TEAM LOSI

8IGHT RTR

1/8 SCALE READY-TO-RUN NITRO BUGGY

Operations Guide

Not Responsible For Errors. All prices subject to change without notice.

800-0317

TEAM LOSI 8IGHT

Introduction

Thank you for choosing the Team Losi 8IGHT RTR. This is a highly developed off-road vehicle that features a sophisticated computer based radio system and does require some mechanical experience and direct adult supervision. This guide contains the basic instructions and drawings for operating and maintaining your new 8IGHT RTR. Please take the time to read through it completely before running the model. Your hobby dealer cannot under any circumstances, accept a model for return or exchange that has been run.

Customer Support Contact:

Horizon Hobby Inc.
4105 Fieldstone
Champaign, IL 61821
1-877-504-0233

Safety Precautions

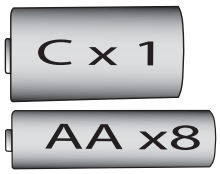
THIS IS NOT A TOY! The 8IGHT RTR is a sophisticated, high performance radio controlled model, which needs to be operated with caution and common sense. Failure to operate this model in a safe and responsible manner could result in personal and/or property damage. It is your responsibility to see that the instructions are followed and precautions adhered to. The 8IGHT RTR is not intended for use by children without direct adult supervision. Team Losi, Spektrum and Horizon Hobby shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential arising from the use, misuse or abuse of this product or any product required to operate it.

*** This is still a model, don't expect it to do unrealistic stunts.**

Warnings

- Fuel is dangerous if handled carelessly. Follow all directions and precautions on the fuel container.
- Keep fuel and all chemicals out of reach of children.
- Always keep the fuel container closed and never use around an open flame or while smoking.
- The exhaust emits poisonous carbon monoxide fumes. Always run the model in a well ventilated area and never attempt to run it indoors.
- The top of the engine and the exhaust pipe are extremely hot during and for a time after use. Use caution not to touch these parts, especially when refueling.
- The engine can be loud, especially when run in a confined area. If you find the noise objectionable, use ear protection.
- This model is controlled by a radio signal that is subject to interference from sources outside your control. Interference can cause temporary loss of control so it is advisable to always keep a safety margin in all directions to avoid collisions.
- Always operate your model in an open area away from people and cars. The potential speed of this model can cause injury or damage.

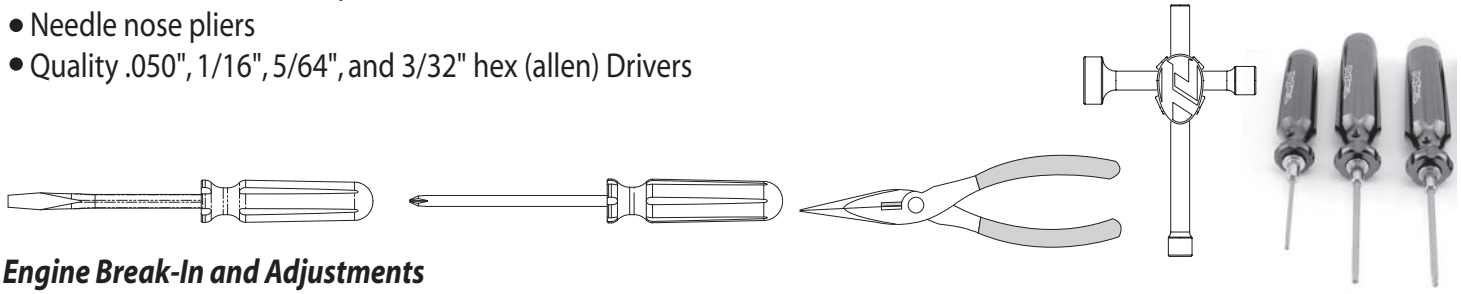
Required Equipment



You will need the following items to operate your new 8IGHT RTR
- 8 AA Alkaline batteries for the transmitter.
- 1 C Alkaline battery for the ignitor
- Quality Model Car Fuel - preferably Team Losi Nitrotane with 20% Nitro content
- Fuel bottle.
- 7.2v 6 Cell "Stick" battery pack for the remote starter.
- Battery charger for the 7.2v 6 cell "Stick" battery pack.

