



XXX-NT Sport RTR II Operation Guide

INTRODUCTION

Thank you for choosing the Team Losi XXX-NT Sport off road racing truck.

This is a highly developed racing vehicle that features a sophisticated computer based radio system and high performance .15 Rear Exhaust. Although it is

an entry-level model, it does require some mechanical experience and/or parental supervision. This guide contains the basic instructions for operating and maintaining your new XXX-NT Sport. It is critical that you read all the instructions in this and all accompanying manuals in order to operate your model correctly and avoid serious damage. Please take a moment to look them over before running the model. Your hobby dealer cannot, under any circumstances, accept a model for return or exchange that has been run.



Safety Precautions

This is a sophisticated, high performance radio controlled model which needs to be operated with caution and common sense. Failure to operate your 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 XXX-NT Sport is not intended for use by children without direct adult supervision. Team Losi JR, 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.

- Fuel is dangerous if handled carelessly. Follow all directions and precautions on the fuel container.
- Keep fuel and all chemicals out of the reach of children.
- Always keep the fuel container closed and never use around open flame or while smoking.
- The exhaust emits poisonous carbon monoxide gas. 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 many sources outside your control. This interference can cause 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 cars and people. The potential speed of this model can cause injury or damage.

Required Equipment

You will need the following items to operate and race your new XXX-NT Sport Ready To Run Truck:

- 12 "AA" size Alkaline batteries, (8 for the Transmitter, 4 for the receiver), 7.2 Volt Ni-Cad Battery pack for starter and "C" size Alkaline cell for the ignitor.
- Model Car Fuel preferably 20% nitro (Blue Thunder, White Lightning etc)
- Fuel bottle to put the fuel into the tank
- Spare glow plugs (DYN2500).

Tools You Will Find Handy

In addition to the small tools supplied with this model you will find the following most useful: • small flat blade and Phillips screwdrivers • needle nose pliers • hobby knife • 5/16" driver/glow plug wrench • quality .050", 1/16", and 3/32" hex (Allen) drivers.



Engine Break-In & Adjustments

Your new engine requires some initial break-in prior to running at maximum performance. During break-in, use the same fuel and nitro content (Max. 20%) you plan to race with. Although the carburetor has been pre-adjusted at the factory, you must be familiar with the following adjustments and break-in procedure. If you change fuel or race in dramatically different environments you will 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 rear wheels off the ground.

Break-In Procedure for Engine and Differential

The first two tanks of fuel should be run with the high- and low-speed mixture noticeably rich. There should be a slight sluggishness and thick smoke when accelerating with a decreasing amount of smoke as the model gains speed. At speed there should still be a noticeable trail of smoke from the exhaust pipe. Run the model on a flat surface in an oval configuration. Ease into the throttle as you accelerate on the straight sections easing out of the throttle as you approach the turns letting the model roll at least half way through the turn before easing back on the throttle again. Although preset at the factory for sea level operation, you may find slight adjustments necessary to achieve this condition. **NOTE:** After running your new model the first three tanks of fuel you **must check and tighten the differential**. The moving parts of the diff will wear into each other and it will have to be adjusted tighter to maintain the proper operation and prevent slipping. Failure to break in the entire and "tighten" the diff after break-in can cause premature wear and damage.

Understanding "Rich" and "Lean" Fuel Mixture

The 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 going to the engine is adjusted with simple high and low speed threaded needle valves. The low-speed needle is the small slotted screw located in the front of the carburetor. The high-speed needle also has a slotted head and extends up from the rear of the carburetor (**see photos to the right**) An overly "rich" mixture will yield sluggish performance with sputtering and excessive smoke from the exhaust. A "lean" mixture will cause the engine to hesitate before accelerating and/or lose power after initial acceleration. A lean mixture makes the engine run hotter than desired and does not provide enough lubrication for the internal engine components causing premature wear and damage. Using a flat blade screwdriver to turn the needle valve clockwise in one-hour increments will lean the mixture. Turning the needle in a counter-clockwise direction will make the mixture richer. **NOTE: It's always better to run the engine slightly rich.**

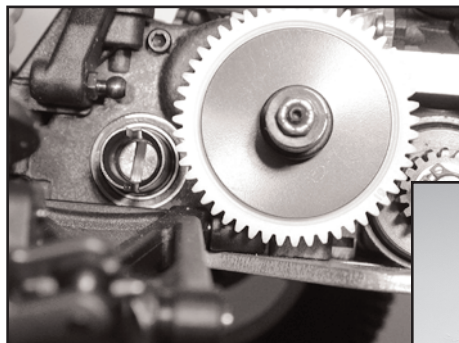
Diff Adjustment

(Photo 1) The diff adjustment screw is located in the right side outdrive. Although visible and accessible with the drive shaft in place, we removed it to make the slotted head easier to see for photos. Hold the right tire and slowly turn the left tire while watching the slotted head of the diff screw.

