwise 1/8 turn, and restart. After the 5th tank, you should be near to the peak performance of the engine.

ENGINE MAINTENANCE

Ten Ways To Ensure A Long Life From Your Engine:

1. Keep your engine clean. Dirt will act as insulation on an engine. It will not be able to shed heat as easily. Use a good air filter to keep dirt out of your engine and clean it often.
2. Do not over-lean your engine.
3. Do not run your engine with little or no load. Don't throttle up the engine to full throttle when the wheels are not in contact with the ground.
4. Do not overheat the engine. This goes along with keeping it clean and not over-leaning the engine.
5. Do not use a fuel with a low oil content. Make sure you use a fuel from a reputable manufacturer, such as DuraTrax Red Alert.
6. Avoid using old fuels in the engine. Always run all of the fuel out of the engine. After running for the day, use an after-run oil and work it into the engine by turning the flywheel or pulling the engine recoil slowly.

7. Do not use a fuel with a nitromethane (often called nitro) content over 20%.
8. Do not scratch the piston or cylinder sleeve. Avoid jamming something into the exhaust port when removing or re-installing the clutch or flywheel. Use a special tool called a crankshaft locking tool, which is installed in the glow plug hole.
9. Do not use silicone sealer on the engine joints. Silicone sealer contains acetic acid, which is corrosive if it gets inside your engine.
10. Do not allow any water inside the engine. This sounds easy, but temperature changes can cause condensation inside the engine. This is a good reason to use an after-run oil. Store your engine inside the house, not in a garage or shed where there will be temperature extremes.

If you are having problems with your engine consult the engine troubleshooting flow chart on page 19. The following are some potential problems.

Glow Plug

The glow plug is an item that will wear out and need replacement from time to time. It is a good idea to remove the glow plug before your first run, heat it and see how well it glows. You should see a bright orange glow from the filament. If a coil or two will not glow or the plug will not glow at all, replace the plug. If the engine quits when you remove the glow starter, the plug might need to be changed, although this may be because you are running too rich and need to screw in your high-speed needle some. Look at the glow plug when you are running the engine. If you see some bubbles coming from around the plug, replace the glow plug (copper) gasket, or both the plug and gasket. The only real way to test a glow plug is to replace it. Make sure you have a spare plug or two on hand every time that you run the Street Force GP2.

Fuel

Fuel can go bad. The main ingredient in model fuel is methanol, which is basically an alcohol. Alcohols can absorb water out of the air, so keep your fuel jug capped at all times. Store your fuel out of the sunlight and in a cool place. Bad fuel is one of the most difficult problems to diagnose in engines. If you have tried everything you can think of to remedy an engine that is not running correctly, try using some fresh fuel.

Fuel line is susceptible to pinhole leaks. You cannot see the hole in the fuel line, but if you see air bubbles in the line going to the carburetor, replace the fuel line. Another symptom of a leak in the fuel line is a surging engine. The properly tuned engine will surge when the air bubbles hit the carb. It is basically leaning out the mixture.

To keep dirt out of the engine, use an inline fuel filter on the fuel line running from the fuel tank to the carburetor. Dirt can get caught in the needle seat and cause an inconsistent running engine. If you suspect that some dirt has lodged itself in the carb, remove the needles and clean the carb with denatured alcohol or fuel. It can help to use compressed air to blow out the fuel passages as well. Dirt can get into your carburetor and engine through the air filter. Ensure that your air cleaner has a good seal to the top of the carb. Periodically wash the air cleaner foam element and re-oil the filter. Any air cleaner that has a torn element or a bad seal should be replaced immediately.

Overheating

One of the worst things you can do to your engine is overheat it. The oils that lubricate the engine are carried in the fuel. If your engine is set too lean, there will not be enough oil in the engine to lubricate the internal parts. This will cause premature wear in the engine and cause damage.

PERFORMANCE TUNING

Toe-In/Toe-Out: This refers to the angle of the front tires when viewed from above when the suspension arms are level. If the fronts of the tires angle in, it is called "toe-in" and if the fronts of the tires angle out, it is called "toe-out." This is adjusted by lengthening or shortening the steering rods - the rods that run between the front hub and the servo saver. Normally a small amount of toe-in is used to make the touring car track straight at high speed. Too much toe-in will make the touring car difficult to turn as well as reduce the overall top speed because of tire scrub. Sometimes a small amount of toe-out will be used to help the steering. As a general rule use a small amount of toe-in, typically 1° – 2°.

Camber: Camber is the angle of the tops of the tires when viewed from the front. Negative camber is when the tops of the tires are angled towards the center of the touring car. Positive camber is where the tops of the tires are angled away from the center of the touring car. Positive camber is very rarely used, if ever. A small amount of rear negative camber is helpful to increase traction in the rear. Negative camber at the front will increase stability. Camber adjustments can be made on the Street Force GP2 by turning the "camber rods," which are the upper links on the suspension. Lengthening the camber rod will add positive camber and shortening the camber rod will add negative camber.

Shocks: Changes in shock oils, springs, and pre-load on the springs can dramatically change the way the car handles. A thicker shock oil will make the touring car turn faster but reduces overall traction and handling over bumpy surfaces. Thinner oil will increase traction at the expense of steering

response and the car will tend to roll more. You should experiment some to see what oils work best for your track and driving style. Shock springs affect the rate that the suspension rebounds from a bump. Pre-load on the springs means that the springs are already compressed some so that the suspension will rebound faster. Sometimes you will want to pre-load one side when the track has turns all or mostly in one direction, for instance an oval track. It will also increase the ride height.

MAINTENANCE TIPS

Before Each Run

- Check for loosened screws on the touring car. Engine vibration will loosen some of the screws, particularly in the engine mount area. Use thread lock on screws that thread into metal parts or use a metal nut.
- Inspect the air cleaner for a torn or damaged element. Also look for dirt in the air cleaner element and wash it if necessary.
- Check the suspension and drive train for binding.
- Inspect all of the wires for damage. Also check the connectors to make sure all of them are tight and in the proper place.
- Check the fuel tank and fuel lines for leaks.
- Before starting the engine, turn on the radio and make sure the servos move easily and in the right direction.
- Before running always check the condition of your radio system batteries and replace/recharge if necessary.