Tools You Will Find Handy

In addition to the tools included with the 8IGHT RTR, you will find the following both useful and in some cases necessary.
- Small flat blade and Phillips screwdrivers
- Needle nose pliers
- Quality .050", 1/16", 5/64", and 3/32" hex (allen) Drivers



Engine Break-In and Adjustments

Breaking-in your new engine is critical for proper performance. Failure to follow the break-in procedures can cause damage and shortened engine life. During break-in always use the same fuel and nitro content you plan to run. We recommend 20% Nitrotane Sport fuel. Although the carburetor is preadjusted at the factory, you must be familiar with the following adjustments and break-in procedure. If you change fuel or run in dramatically different environments, (hot/cold, high/low elevation, etc), you will probably have to adjust at least the high speed needle to prevent overheating and maintain proper performance. Never, under any circumstances allow the engine to rev freely with the wheels off of the ground.

Brake-In Procedure

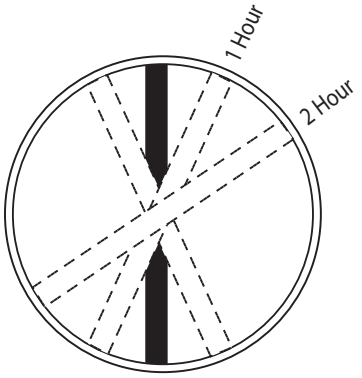
The first three tanks of fuel should be run with the high and low speed needles noticeably "rich" (see explanation below). There should be a slight sluggishness and thick smoke when accelerating with the smoke decreasing as the model gains speed. At speed there should still be a noticeable trail of smoke from the exhaust pipe. Run the 8IGHT RTR on a flat surface in an oval pattern. Ease into the throttle as you accelerate on the straight sections easing off as you approach turns letting the model roll through the turn before easing back on the throttle. This will also allow you to get a feel for the steering response and handling characteristics of the buggy. You can also break in the engine by placing the buggy up against a wall or fixed object and allow the engine to idle through two tanks of fuel.

Understanding "Rich" and "Lean" Fuel Mixture

Adjusting the carburetor is one of the most critical facets of running a nitro powered R/C vehicle. The fuel mixture is referred to as being "rich" when there is too much fuel and "lean" when there is not enough fuel for the amount of air entering the engine. The amount of fuel entering the engine is adjusted with high and low speed threaded needle valves. The low-speed needle is located in the front of the moving slide. The high-speed needle sticks straight up at the back of the carburetor. Both feature a slotted head that is used as a reference and receptacle for a flat blade screwdriver for adjustments. The mixture is made richer by turning the needle counter-clockwise and leaner by turning in clockwise. An overly "rich" mixture will yield sluggish accleration and performance with thick smoke from the exhaust. A "lean" mixture can cause the engine to hesitate before suddenly accelerating briskly or in some cases, to lose power momentarily after the initial acceleration. A lean mixture also makes the engine run hotter than desired and does not provide enough lubrication for the internal engine components causing premature wear and damage. It is always advisable to **run the engine slightly rich** and **never lean** to avoid overheating and possible damage.

