



Introduction

Thank you for choosing the Ten-T[™]. This is a highly developed RC model that features a sophisticated radio system and a nitro fuel-powered engine. It does require some mechanical experience and direct adult supervision. This guide contains the basic instructions and drawings needed to operate and maintain your new Ten-T. Please take the time to read through these instructions completely before attempting to run your new model. In addition to the service information available in this operations guide, our online Support - Answer Center is available at www.losi.com for performance tips and troubleshooting questions. **Your hobby dealer cannot under any circumstances accept a model for return or exchange that has been run.** We are confident you will be satisfied with the high-speed performance in this durable and resilient vehicle.

Understanding that you are anxiously wanting to get your Ten-T ready for the open road, it will be to your long term benefit to make the effort and read through the entire manual. In the following pages you will find all the information you will need to set up as well as operate your new Ten-T to its full potential.

If you are an experienced RC hobbyist, or new to RC vehicles, it will benefit you to read all enclosed information.

From everyone at Losi we would like to thank you again for choosing the Ten-T. Our goal is helping people have fun and enjoy using our products.

Register your Losi Product Online

Register your Ten-T now and be the first to find out about the latest options parts, product updates and more. Log on to www.LOSI.com and follow the product registration link to stay connected.

Caution:

Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.

This vehicle is capable of extreme speed and careful attention and care must be used when operating the Ten-T.

When driving the Ten-T it is important that you take measures to avoid someone being hit by the vehicle. You may cause serious injury to another person, or to personal property should you make contact while running the Ten-T. Before operating the Ten-T you must read and follow all of the following safety precautions and warnings.

Losi/Horizon Support

If you have any questions concerning setup or operation of your Ten-T RC vehicle please call Horizon Customer Support. Contact information can be found in the warranty section of this manual.

You are welcome to call us with any support issue, or question you may have about the Ten-T.

Getting Ready

Thoroughly read all the enclosed material, precautions and follow instructions to avoid damaging your new RC vehicle. If you choose to not follow these steps or instructions, it will be considered negligence.

If after review of this manual and prior to running your Ten-T, you determine this RC vehicle is not what you want—DO NOT proceed and DO NOT run the Ten-T. If the Ten-T has been run, your local hobby shop will not be able to process a return or accept it for exchange.

Safety Precautions:

THIS PRODUCT IS NOT A TOY! The Ten-T is a sophisticated, highperformance radio control 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 and warnings are followed and precautions adhered to.

The Ten-T is not intended for use by children without direct adult supervision. Losi 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 only a model – do not expect it to do unrealistic stunts.

Warnings:

The Ten-T is powered by a special fuel containing flammable liquids and special care must be taken as noted below.

- Model fuel is dangerous if handled carelessly. Follow all directions and precautions on the fuel container. NEVER drink fuel - call a doctor immediately if ingested or splashed into your eyes.
- Keep fuel and all chemicals out of the 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 your 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 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 make sure to 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 advised 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.
- Never operate your Ten-T with low transmitter or receiver batteries – especially AA dry cells as control and power will be limited.
- Repeated or prolonged use of heavy braking will cause the brakes to overheat and fail! Always leave plenty of room for stopping.
- It will take as much room to stop as it does to accelerate to speed. Always run in an open area with plenty of braking room.

Special Warnings about the LiPo battery used in this model:

While the 2S 7.4V 1000mAh Lithium Polymer Battery (LOSB9818) included with your Ten-T features Charge Protection Circuitry and optional Balance Charging you MUST read the following safety instructions and warnings before handling, charging or using this LiPo battery. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

Note: Lithium Polymer batteries are significantly more volatile than the alkaline, NiCd or NiMH batteries used in RC applications. All instructions and warnings must be followed exactly. Mishandling of LiPo batteries can result in fire. By handling, charging or using the included LiPo battery you assume all risks associated with lithium batteries. If you do not agree with these conditions, return your complete Ten-T model in new, unused condition to the place of purchase immediately.

- Never let the LiPo receiver battery discharge completely you can monitor this on the radio screen. When you see it is getting low stop and recharge. Failure to do so will ruin the battery and it cannot be recharged.
- You must charge the included 2S 7.4V 1000mAh LiPo battery in a safe area away from flammable materials. The LOSB9700 LiPo Protection Pouch is suggested.
- Do not charge the battery when installed in the model.
- Never charge the battery unattended. When charging you should always remain in constant observation and be able to react to potential problems that may occur.