After Each Run

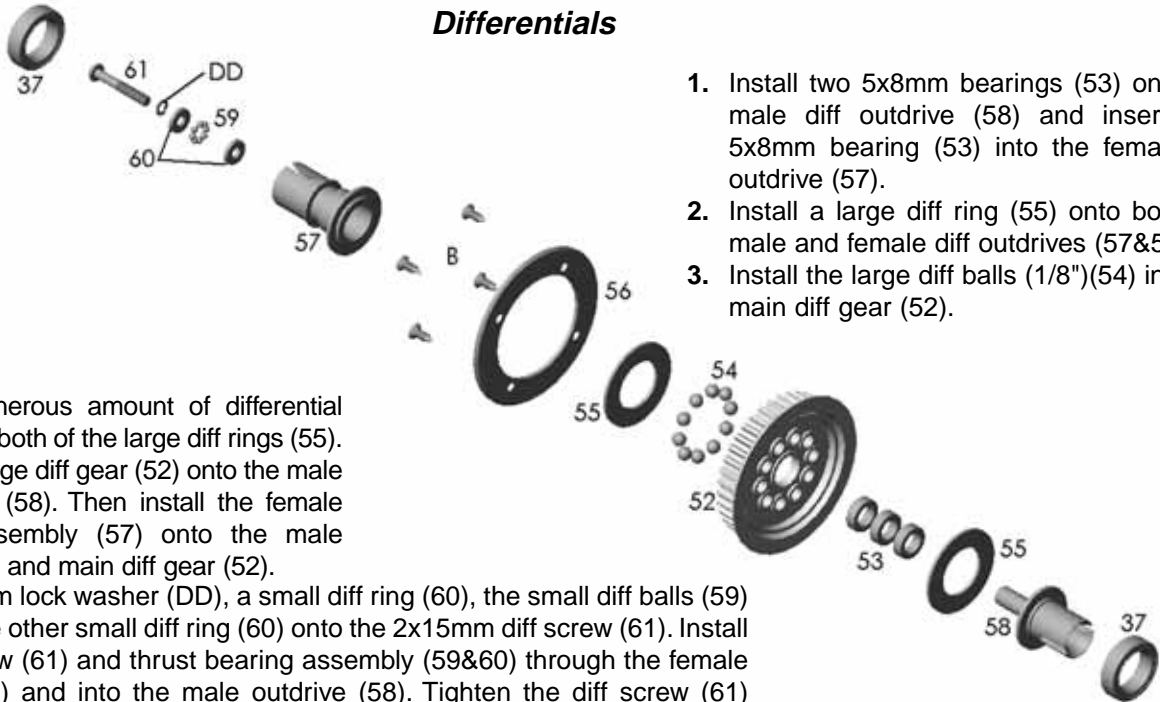
- Drain the fuel tank of any leftover fuel. **DO NOT** return it to your fuel jug.
- Put some after-run oil in the carb and turn the flywheel several times to work the oil into the engine. This will protect the engine from rusting, especially when stored for a long period of time.
- Check again for loosened screws.
- **CLEAN** the touring car. Wipe off any oils that have collected on the chassis, engine end exhaust. Oils will attract dirt on the next run.

ASSEMBLY GUIDE

The following information has been provided to help maintain and tune the Street Force GP2.

NOTE: A good quality thread locking compound must be used anytime a metal screw goes into a metal part.

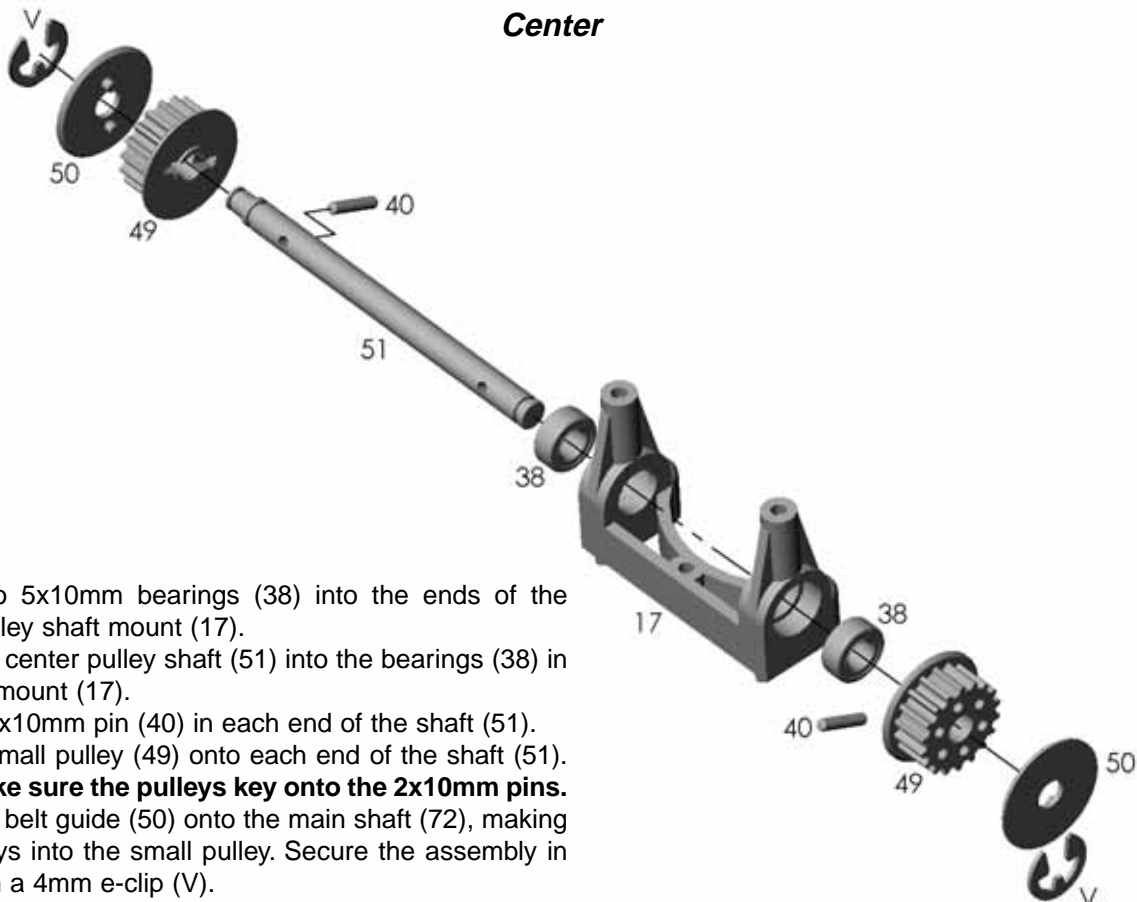
Differentials



1. Install two 5x8mm bearings (53) onto the male diff outdrive (58) and insert one 5x8mm bearing (53) into the female diff outdrive (57).
2. Install a large diff ring (55) onto both the male and female diff outdrives (57&58).
3. Install the large diff balls (1/8") (54) into the main diff gear (52).