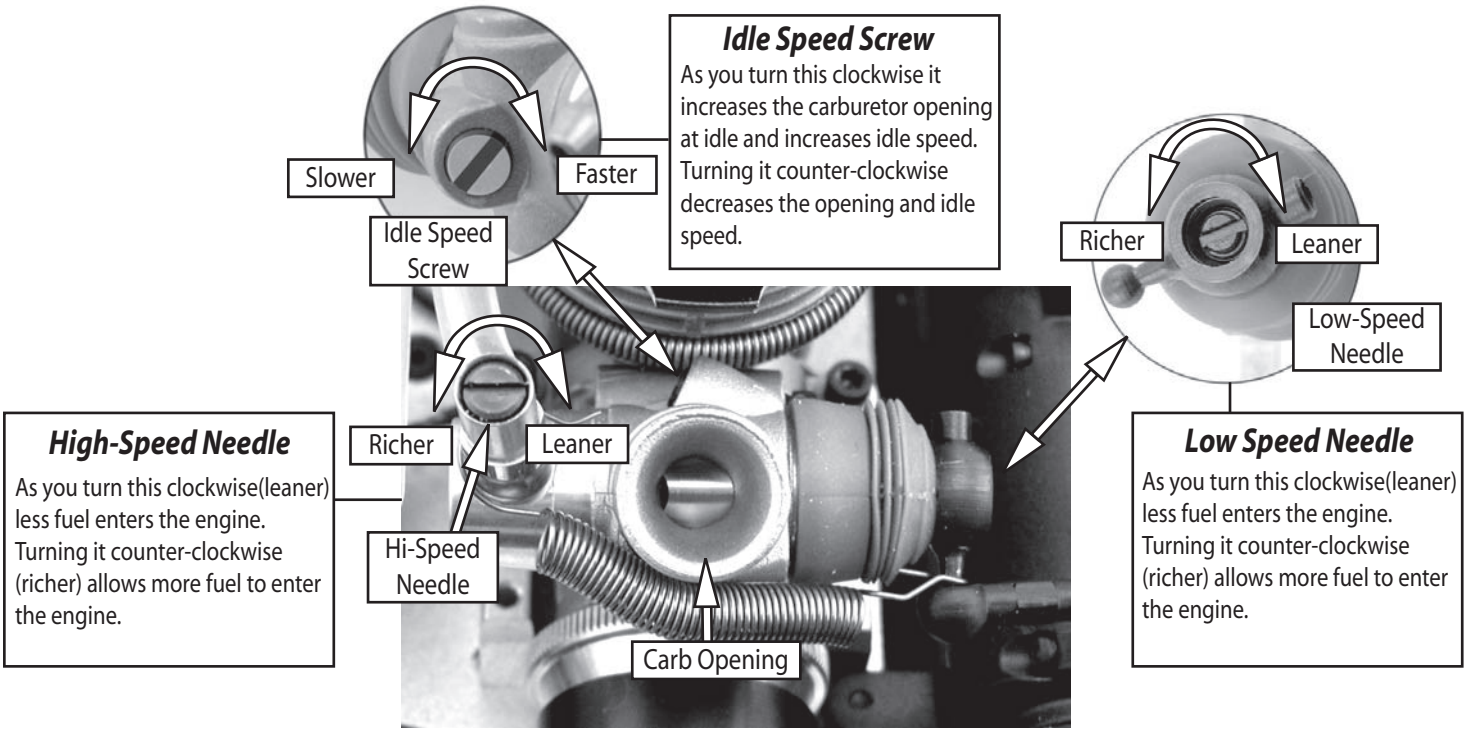
Base Start-up Settings from the factory
High-Speed Needle -- 4 turns out from bottom
Low-Speed Needle -- 2.5 turns out from bottom

Engine Tuning
After the engine is broken in you can tune it for optimum performance. When tuning it is critical that you be cautious of overheating as severe damage and premature wear can occur. You want to make all carburetor adjustments in "one hour" increments.



Carb Adjustments:
Make all carburetor adjustments in one hour increments.
Imagine the slot in the needle is the hour hand on a clock. Adjust it as though you were moving the hour hand from one hour to the next or previous one.