- Keep hobby knives and sharp objects away from LiPo batteries. Puncturing will cause damage and can result in fire.
- After use, the battery must be cooled to ambient air temperature before charging.
- You MUST use a LiPo specific charger similar to the one included with the Ten-T. Failure to do so may result in a fire causing personal injury and/or property damage.
- DO NOT USE AN NiMH/NiCd charger under any circumstance.
- Always follow the charging directions and never charge at more than 1 amp. Failure to do so could result in a fire.
- If at any time during the charge or discharge process the battery begins to balloon or swell, stop charging or discharging immediately. Quickly and safely disconnect the battery and place it in a safe open area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire. A battery that has ballooned or swollen even a small amount must be removed from service and disposed of safely.
- Store the battery at room temperature with no less than 1/2 charge (3.7V per cell; 7.4V for a 2S battery pack) for best results. Never store the battery discharged.
- When transporting or temporarily storing the battery, the temperature range should be from 40–120 degrees Fahrenheit. Do not store the battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- Although the battery included with the Ten-T has a low voltage circuit included which prevents over-discharging the battery, you should never discharge the battery below 6.1V during use (3V per cell).
- The included battery also uses a 25-amp draw protection cutoff that occurs when the battery is under load. If this occurs you must correct the reason for the high current draw (usually the starter motor being stalled) and reset the cutoff by turning the receiver in the model "Off" then "On" again.
- Always be careful to observe the proper polarity when charging or using the battery.
- Be careful not to short the output or balance leads.
- Do not ever try to disassemble the pack.
- For best performance balance the pack periodically.
- If you have any further questions or concerns regarding the handling, charging and/or use of the included LiPo battery pack, please contact Horizon Hobby's Product Support staff. Contact information can be found in the warranty section of this manual.



Batteries and Charging:

The Ten-T uses rechargeable batteries such as NiMH or LiPo. These batteries all have special requirements to preserve performance and last a long time. Read all instructions and precautions that are provided with the batteries intended to be used in the Ten-T.

- Read all instructions provided by the manufacturer of the batteries.
- Responsible adult supervision is necessary while charging batteries.
- Always check to ensure the polarity of battery connection is correct.
- Never leave batteries unattended while charging.
- Never charge a battery while it is installed in the Ten-T.
- Do not charge any battery that appears to have any damage.
- If there are exposed wires do not charge or use the battery until you have installed shrink-wrap or replaced the complete wire.

If charging NiMH batteries, select a charger to meet your requirements. Chargers can be of two primary types for their source of power: a 100-240V wall charger, or one which requires a 12V power supply. Follow the charger manufacturer's instructions and precautions during each use.

Supplied and Required Equipment

Supplied tools:



Glow Plug/Wheel Wrench

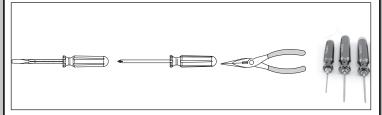
Four (4) Hex "L" Wrench Set

.050-inch, 1/16-inch, 5/64-inch, and 3/32-inch

Shock Bottom wrench

Turnbuckle/Shock Top wrench

Tools You Will Find Handy



In addition to the tools included with the Ten-T, you will find the following both useful and in some cases necessary.

- Small flat blade and Phillips screwdrivers
- Needle-nose pliers
- Quality .050-inch, 1/16-inch, 5/64-inch, 3/32-inch, 1.5mm and 2.5mm hex (Allen) drivers

Required Equipment:

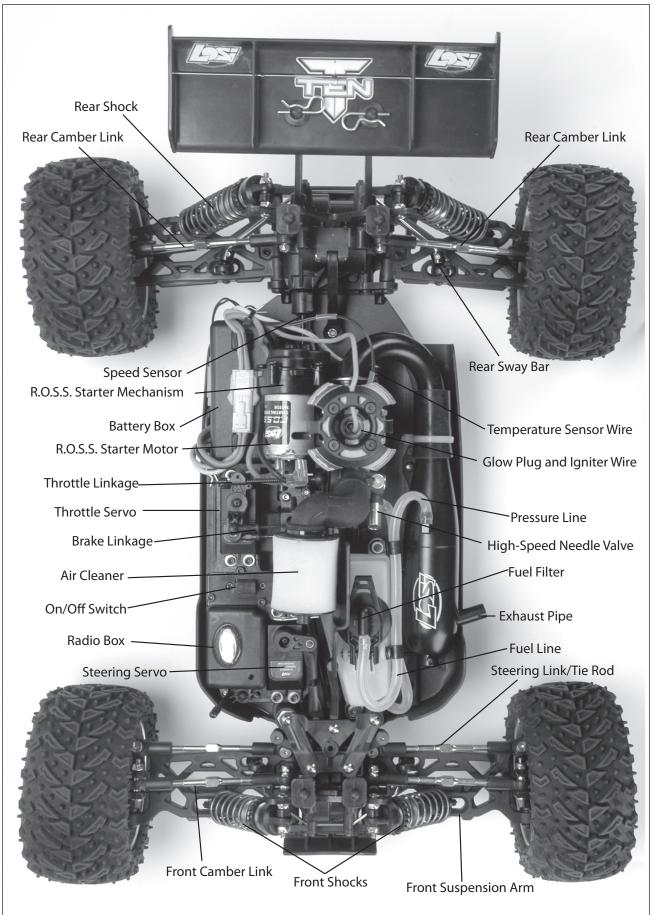
Fuel – Preferably Nitrotane 20% Sport (LOSF0020). Note: This fuel supports the engine warranty.