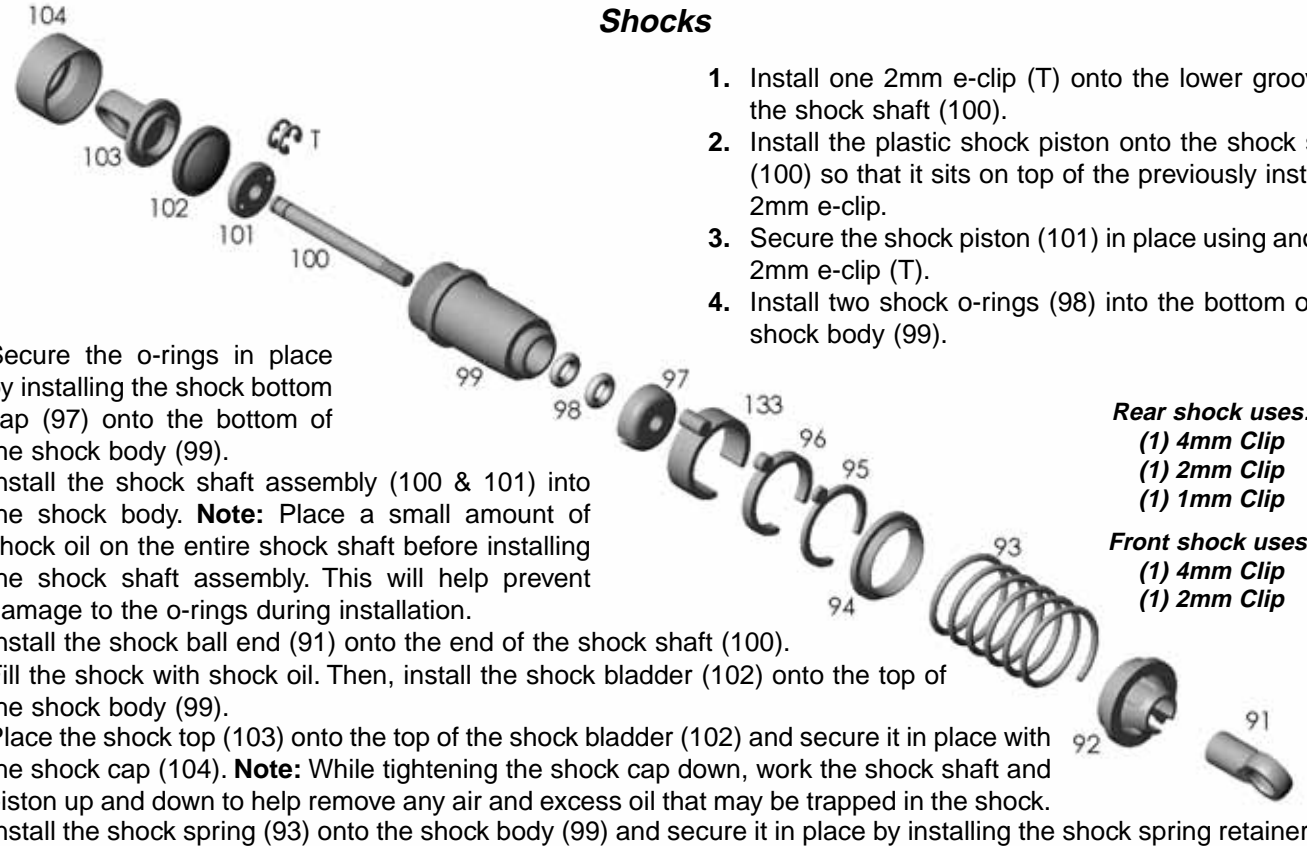
4. Apply a generous amount of differential grease onto both of the large diff rings (55). Install the large diff gear (52) onto the male diff outdrive (58). Then install the female outdrive assembly (57) onto the male outdrive (58) and main diff gear (52).
5. Install a 3mm lock washer (DD), a small diff ring (60), the small diff balls (59) and then the other small diff ring (60) onto the 2x15mm diff screw (61). Install the diff screw (61) and thrust bearing assembly (59&60) through the female outdrive (57) and into the male outdrive (58). Tighten the diff screw (61) down until it is snug. Then back it off 1/8th of a turn. Be careful not to over tighten the diff screw (61). This could cause damage to the diff parts.