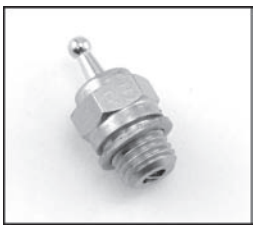
Low Speed Adjustment
The low speed adjustment effects the idle and slightly off idle performance. The optimum setting allows the motor to idle for at least 8-10 seconds. The buggy should then accelerate with a slight amount of sluggishness and a noticeable amount of smoke. The simplest way to check this is to make sure the engine has been warmed up and let the engine idle for 8-10 seconds. If the low speed mixture is so far off that the engine won't stay running this long, turn the idle stop screw clockwise, increasing the idle speed. With the engine at idle, pinch and hold the fuel line near the carburetor, cutting off the flow of fuel and listen closely to the engine RPM (speed). If the low speed needle is set correctly, the engine speed will increase only slightly and then die. If the engine increases several hundred RPM before stopping, the low speed needle is to rich. Lean the mixture by turning the needle clockwise one hour and trying again. If the engine speed does not increase but simply dies, the needle is to lean and needs to be richened up by turning the needle counter-clockwise one hour before trying again. After you have optimized the low speed setting, the engine will probably be idling faster. You will have to adjust the idle stop screw counter-clockwise to slow down the engine idle speed. The engine should accelerate at a constant pace without hesitating.



Hi-Speed Adjustment

After initial acceleration the engine should pull at a steady rate while maintaining a two-stroke whine and a noticeable trail of smoke. If the engine labors and is sluggish with heavy smoke, the mixture is too rich and needs to be leaned by turning the hi-speed needle clockwise in one hour increments until it runs smoothly. If the engine isn't smoking, it is too lean and you must richen the mixture by turning the needle counter-clockwise. Don't be confused by the sound of the engine and the actual performance. A leaner mixture will produce a higher pitch exhaust note but this does not necessarily mean improved performance as the engine is on the verge of over heating and possible damage. Ideally you want to run the engine so that it is on the slightly rich side of optimum. This will give you the best combination of speed and engine life. **CAUTION:** The engine is too lean and overheating if it accelerates rapidly with a high pitch scream then seems to labor, stops smoking, or loses speed. This can be caused by the terrain, atmospheric conditions, or drastic altitude changes. To avoid permanent engine damage, i**mmediately** richen the mixture by turning the hi-speed needle counter-clockwise at least "two hours" and be prepared for further adjustments before running anymore.

About Glow Plugs



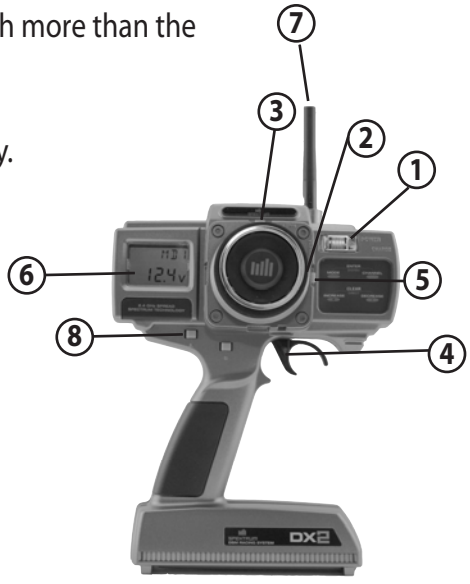
The glow plug is like the ignition system in your automobile. The coiled element in the center of the plug glows red hot when connected to a 1.5-volt battery (located in the igniter). This is what ignites the fuel/air mixture when compressed in the cyclinder. After the engine fires, the heat generated by the burning fuel keeps the element hot. Common reasons for the engine not starting is the 1.5 volt battery being weak or dead, the glow plug being wet with fuel, or the element burned out. Use a spare glow plug to check the igniter. If the igniter makes the element glow, remove the plug from the engine to check it in the same manner. A wet glow plug means there is excess fuel in the engine. To eliminate this, put a rag over the head and turn the engine over a few seconds with your "Spin-Start". Reinstall the glow plug making sure you have the brass gasket on it. The engine should now start.