Fuel Bottle – The Losi 500cc fuel bottle (LOSB5201) is suggested.





The Losi Ten-T Overview

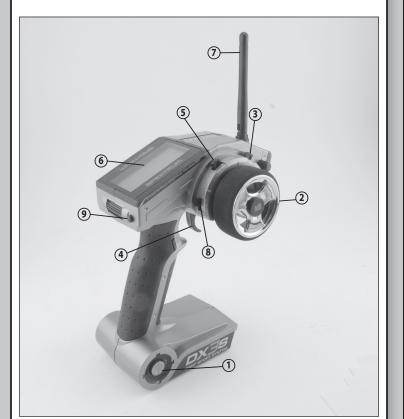






About the Radio

The Spektrum[™] DX3S radio installed in the Ten-T is a professional level system with more than the usual features you may find useful. Be sure to read through the included radio manual for complete instructions. The following is a simple guide referring to items that are commonly used and/or needed to run your model.



- 1. Power Switch Turns your transmitter ON and OFF
- 2. Steering Wheel Controls the steering of your model
- 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 model
- 6. Transmitter Display Digital readout shows battery voltage, temperature, rpm/speed and functions/settings
- 7. Transmitter Antenna Transmits signal to the receiver in the model
- 8. AUX Lever for forward/reverse
- 9. Starter button

Radio Operation

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

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

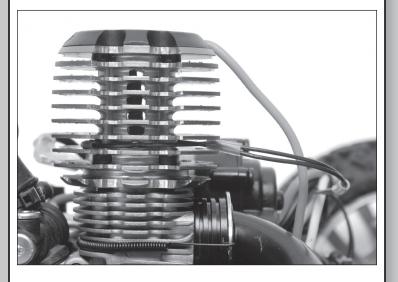
Steering Trim: The model should go straight without turning the steering wheel. If not, tap the trim lever found just above and to the right of the steering wheel in the direction needed for the model to go straight. Each tap of the trim button will be accompanied by an audible tone indicating a change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

Throttle Trim: The model should idle without the tires rotating when the trigger is at its neutral position. If not, tap the trim lever found just above and to the left 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.

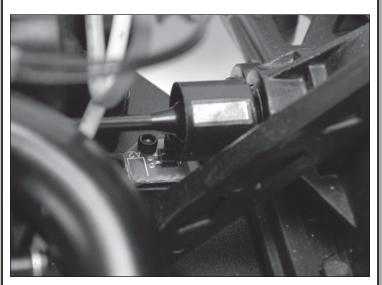


Telemetry Sensors

- The battery power of the receiver pack will automatically register on the readout screen.
- The engine temperature requires that the temperature sensor (SPM1450) be installed around the head just above the head bolts as seen in the photo. Note: The temperature sensor must be removed before removing the head from the engine. There is an external plug near the radio box which will allow you to disconnect it if you wish to remove the engine for cleaning.



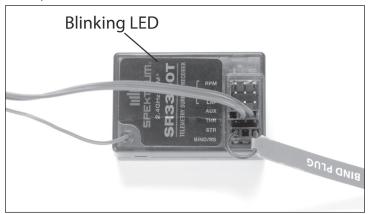
• The RPM/Speed sensor is mounted directly below the rear transmission input connector. The connector has a silver stripe on it that the sensor reads. Both of these items have to be kept clean for proper operation. Use compressed air or a soft brush to remove dust or dirt that can prevent operation. NEVER use any kind of solvent on either of these as it will cause the stripe to fall off and the sensor to fail. If the stripe should fall off replace it with one from the (SPM1512) Telemetry RPM Sticker Sheet.



Binding the Radio System

Steps to Re-Bind

- 1. Make sure both the transmitter and the model are turned off.
- 2. Unplug the bottom plug in the receiver port marked BIND/RS.
- 3. Install the bind plug into this port.
- 4. Remove either of the two plugs directly above the bind plug Do Not use any other port.
- 5. Install the plug that was removed from the bottom port (BIND/RS) in step 2 into the open port from step 4. See photo.



- Turn on the model an LED located beneath the "m" in Spektrum when viewed from the side will start blinking. The radio is now ready to bind.
- 7. Turn on the transmitter and depress the selector wheel twice which will bring up the "LIST" screen.
- 8. Roll the selector wheel down until it highlights "BIND" and press it once to bring up the Bind screen.





- 9. Roll the selector wheel down one click to select the BIND function and press it once again.
- 10. The box around "BIND" will turn dark for a few seconds then it will return to normal (as seen in step 9) and the LED in the receiver will stop blinking. See photo.