Center

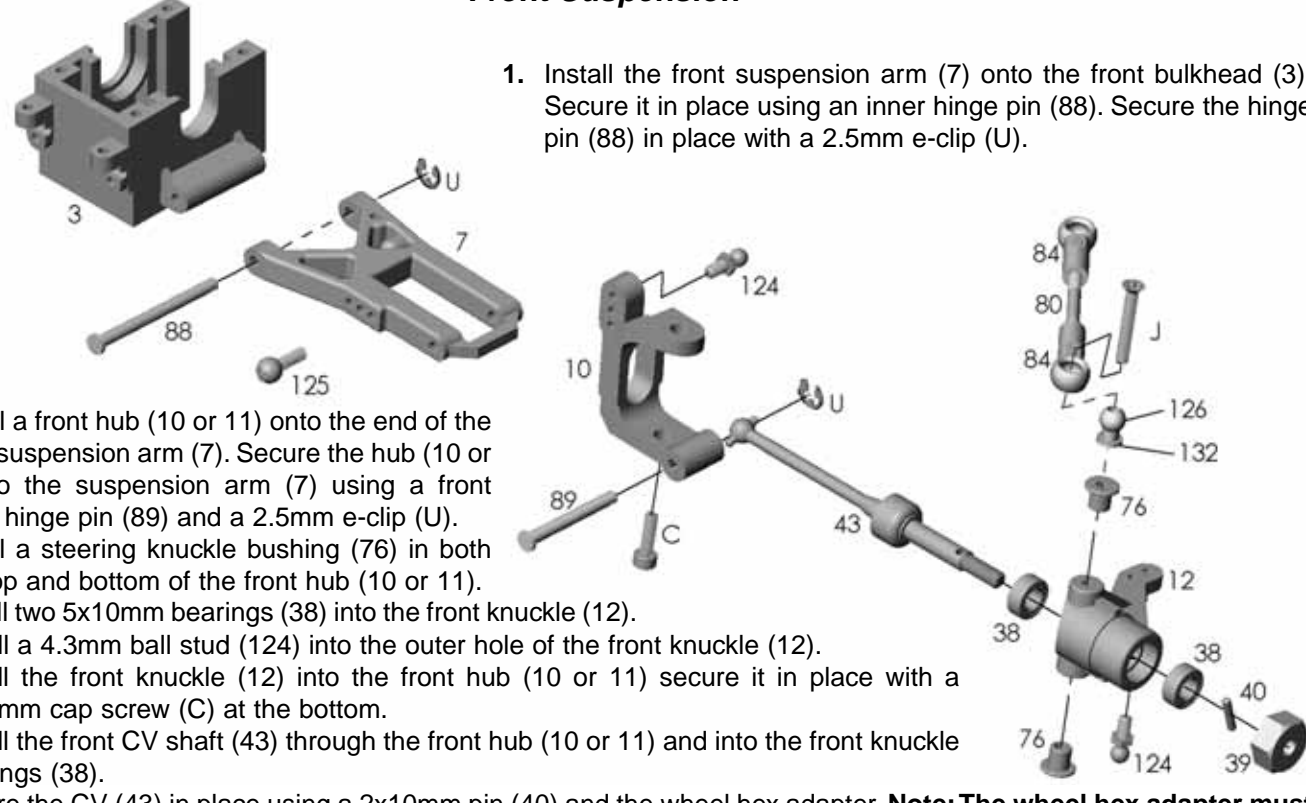


1. Install two 5x10mm bearings (38) into the ends of the center pulley shaft mount (17).
2. Install the center pulley shaft (51) into the bearings (38) in the shaft mount (17).
3. Install a 2x10mm pin (40) in each end of the shaft (51).
4. Install a small pulley (49) onto each end of the shaft (51). **Note: Make sure the pulleys key onto the 2x10mm pins.**
5. Install the belt guide (50) onto the main shaft (72), making sure it keys into the small pulley. Secure the assembly in place with a 4mm e-clip (V).

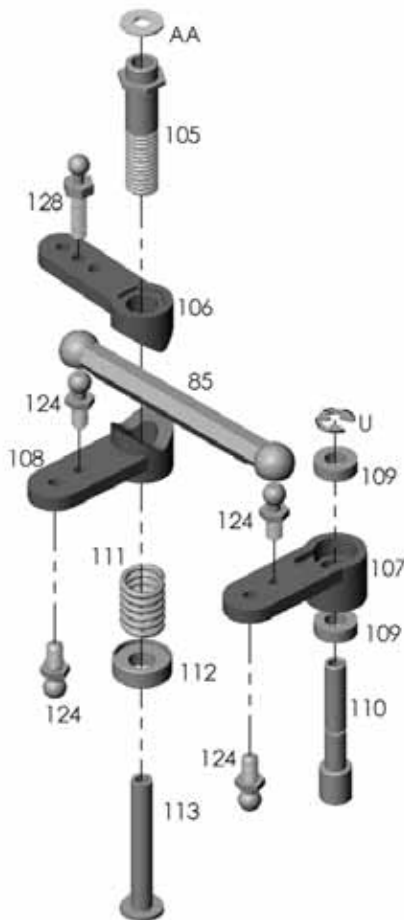
Shocks

- 
1. Install one 2mm e-clip (T) onto the lower groove in the shock shaft (100).
 2. Install the plastic shock piston onto the shock shaft (100) so that it sits on top of the previously installed 2mm e-clip.
 3. Secure the shock piston (101) in place using another 2mm e-clip (T).
 4. Install two shock o-rings (98) into the bottom of the shock body (99).
 5. Secure the o-rings in place by installing the shock bottom cap (97) onto the bottom of the shock body (99).
 6. Install the shock shaft assembly (100 & 101) into the shock body. **Note:** Place a small amount of shock oil on the entire shock shaft before installing the shock shaft assembly. This will help prevent damage to the o-rings during installation.
 7. Install the shock ball end (91) onto the end of the shock shaft (100).
 8. Fill the shock with shock oil. Then, install the shock bladder (102) onto the top of the shock body (99).
 9. Place the shock top (103) onto the top of the shock bladder (102) and secure it in place with the shock cap (104). **Note:** While tightening the shock cap down, work the shock shaft and piston up and down to help remove any air and excess oil that may be trapped in the shock.
 10. Install the shock spring (93) onto the shock body (99) and secure it in place by installing the shock spring retainer (92) onto the shock shaft.
- Rear shock uses:**
 (1) 4mm Clip
 (1) 2mm Clip
 (1) 1mm Clip
- Front shock uses:**
 (1) 4mm Clip
 (1) 2mm Clip