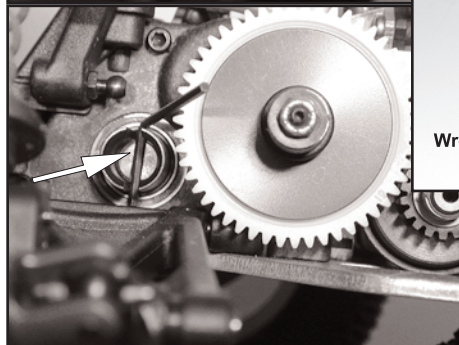
(Photo 2) When the slot in the screw lines up with the slots in the outdrive, insert the 1/16" Allen wrench as shown.

(Photo 3) To adjust, turn the left side tire towards the back of the model while holding the screw and outdrive locked with the Allen wrench. When new or rebuilt, the diff needs to be adjusted prior to the first run and after each of the first two tanks of fuel. It should be checked and adjusted as necessary on a regular basis thereafter. It is always good to run the diff as tight as possible. You should never let the differential slip. Allowing it to slip will only hurt performance and cause failure.

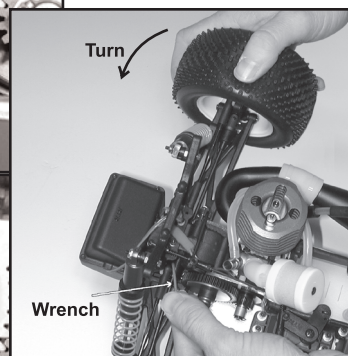
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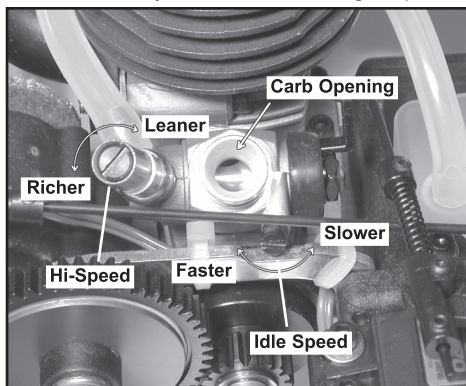
Race Tuning

After the engine has been broken in you can tune it for racing, being cautious of overheating as severe damage and premature wear can occur. If necessary, adjust the low-speed needle one hour at a time until the model idles reliably for 5 seconds, then accelerates with only a slight amount of sluggishness and a still noticeable amount of smoke. As you lean the low speed needle you will notice the idle speed increase. You may have to turn the idle screw located on the top/side of the carburetor counter-clockwise to reduce the engine speed and keep the model from wanting to move. This adjustment controls the carburetor opening at idle and has no effect on the fuel entering the engine. After running a few laps to let the engine get up to operating temperature, adjust the high speed needle in one hour increments (see illustration below) so that after initial acceleration the engine continues to pull at a steady rate while maintaining a high-pitched whine and a thin trail of white exhaust smoke. Don't be confused by the sound of the engine and on track performance. A leaner mixture will produce a higher pitch exhaust note but this does not necessarily mean improved performance. Ideally, you want to run the engine so that it is on the slightly rich side of optimum. This will give you the best balance of speed and engine life. As it runs, the engine can build up heat but this setting will give added insurance to both the performance and engine life. **CAUTION:** If the engine accelerates rapidly with a high pitch scream then seems to labor, stops smoking, or loses speed, it is too lean and overheating stop the engine immediately and let it cool. Before restarting, richen the high-speed mixture 2 hours (turn counter-clockwise) and be prepared to make further adjustments. If you notice the engine racing at idle or the idle speed varying, the low speed is too lean and should be adjusted to a richer setting, by rotating the low speed needle counter-clockwise at least one hour.

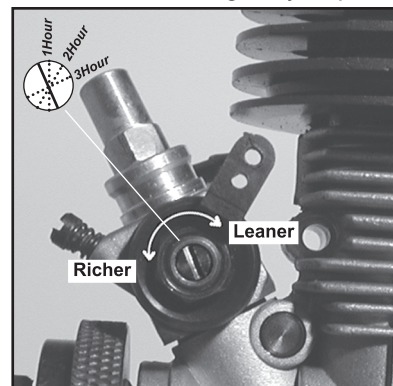
Testing the Temperature

The ideal operating temperature for the engine will vary with the air temperature but generally it should be in the range of 190° to 230°F. A simple way to check engine temperature is to put a few drops of water on the top of the head/heat sink. It should take 3-5 seconds for the water to evaporate. If it boils away quickly, the engine is overheating and should be stopped immediately allowing it to cool. As noted in the tuning section, make sure you richen the high-speed mixture before restarting. If you plan on serious competition there are several handheld digital temperature gauges available at your local hobby shop.