11. The system is now bound. Remove the bind plug and return the plugs to their original positions.

Engine Break-In and Adjustments

The new Losi 3.4 engine in your Ten-T has been machined to tight tolerances and does not need an extended break-in. It is always a good idea to take it easy for the first few tanks of fuel to let all the gears and moving parts seat into one another. You will notice after the first hour of operation that the engine will pick up power. It is highly advised that you use Nitrotane 20% Sport fuel as the carburetor is factory set for this fuel and other fuels may require immediate needle valve adjustments. NEVER use model airplane fuel as it may cause damage to the engine and void any warranty. If you change fuels 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.

Tuning a Nitro Engine

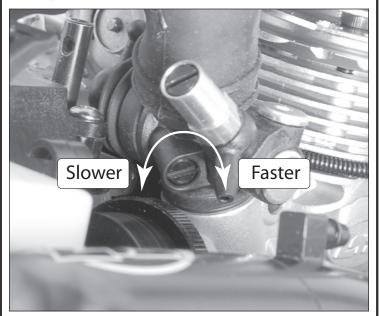
Adjusting the carburetor is one of the most critical facets of running a nitro-powered RC vehicle. The fuel mixture is referred to as being "rich" when there is too much fuel and "lean" when there is not enough fuel for the amount of air entering the engine. The amount of fuel entering the engine is adjusted with high- and low-speed threaded needle valves. The low-speed needle is located in the front of the moving slide. The highspeed 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 counterclockwise and leaner by turning clockwise. An overly "rich" mixture will yield sluggish acceleration and performance with thick smoke from the exhaust. A "lean" mixture can cause the engine to hesitate before accelerating 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

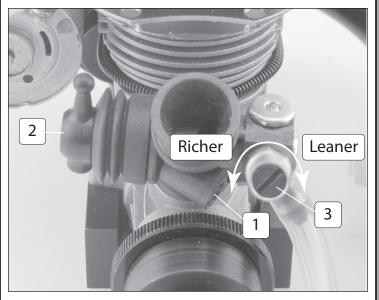
High-Speed Needle— $2^{1}/_{2}$ turns out from bottom

Low-Speed Needle—2¹/₂ turns out from bottom

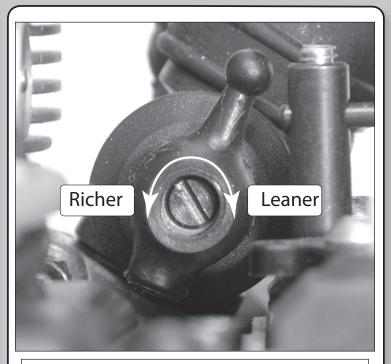


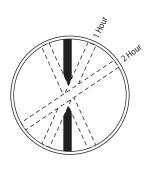
Engine Tuning

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.



1= Idle Stop Screw 2=Low-Speed Needle 3=High-Speed Needle





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 affects the idle and slightly-off-idle performance. The optimum setting allows the motor to idle for at least 8–10 seconds. The model 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 that 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 lowspeed 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 too 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 too lean and needs to be richened up by turning the needle counterclockwise 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 counterclockwise to slow the engine idle speed down. The engine should accelerate at a constant pace without hesitating.

High-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 high-speed needle clockwise in one-hour increments until it runs smoothly. If the engine isn't smoking or starts to die after acceleration, it is too lean and you must richen the mixture by turning the needle counterclockwise. Don't be confused by the sound of the engine and the actual performance. A leaner mixture will produce an exhaust note with a higher pitch but this does not necessarily mean improved performance, as the engine is on the verge of overheating and may incur 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-pitched 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, **immediately** richen the mixture by turning the high-speed needle counterclockwise at least "two hours" and be prepared for further adjustments before running any more. Note: The normal operating temperature as seen on your radio screen should be in the 190 to 220° F (88 to 105° C) range.

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 power is applied to it. 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 the engine not starting are the glow plug being wet with fuel low voltage in the battery or the element is burned out. Disconnect the igniter lead from the glow plug in the engine and connect it to a spare plug holding it up against the head or engine case so it is grounded. Press the starting button and if the plug glows you know that the plug in the engine is bad and needs to be replaced. A wet glow plug means there is excess fuel in the engine. To clear this pick up the model by the wing letting the front end hang down. Open the throttle all the way and try starting the engine for 2 or 3 seconds. If it does not fire, stop and wait for at least 5 seconds and try again. If it does start to fire, close the throttle then pull the trigger 1/4-inch and continue to turn it over until it starts and clears out. Release the trigger so the engine idles, place it on the ground and start driving.

Testing the Temperature



The ideal operating temperature for the engine will vary with the air temperature and altitude. In general it should be in the 190° to 230° F (88° to 110° C) range. The telemetry on you transmitter will display the temperature as long as the temperature sensor is attached to the engine. Please note that the location of the sensor will also make the readout vary a little. If the engine is overheating turn the high-speed needle out (counterclockwise) at least two hours as shown in the "Tuning a Nitro Engine" section. If the engine is running too rich (below 180° F) turn the high-speed needle in (clockwise) one hour at a time until it is running within the normal range.