Testing the Temperature

The ideal operating temperature for the engine will vary with the air temperature but in general it should be in the 200°F to 230°F (93.3°C to 110°C) range. A simple way to check the engine temperature is to put a few drops of water on the top of the head/heatsink. It should take 3-5 seconds for the water to evaporate. If it boils away quickly the engine is overheating and the Hi-Speed needle richened (turned counter-clockwise) at least "two hours". If you plan on racing or prolonged hi-speed running, there are several inexpensive hand held digital temperature gauges available you may want to invest in.

About the Radio

The Spektrum DX2 radio installed in the 8IGHT RTR is a professional level system with more than the usual features you may find useful. Be sure to read through the Radio manual included for complete instructions on what and how to use these. The following is a simple guide to commonly used and referred to items needed to run your buggy.



1. Power Switch - Turns your transmitter ON and OFF.
2. Steering Wheel - Controls the buggy's steering.
3. Steering Trim Tab - Allows you to fine-tune the neutral position of the steering.
4. Throttle Trigger - Pull back for throttle and push forward for brakes.
5. Throttle Trim Tab - Allows you to set the idle/brake of the buggy.
6. Transmitter Display - LCD readout shows battery voltage, model #, and settings.
7. Transmitter Antenna - Transmits signal to the receiver in the buggy.
8. Grip Lever A - Increases or decreases the amount of brakes.

Radio Operation

It is important that you familiarize yourself with the radio system, as this is your direct link to the buggy.

- Never run your buggy with low receiver or transmitter batteries.
- Never leave the power on or the batteries will not last long.
- Always turn the transmitter ON **before** turning the buggy ON.
- When finished running, always turn the buggy OFF **before** the transmitter.
- For best operation it will be necessary to keep the "trims" adjusted for both the steering and throttle as noted below.

Steering Trim: The buggy should go straight without turning the steering wheel. If not, tap the trim lever found just above the steering wheel in the direction needed for the buggy to go straight. Each tap of the trim button will be accompanied by an audible tone indicating a change has been made. It may take several taps to get the correct trim setting.

Throttle Trim: The buggy should idle without the tires rotating when the trigger is at its neutral position. If not, tap the trim tab located to the right of the steering wheel to reposition the throttle servo and close the carburetor and apply more brakes. Note that additional braking force is applied when you push the trigger forward.

Maintenance

In addition to the service needs pointed out in this guide, you should try to maintain your new buggy for proper performance and to prevent wear. If dirt gets in the moving parts it can seriously hinder the performance of the model. Use compressed air, a soft paintbrush, and/or toothbrush to remove dirt and dust. Avoid using solvents, if possible, as this can actually wash the dirt into bearings and areas not accessible without disassembly causing additional wear. We suggest you follow these basic guidelines.

- Remove as much freestanding dirt and dust as noted above.
- Never leave fuel in the tank for more than a couple of hours.
- When done running for the day or longer, let the engine run out of fuel. Remove the air cleaner and pour a little WD40, or quality after-run engine oil into the carburetor and spin the engine over a few seconds.
- If needed, clean and re-oil the air cleaner before installing it back on the truck.
- Inspect the buggy for worn, broken, or binding parts and repair as necessary.

Servicing the Differentials

Your 8ight RTR has three differentials and they should be serviced periodically. Be sure to clean and inspect all of the gears and replace if severely worn. Always use plenty of high-quality grease (like Teal Losi3066) on all gears. NOTE: The differentials can also be made into racing type viscous diffs as noted on page 7. Always service one diff a time and pay close attention to install the housing so the key in the housing matches up with the cutout in the chassis.

Removing The Front Differential

To remove the front differential, the "front clip" of your 8IGHT RTR has to be removed. Remove four 8-32 flathead screws from the chassis (fig. 1). Remove the forward most two silver 5-40 button head screws from the front chassis brace. Pop the steering tie rod ends off of the right and left steering spindles. Remove the bumper and the spacer from under the front chassis brace. Lift the front clip up then forward to remove it from the chassis. (fig. 2)