Idle speed screw: As you turn this clockwise it increases the carburetor opening at idle and increases the idle speed. Turning it counter-clockwise decreases the opening and idle speed.



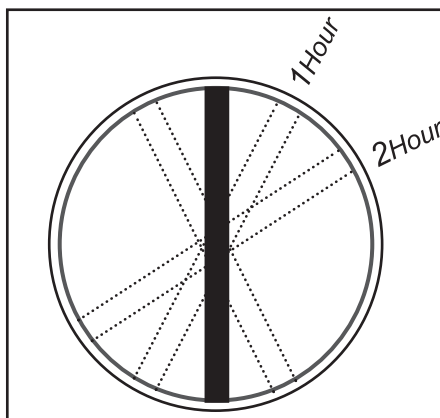
High-speed needle: As you turn this clockwise (leaner) less fuel enters the engine. Turning it counter-clockwise (richer) allows more fuel to enter the engine.



Low-speed needle: As you turn this clockwise (leaner) less fuel enters the engine. Turning it counter-clockwise (richer) allows more fuel to enter the engine.

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. This is what ignites the fuel/air mixture when compressed in the cylinder. After the engine fires the heat generated by the burning fuel keeps the element hot. Common reasons for an engine not starting is the 1.5 volt battery being weak or dead, the glow plug being wet with fuel, or the element burned or fouled. Use a spare glow plug to check the 1.5 volt glow plug igniter. If the igniter makes the element glow, remove the glow plug from the engine to check for a bad element. A wet glow plug means there is an excess of fuel in the engine. To eliminate the excess fuel, turn the engine over with the glow plug removed and a rag over the head. Reinstall the checked glow plug and it should fire up.



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.



Log onto www.horizonhobby.com
for the DYN0081 Mach .15RE
Exploded view/Parts list.

Service and Cleaning

If dirt gets in any of the moving or suspension parts it can 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 dirt into bearings and areas not accessible without disassembly.

The differential and gearbox should be serviced when the diff action gets notchy or gritty feeling. After disassembly, clean the balls and drive rings, then re-lub with Team Losi diff lube. Re-assembly and adjustment is covered in the Owner's Manual. **Note: The diff should be adjusted so that it does not slip at anytime.**

The shocks will need to be serviced when the fluid gets low or dirty. After removing the shocks, unscrew the black plastic cartridge and clean thoroughly. Refill with Team Losi certified shock fluid (the model is supplied with 30 weight). If the shocks leak fluid around the shaft it is time to replace the cartridges. Follow the instructions in the manual for the correct assembly/service procedure.

The air filter must be kept clean and free of dirt build up. Remove both foam elements and wash with fuel or soapy water. Re-oil with foam filter oil (available at most auto and motorcycle shops) and replace.

Additional tips, helpful information, and answers to your specific questions can be had by visiting the Team Losi website - www.teamlosi.com and the "Meet the Team" section.

Do's and Don'ts

- Always turn the transmitter "**on**" before the receiver (truck).
- Always stop the engine before turning the truck "**off**" then the transmitter "**off**".
- Always check the battery condition and operation of the radio system prior to starting/running your truck.
- Always loosen the glow plug, turn the engine over a few seconds, and retighten the plug before starting the engine.
- Never leave fuel in the engine. Use WD40 or after-run oil in the engine before storing.
- Never let the engine rev freely with the wheels off the ground.
- Never leave fuel in the tank for more than a few hours.
- Never use anything other than model car fuel.
- Never operate the model with low battery power. If the response becomes slow, stop immediately.
- Never run the engine lean or let it overheat.
- Never run the engine without an oiled and functional air cleaner.

Critical Start-Up Settings

Carburetor: High-speed 3 1/4 turns out.
Low-speed 3 turns out.
Slipper: 5 turns out.
Differential: Tight as possible.

Service and Technical questions

Radio & Engine:(877) 504-0233 (Horizon Hobby)

Chassis only:(909) 390-9595 (Team Losi)

Warranty & Technical Information

The engine included in the XXX-NT Sport is designed for performance as well as ease of operation. Due to the way the engine is used, it is only warranted against original factory defects in materials and/or workmanship. Under no circumstances will engines be considered "under warranty" that have been disassembled, operated on anything other than r/c car fuel, obviously run with a lean needle valve setting or without a functional air cleaner, or used for a purpose or in a fashion other than originally intended or designed. The JR radio system has been installed and thoroughly checked at the time of shipment.



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