Using the R.O.S.S. Starting System

The Ten-T uses the exciting new Remote On-board Starting System (R.O.S.S.). It is absolutely critical that you read and follow these instructions for proper operation and to get the full enjoyment of this exclusive feature.

NOTE: When the engine is new it is harder for the starter motor to turn the engine over, so it is very important to understand and follow these steps.

COLD STARTS

- 1. You must read the "Tuning a Nitro Engine" section before starting.
- 2. Make sure the LiPo battery in the truck has been charged.
- 3. Check to make sure that the exhaust exit tube is not hot.
- 4. Fill the fuel tank with fuel.
- 5. Switch on the transmitter and then the model.
- 6. Place the model on the ground in an open area. Push and hold the starter button on the back of the transmitter which will engage the starter and start turning the engine over. It will take 4 or 5 seconds for it to draw fuel from the tank as the engine turns over at which point you will hear it starting to fire.
- 7. As the engine starts to fire keep the starter button depressed and pull back the throttle ¼ inch. If the engine starts running, the model will start to move. Give the model at least half throttle and allow it to pick up some speed before releasing the starter button. Note: If you are running above 1500-feet elevation you will need to lean both the high-speed and low-speed needles at least one hour – more if at a higher elevations. Please read "Tuning a Nitro Engine" again to understand proper tuning.
- 8. If the engine stops firing: close the throttle and continue turning it over which should make it start firing again. Wait a second and repeat step 8.
- 9. If the engine starts running: remove your foot and give the model more throttle as it drives away. After it has gone 10 feet release the starter button and have fun.
- 10. All this should take place in about 10 seconds. Do not run the starter for longer than 10 seconds at a time without letting it cool.

HOT STARTS & RESTARTING

- If the model has run out of fuel prior to restarting, make sure the exhaust pipe has cooled before attempting to restart and follow steps #4 through #10 above.
- If the engine was stopped while there was still fuel in the system, set the model on the ground and follow steps #8 through #10 above.

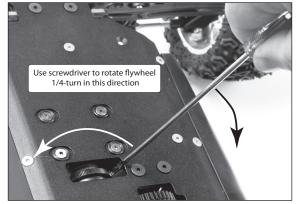
TROUBLESHOOTING

If the engine does not start to fire following the above steps:

- 1. Check for fuel in the tank.
- 2. Check the glow plug see "About Glow Plugs" section.

If the starter stops abruptly:

1. The engine may be stuck at top dead center – especially if new. Using a screwdriver place the tip so that it is between the ridges in the flywheel with the shaft up against the edge of the cutout toward the center of the chassis. As you push down on the screwdriver handle the flywheel on the engine will rotate toward the outer side of the cutout. Use this method to rotate the flywheel no more than ¼ turn.

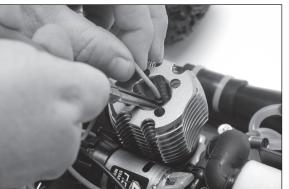


- Turn the receiver switch in the model "Off" then "On" again which will reset the circuit breaker in the battery pack. Press the starter button following steps #8 through #11 above. Note: This situation will stop after the first hour of engine operation.
- 3. The engine may be flooded (too much fuel inside the engine). Remove the head protector from the head and blue igniter lead from the tip of the glow plug then the glow plug itself. Turn the radio switch in the model "Off" then "On" again which will reset the circuit breaker in the battery pack. Place a rag over the top of the engine and engage the starter for 5 seconds. Raw fuel should spray out of the glow plug hole. Replace the glow plug making sure to include the copper gasket on the plug. Reattach the igniter lead and head protector and follow steps #8 through #11 under "Cold Starts."

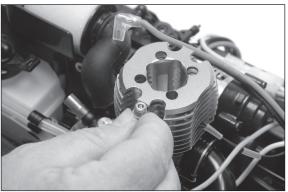


Checking the Glow Plug

- 1. Remove the four screws and the head protector on the top of the engine.
- 2. Use needle nose pliers to remove the blue glow plug lead then remove the glow plug.



- 3. Disconnect the Red (+) lead from the starter motor.
- 4. Reattach the blue lead to the glow plug and hold it against the silver section of the head.
- 5. Push the starter button the element in the plug should glow red. If not check with a new plug.



- 6. If neither plug glows the lead is damaged or the battery is dead.
- 7. Replace the plug and head protector.

Driving the Ten-T

Always follow these precautions when running your Ten-T.

The electronics in this model are not waterproof and you must avoid running it in or through standing water, wet grass, mud or snow.

Do not run the Ten-T at dusk or in the dark when visibility is limited.

Do not attempt to run this model if it will be out of sight for any amount of time.

Do not run this model near a crowd of people.

Always check for proper radio function and battery condition before operating.

Check to make sure that the tires are securely glued to the rims.

Check the model thoroughly for loose nuts, bolts and screws before and after running.

Make sure you use proper dirt tires if running off-road.