Front Suspension

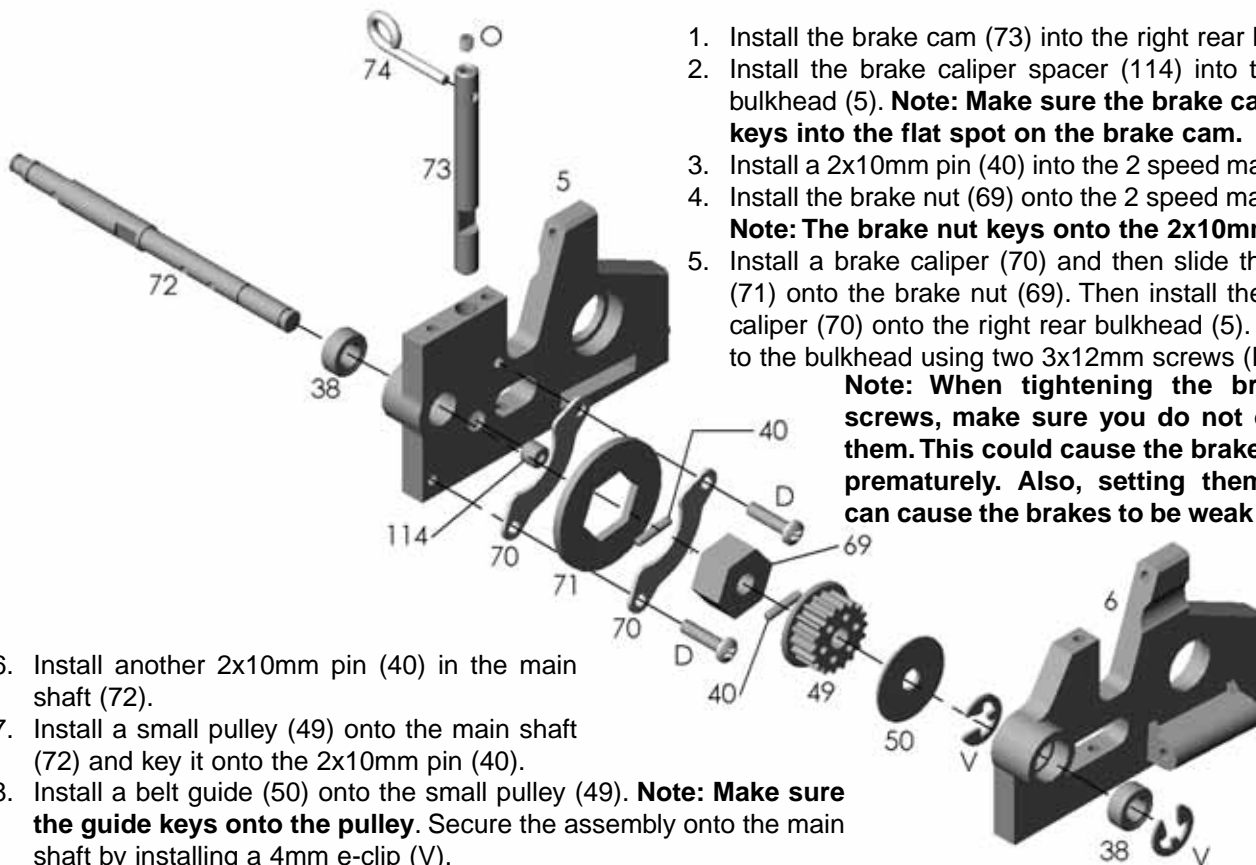
- 
1. Install the front suspension arm (7) onto the front bulkhead (3). Secure it in place using an inner hinge pin (88). Secure the hinge pin (88) in place with a 2.5mm e-clip (U).
 2. Install a front hub (10 or 11) onto the end of the front suspension arm (7). Secure the hub (10 or 11) to the suspension arm (7) using a front outer hinge pin (89) and a 2.5mm e-clip (U).
 3. Install a steering knuckle bushing (76) in both the top and bottom of the front hub (10 or 11).
 4. Install two 5x10mm bearings (38) into the front knuckle (12).
 5. Install a 4.3mm ball stud (124) into the outer hole of the front knuckle (12).
 6. Install the front knuckle (12) into the front hub (10 or 11) secure it in place with a 3x10mm cap screw (C) at the bottom.
 7. Install the front CV shaft (43) through the front hub (10 or 11) and into the front knuckle bearings (38).
 8. Secure the CV (43) in place using a 2x10mm pin (40) and the wheel hex adapter. **Note: The wheel hex adapter must key onto the 2x10mm pin.**
 9. Install the CV shaft (43) into the differential outdrive.
 10. Secure the top of the front knuckle (12) in place by first placing the front brace assembly (80, 84 & 126) onto the top of the hub and then installing a 3x20mm (J) screw through the front brace (84 & 126) and into the front knuckle (12).