Never run the model with old or discharged batteries – especially dry cells in the model.

If the model gets stuck do not pull the throttle as it may result in damage to the engine or clutch.

Leave plenty of room to stop the model. It will take as much room to stop as it did to accelerate.

Avoid repeated or prolonged heavy braking as this will cause the brakes to overheat and fail.

Maintenance

In addition to the service needs pointed out in this guide, you should try to maintain your new Ten-T 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 a 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 spray a little water-displacing lubricant, 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 model.
- Inspect the chassis for worn, broken or binding parts and repair as necessary.



Storage

When you are done running the Ten-T for the day:

- Blow it off with compressed air and/or use a soft bristle paintbrush to remove dust and dirt from the chassis.
- Use your fuel bottle to remove any remaining fuel out of the fuel tank.
- If the model is going to be stored for an extended time period unplug the receiver battery and remove the batteries from the transmitter.

Tuning, Adjusting and Maintaining the Ten-T

Periodically examine your Ten-T for the following:

- Keep your vehicle clean using a brush to remove dirt and dust.
- Look for cracks in the suspension arms and other molded parts.
- Check that the tires are still glued to the wheels.
- Check that all the wheel bearings are clean and lubricated.
- Using your tools, attempt to tighten all the screws and nuts.
- Verify that the Chamber Links and Steering linkage are not bent.
- Check that the Toe and Chamber settings are as desired and equal.
- Check the Drivetrain:
 - o Check the Spur gear for wear.
 - o Check the Pinion gear.
- Take the shocks off the vehicle and check, especially if they appear to be leaking as it is time to rebuild them.
- Look over all the wiring and connections for bare wire or any place which could lead to a short circuit.
- Turn on the radio and if the Yellow LED is off or dim replace the 4 AA batteries in the transmitter.
- Turn on both the transmitter and the model and note the voltage of both. Replace the batteries in the transmitter and/or recharge the LiPo battery in the model if low.

After you become familiar with driving your Ten-T, you may need to reset or make adjustments for better driving performance.

Just as in a real car, alignment is an important factor in your vehicle's handling. When you are ready to make adjustments it is a good idea to have a flat work space to place your vehicle on. This will enable you to easily and more quickly make both Toe-in and Chamber adjustments. These adjustments should be set with the vehicle sitting at its normal ride height.

Starting Settings

Carburetor:

High-Speed:
Low-Speed:

 $2^{1}/_{2}$ Turns Out $2^{1}/_{2}$ Turns Out

Tuning the Front End of the Ten-T

Shock Location: The Ten-T has three mounting locations on the front shock tower. The position can be easily adjusted by simply moving the top of the shock to another hole. The standard location works best on most surfaces. Moving the top of the shock inward a hole will slow steering response and make the Ten-T smoother in bumps. The standard position on the arm is middle, which offers the best balance. Running the inside shock location will give the Ten-T more steering into the turn and less steering on corner exit. Running the shock location outside on the front arm will give you less overall steering into the turn and keep the front end flatter through the turn, making the Ten-T smoother and easier to drive. This can be used on hightraction surfaces. Keep in mind as you move the shocks in on the arm this will require internal limiters to obtain the correct suspension travel. For the inside location a total of .200-inch limiter works great. Losi sells a shock spacer set (LOSA5050) that includes .030-inch, .060-inch, .090-inch and .120-inch spacers.

All of the Camber and Steering linkages feature left & right-hand threads at either end like a turnbuckle to make adjustments easy. The side with right-hand threads has a small groove machined into it. Use the plastic turnbuckle wrench supplied with the Ten-T to adjust these. Using the right-hand threaded side as your reference: if you turn the link to the right (clockwise) you will make it shorter. If you turn it to the left (counterclockwise) you will make it longer. If you will be making a lot of adjustments you should consider using the LOSA99165 Aluminum Turnbuckle Wrench.

Static Camber: This refers to the angle of the wheels/tires relative to the surface (viewed from either the front or back). Negative camber means that the top of the tire leans in toward the chassis. Positive camber means the top of the tire leans out, away from the chassis. Camber can be precisely measured with after-market camber gauges, sold at a local hobby shop. It can be measured (roughly) using any square (to the ground) object by checking the gap between the square edge and the top of the tire. Testing has shown that 1 degree of negative camber (in the range of 1-2 degrees) will generally increase steering. Decreasing negative camber (in the range of 0-1 degree) will generally decrease steering and the Ten-T will feel easier to drive as a result. This is, most often, a very critical adjustment in tuning your Ten-T that can be made quickly and easily.



Inboard Camber Location: The Ten-T has two different inner locations with vertical adjustment for the front camber tie rod. In general, the lower or further out the inside position is, relative to the outside, the more camber gain (total camber change through the total throw of the suspension) is present. This is an adjustment that is difficult to make a generic statement as it can have slightly different results in various conditions. The following is a summary of how this adjustment will usually impact the handling of the Ten-T. A longer front camber link will usually make the Ten-T feel stiffer. This will help keep the Ten-T flatter with less roll, but can make the Ten-T handle worse in bumpy conditions, it also will make the Ten-T easier to drive. A shorter front camber link will result in more front end roll, which will provide more steering on tighter turns with the loss of some stability. You will also lose some highspeed steering but might gain some more steering response. Too short of a front link may make the Ten-T feel "twitchy" or "wandery" meaning that it may be difficult to drive straight at high speed.

Inboard Camber Vertical Adjustment: Washers are often used under the inner ball stud mounting location; this is one of the most important adjustments on the Ten-T. You should get a feel for how the number of washers affects the handling. Adding washers will make the Ten-T more stable and keep the front end flatter. This works well on higher traction surfaces. Removing washers will make the steering more aggressive, which works well on lower traction surfaces. This can be good in some conditions, but can also make the Ten-T difficult to drive in others. The best all-around adjustment is with three washers as the vehicle comes built. The washers that are used are included in an assortment package of washers (LOSA6350). In general the upper hole will make the Ten-T more stable and keep the front end flatter. This works well on higher traction surfaces. The lower location will make the steering more aggressive which works well on lower traction surfaces. This can be good in some conditions but can also make the Ten-T difficult to drive in others.

Toe-In/Out: This is the parallel relationship of the front tires to one another. Toe-in/out adjustments are made by changing the overall length of the steering tie rods. Toe-in (the front of the tires point inward, to a point in front of the front axle) will make the Ten-T react a little slower, but have more steering from the middle of the turn, out. The opposite is true with toe-out (the front of the tires point outward, coming to a point behind the front axle), the Ten-T will turn into the corner better but with a decrease in steering from the middle of the turn, out. Toe-in will help the Ten-T to "track" better on long straight high-speed runs, where toe-out has a tendency to make the Ten-T wander. We recommend to run between 0-degree of toe-in/out to 1 degree of toe-in.

Tuning the Rear End of the Ten-T

Shock Location: Moving the shocks out on the arm will result in less forward traction and let the Ten-T make more of an arc through the exit of the turn. In general, when changing shock locations on the arm, it will be necessary to go down one spring rate when moving out on the arm.

Static Camber: Having the same definition as for the front end and measured in the same fashion, rear camber can also be a critical tuning feature. Testing has shown that running a small amount of negative camber (.5-1 degree) is best. Increasing negative rear camber (in the range of 1.5-3 degrees) will increase stability and traction in corners, but decrease highspeed stability. Decreasing rear camber (in the range of 0-1.5 degrees) will decrease stability and traction in corners, but will increase high-speed stability.

Inboard Camber Location: The Ten-T has two inner camber link locations. These locations work in the same fashion and have the same effect as noted for the front. You will find that you will get more noticeable changes with the outer locations in the hub. In general the upper hole will make the Ten-T more stable and keep the front end flatter. This works well on higher traction surfaces. The lower location will make the steering more aggressive which works well on lower traction surfaces. This can be good in some conditions but can also make the Ten-T difficult to drive in others.

Outboard Camber Location: Running the camber link in the inside position on the hub will generate more rotation entering a turn, but decrease steering on exit. Running the camber link in the furthest outer position on the hub will generate more stability entering a turn and increase steering on exit.

Toe-In: Having the same definition as for the front end, the toein can be adjusted on the Ten-T with the rear hubs. The stock toe-in is 3 degrees of inboard per side and 0 degrees in the hub. Increasing rear toe-in will increase forward traction and initial steering, but reduce straightaway speed. Decreasing rear toe-in will decrease forward traction and "free-up" the Ten-T. Less toein can be used to gain top speed.

Ride Height: This is the height of the chassis in relation to the surface. It is an adjustment that affects the way your Ten-T jumps, turns and goes through bumps. To check the ride height, drop one end (front or rear) of the Ten-T from about a 5 to 6-inch height onto a flat surface. Once the Ten-T settles into a position, check the height of that end of the Ten-T in relationship to the surface. To raise the ride height, lower the shock adjuster nuts on the shock evenly on the end (front or rear) of the Ten-T that you are working on. To lower the ride height, raise the shock adjuster nuts. Both left and right nuts should be adjusted evenly. Check the setup sheet included and for additional setup information visit www.losi.com.



Use the same technique to adjust the rear ride height. Again, refer to the included setup sheet. Every driver likes a little different feel so you should try small ride height adjustment to obtain the feel you like. This should be the last adjustments you make after everything else is dialed in. Note: Do not use ride height adjustments as a substitute for a spring rate change. If your Ten-T needs a softer or firmer spring, change the spring. Do not think that simply moving the shock nuts will change the spring stiffness as it will NOT!

Wheels and Tires

The tires come pre-mounted with the vehicle and should be checked to make certain they stay glued to the wheels. The wheel spinning speeds this vehicle is capable of tend to pull the rubber tire away from the rim. When a tire or tires come loose from the rim you will notice the vehicle is hard to control.