Steering



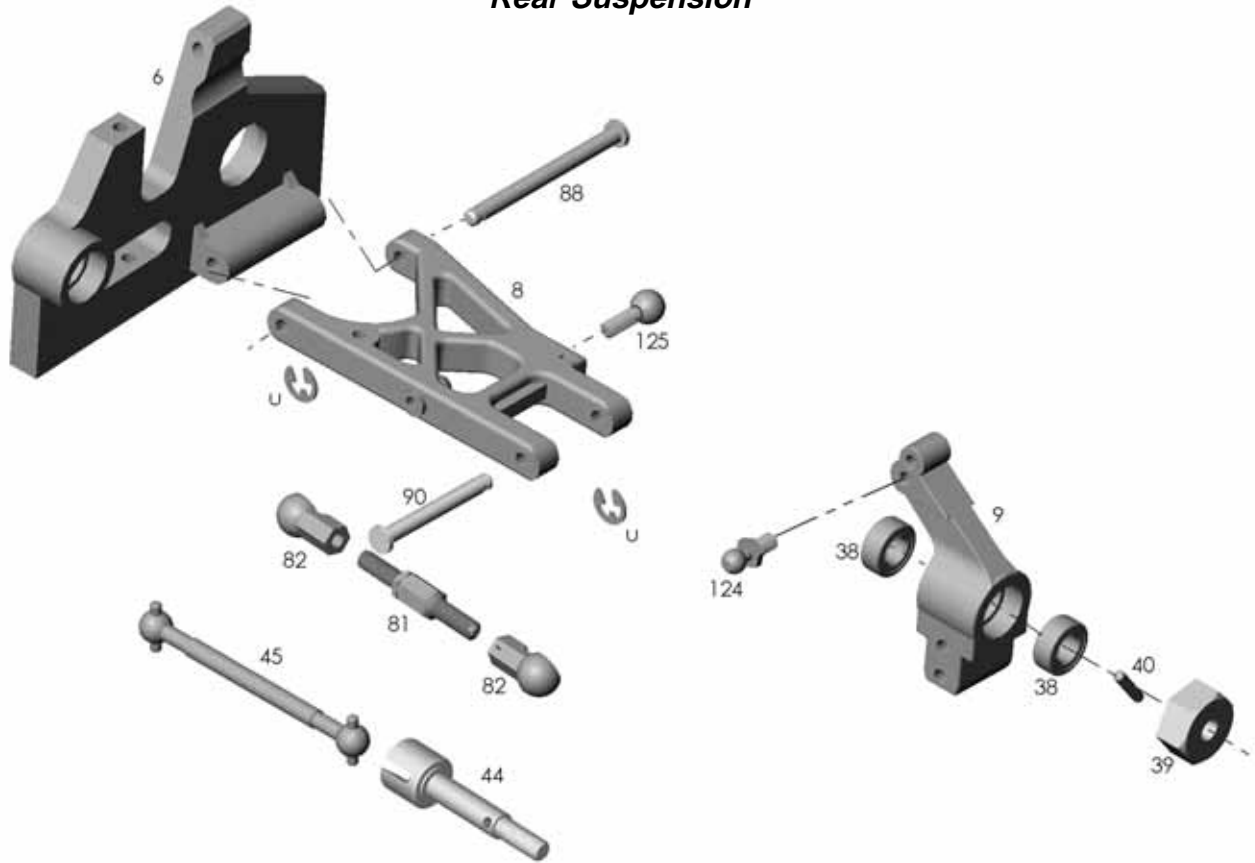
1. Install a 4.3mm ball stud (124) into the top of the inner hole of the lower right servo saver arm (108) and the left servo saver arm (107). Then install a 4.3mm ball stud (124) into the bottom of the outer hole of the lower right servo saver arm (108) and the left servo saver arm (107).
2. Install a servo saver bushing in the top and bottom of the left servo saver arm (107). **Note: make sure the bushings are properly seated to prevent binding.**
3. Install the left servo saver arm assembly onto the left servo saver post (110). Secure the servo saver assembly onto the servo saver post with a 2.5mm e-clip (U).
4. Install the servo saver tube (105) into the right upper servo saver arm (106). **Note: The tube keys into the servo saver arm. Make sure the tube is properly seated in the upper arm to prevent binding.**
5. Install the lower right servo saver arm (108) onto the tube (105) and slide it next to the upper right servo saver arm (106). Make sure the two arms properly key together.
6. Install the servo saver spring (111) and the servo saver adjustment nut (112) onto the servo saver tube (105).
7. Install the right servo saver arm assembly onto the right servo saver post (113).
8. Attach the right and left servo saver assemblies together using the steering drag link.

Brake



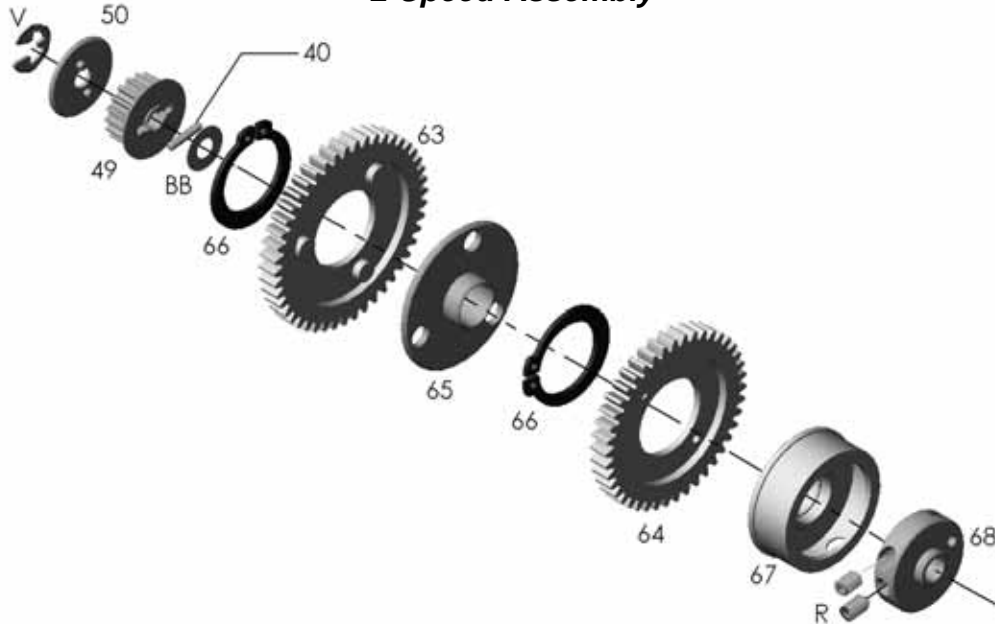
6. Install another 2x10mm pin (40) in the main shaft (72).
7. Install a small pulley (49) onto the main shaft (72) and key it onto the 2x10mm pin (40).
8. Install a belt guide (50) onto the small pulley (49). **Note: Make sure the guide keys onto the pulley.** Secure the assembly onto the main shaft by installing a 4mm e-clip (V).

Rear Suspension



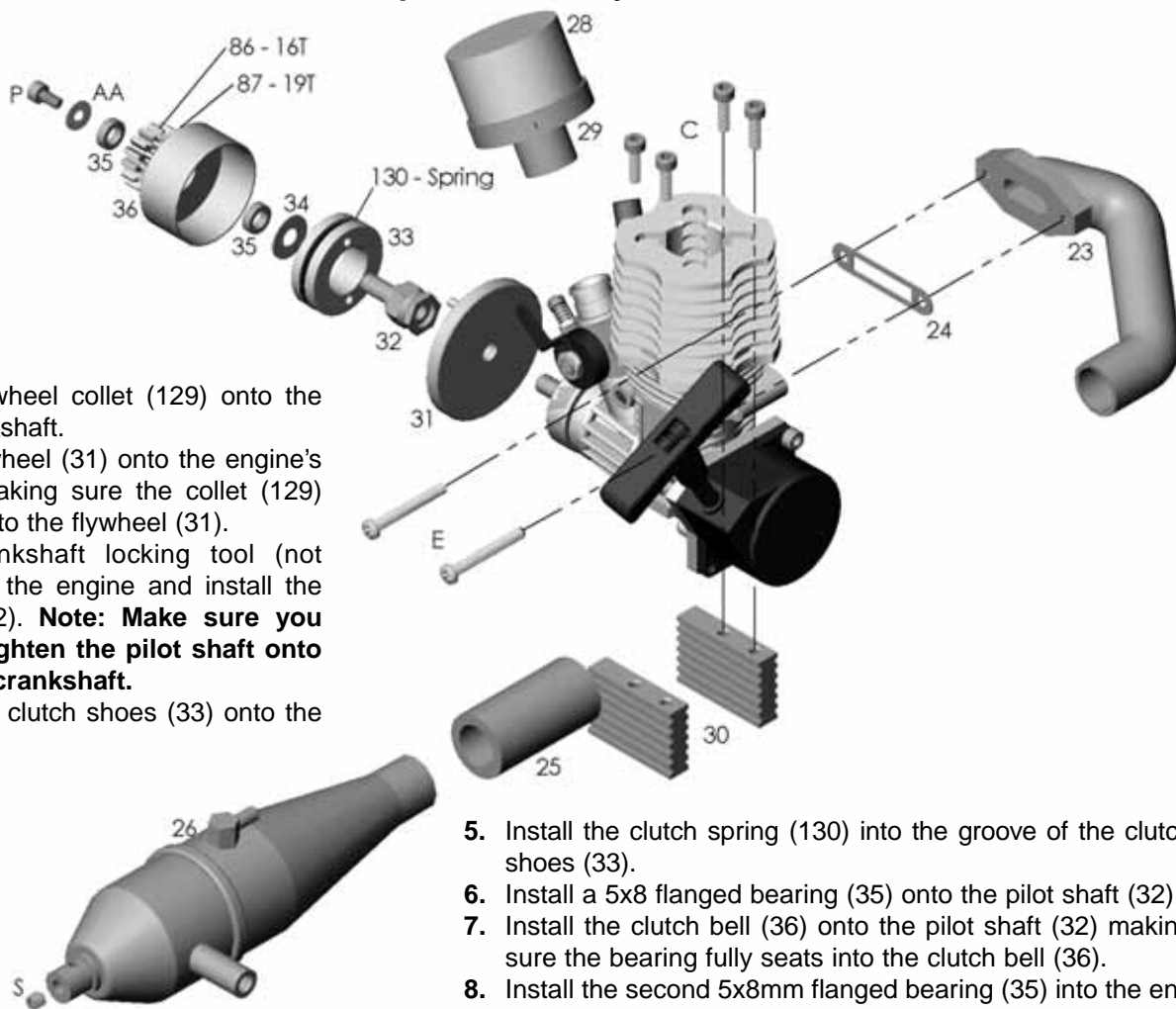
1. Install a 6mm ball stud (125) into the rear of the suspension arm (8) as shown in the diagram. **Note:** This is for the shock to attach to.
2. Install the rear suspension arm (8) onto the rear bulkhead (6) and secure it in place by installing the rear inner hinge pin (88) then install a 2.5mm e-clip (U) onto the end of the hinge pin (88).
3. Install a 4.3mm ball stud (124) into the lower camber rod position on the rear hub (9).
4. Install the rear hub (9) onto the outer end of the rear suspension arm (8). Secure the rear hub in place with an outer rear hinge pin (90). Secure the hinge pin in place using a 2.5mm e-clip (U). **Note:** The stock position for the hub to mount onto the arm is the lower hole in the hub.
5. Install two 5x10mm bearings (38) into the rear hub (9). **Note:** Make sure the bearings are properly seated in the hub to prevent binding.
6. Install the rear axle shaft (44) into the 5x10mm bearings installed into the rear hub (9).
7. Secure the rear axle shaft (44) by installing the 2x10 axle pin (40) through the hole in the shaft.
8. Install the wheel hex adapter (39) onto the rear axle shaft (44) and key it onto the 2x10mm axle pin (40).
9. Install the dogbone between the differential joint and the rear axle shaft. Then install the turnbuckle assembly (81 & 82) onto the ball studs.

2-Speed Assembly



1. Install the 2-speed hub (68) onto the main 2-speed shaft (72). Secure the hub to the shaft by installing and tightening a 4x6mm set screw (R). **Note: make sure the set screw is installed in the straight hole of the hub. The other hole is angled and is the 2-speed adjustment screw. Also, make sure the set screw lines up properly with the flat spot on the main shaft.**
2. Install the second 4x6mm (R) set screw in the angled hole of the 2-speed hub (68). Tighten the set screw until it is snug, then back it off 8-½ turns. This is a base point to start from for tuning the 2-speed. **Note: To make the car shift sooner loosen the angled set screw. To make it shift later, tighten the set screw.**
3. Install the small spur gear (64) onto the 2-speed housing (67) and secure the spur (64) to the housing (67) using a split ring (66). **Note: The spur gear keys onto the housing using a small pin. Make sure the pin in the housing keys into one of the holes on the spur gear.**
4. Install the large spur gear (63) onto the gear plate (65). **Note: The large spur gear has 3 molded nubs that key into the gear plate. Make sure these properly line up during assembly.** Secure the spur gear (63) onto the gear plate (65) using a split ring (66).
5. Install the large spur gear assembly onto the 2-speed main shaft. It should mate up with the small spur gear assembly already installed onto the shaft (72). **Note: The gear plate has a one-way bearing in it so the large spur gear assembly will only rotate one way.**
6. Install a 5mm washer onto the main shaft (72) and seat it against the large spur gear assembly.
7. Install the 2x10mm pin (40) through the main shaft (72) hole closest to the spur gears.
8. Install the small pulley (49) onto the main shaft (72). Make sure it keys onto the previously installed 2x10mm pin (40).
9. Install the belt guide (50) onto the main shaft (72), making sure it keys into the small pulley. Secure the assembly in place with a 4mm e-clip (V).

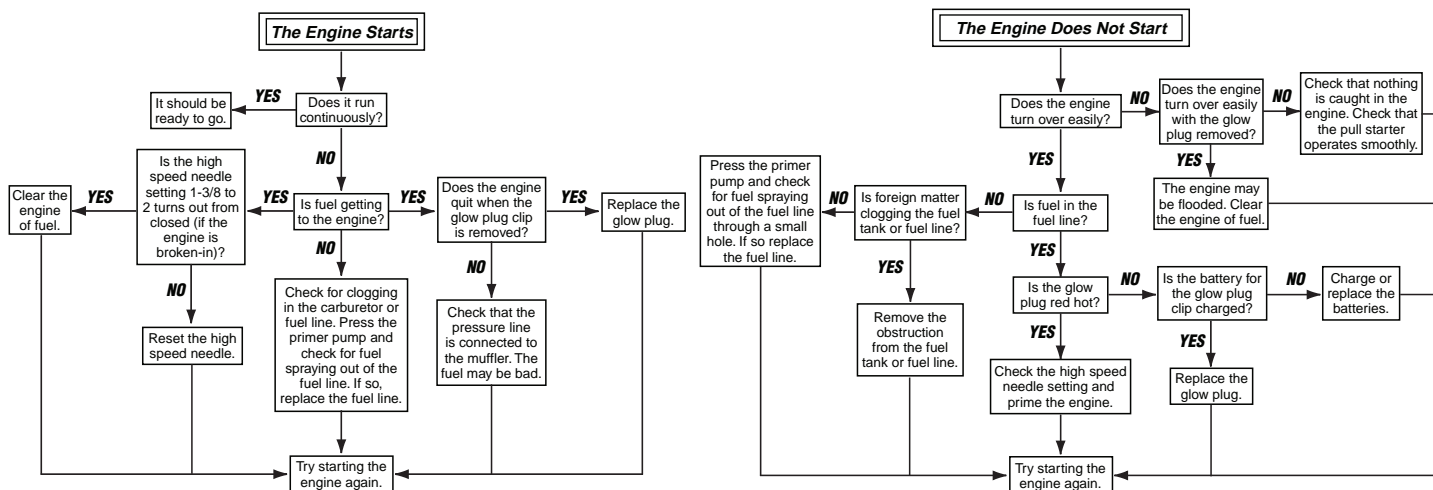
2-Speed Assembly



1. Install the flywheel collet (129) onto the engine's crankshaft.
2. Install the flywheel (31) onto the engine's crankshaft, making sure the collet (129) fits properly into the flywheel (31).
3. Install a crankshaft locking tool (not included) into the engine and install the pilot shaft (32). **Note: Make sure you thoroughly tighten the pilot shaft onto the engine's crankshaft.**
4. Install the two clutch shoes (33) onto the flywheel pins.

5. Install the clutch spring (130) into the groove of the clutch shoes (33).
6. Install a 5x8 flanged bearing (35) onto the pilot shaft (32).
7. Install the clutch bell (36) onto the pilot shaft (32) making sure the bearing fully seats into the clutch bell (36).
8. Install the second 5x8mm flanged bearing (35) into the end of the clutch bell (36). Again, make sure the bearing is fully seated into the clutch bell (36).
9. Install a 3mm washer (AA) onto the end of the pilot shaft. Secure the clutch assembly with a 3x6mm screw (P).

ENGINE TROUBLESHOOTING



ACCESSORIES AND OPTIONAL PARTS



DuraTrax Nitro Starter Set

This set includes everything you need to start racing. 5-way glow plug wrench, 1 qt. of Red Alert fuel, Hobbico® glow starter w/charger, fuel bottle and glow plug. **DTXP0200**



DuraTrax Crankshaft Locking Tool

Remove your engine's clutch safely with this easy to use, anodized metal tool. Works with all .10 to .21 car and buggy engines. **DTXR1100**



DuraTrax Kwik-Pit™ 500cc Fuel Bottle

Fast, clean pit stops are as close as the Kwik-Pit Fuel Bottle. The long, angled neck reaches easily into your tank to prevent fuel spills, the clear plastic body keeps the fuel level in plain sight and moving fuel from the bottle to your tank takes just a gentle squeeze. **DTXP0150**



DuraTrax Deluxe Glow Plug Wrench

This single, heavy-duty, plated steel tool handles FIVE metric hex sizes: 7-, 8-, 10-, 12- and 17mm—and includes a special 10mm socket for pilot shafts! Threaded holes tapped between the wrenches store up to four spare glow plugs. **DTXR1170**



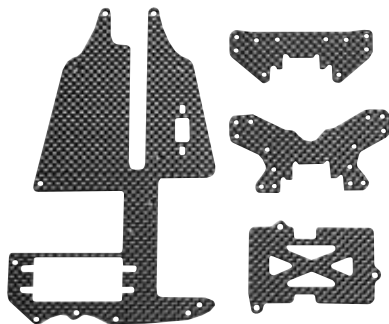
DuraTrax Red Alert™ 20% Racing Fuel

To make your DTX 18 engine run faster, better and longer, you need the unique formula of DuraTrax Red Alert. Red Alert contains 20% nitro plus a carefully race-tested blend of castor and synthetic oils. **DTXP0600**



DuraTrax XL Field Bag

Keep your gear loaded and race ready with the XL field bag. Heavy duty black nylon bag with red trim and white logo. **DTXP2000**



Graphite Radio Tray and Shock Towers

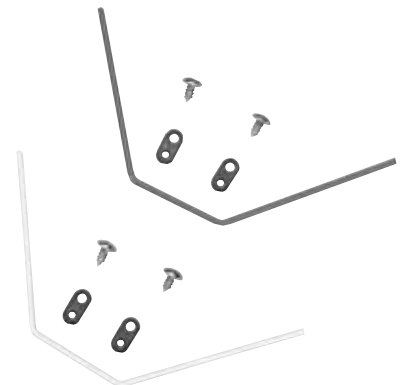
Add graphite components for lighter weight and ultra high strength.

DTXC8406 Graphite Radio Tray
DTXC9196 Graphite Front Shock Tower
DTXC9253 Graphite Rear Shock Tower



Ultimate Flywheel Wrench

Made from blue-anodized billet aluminum and slotted to fit 2-, 3-, or 4-pin flywheels, this handy, lightweight wrench safely holds the engine flywheel for tightening or loosening clutch nuts. **DTXR1105**



Rear Stabilizer Bar Kits

Will improve handling by limiting body roll in tight turns.

DTXC9415 Stabilizer Bar Kit 1.8mm
DTXC9416 Stabilizer Bar Kit 2mm