Tip the vehicle on its side and using both hands to hold one wheel at a time, use your thumb to press the tire away from the rim. If you see a tire pull away from the rim use Losi Tire Glue (LOSA7880 thick or LOSA7881 thin) to reglue. It only takes a small drop of glue generally. Be careful—this is CA-type glue and you do not want to glue your fingers to the wheel and tire.

Use safety goggles when gluing tires.

Check the mounting of the tire periodically to ensure proper performance and handling.

Troubleshooting your Ten-T

Many questions are the result of simple user errors or minor adjustments which are easily addressed. If after reading below you cannot resolve your problem, then please contact the following agencies:

United States:

Please call 877-504-0233 or e-mail us at productsupport@ horizonhobby.com with any questions or concerns regarding this product or warranty.

United Kingdom:

Please call +44 (0) 1279 641 097 or e-mail us at sales@ horizonhobby.co.uk with any questions or concerns regarding this product or warranty.

Radio system does not work properly:

If the power on your transmitter is not turning on, first check to make sure the batteries are installed correctly. Check the readout on the transmitter screen for sufficient voltage. There is an alarm that sounds when this is too low but it may be turned off. If the battery power is too low replace the four AA dry cells. When you turn on the model the battery voltage will be shown on the telemetry screen. If this is low recharge the LiPo battery in the battery box of the radio tray. If the radio still does not function you may need to rebind the radio. Refer to the stepby-step instructions elsewhere in this manual to bind your system.

Short radio range:

If the radio range appears short, make sure the batteries are all fully charged and/or are in good condition.

Steering or Throttle servo does not work:

Check all wires, radio system, battery connectors, and the battery pack. Replace the servo if it remains unresponsive.

Engine will not start:

- 1. Make sure the LiPo battery in the model is fully charged.
- 2. Remove and check the glow plug as noted in the R.O.S.S. operating instructions.
- 3. Make sure there is fuel in the tank.
- 4. Check the fuel line for holes or cuts.
- 5. Note that the fuel is getting up to the carburetor. If not wait for the exhaust pipe to cool, put your finger over the exhaust tip, and turn the engine over watching for the fuel to go up the fuel line until it gets to the carburetor. Do not continue to turn the engine over with your finger over the exhaust tip after the fuel has reached the carburetor.
- 6. If the fuel has been left open or is over 6 months old, try replacing the fuel including that in the fuel line.



Engine is hard to turn over:

- 1. If the engine is hard to turn over make sure the LiPo battery in the model is fully charged.
- 2. The engine may be flooded. Remove the glow plug, turn the model upside down over a rag and turn the engine over. Raw fuel should spray out of the glow plug hole. Replace the glow plug making sure you replace the small copper gasket that goes on it.
- 3. If the engine will not turn over it is probably still new and stuck at top dead center. Use a screwdriver to rotate the flywheel on the engine counterclockwise until it moves freely, turn the model off then on again and retry. It may take several such tries to get it to start. After the engine has been run 30 to 45 minutes you will find this will not occur.
- 4. You should also refer to the R.O.S.S. operating instructions in this manual for additional information and step-by-step instructions.

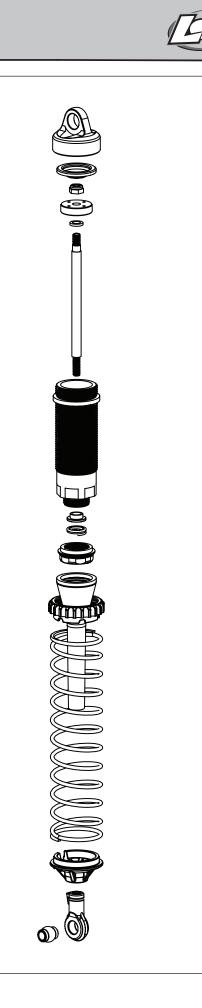
Engine tries to start but will not run:

- 1. Engine may be loaded up with excess fuel inside. Pull the trigger 1/4-inch and count to 5 before trying to start. If starting improves repeat until the engine runs and idles.
- 2. Engine may be overheated. Let cool, open high-speed needle 2 hours and retry.
- 3. If the fuel has been left open or is over 6 months old try replacing the fuel including that in the fuel line. Disconnect the red lead from the starter motor and push the starter button for 5 seconds. Reattach the red lead to the starter motor; apply full throttle and try starting. If the engine starts, release the throttle immediately before driving. If the engine refuses to start, check to make sure there is fuel in the tank. If so, disconnect the fuel line holding it at carburetor level pointing away from the chassis. Turn the engine over for 5 to 10 seconds. Fuel should run (squirt) out of the fuel line. If not check for restrictions, holes, leaks, etc in the fuel and pressure lines.
- 4. If the engine refuses to start, read the "Engine Tuning" section for more help.

Servicing Your Shocks

From time to time you should check your shocks for adequate fluid. If the fluid is low, or it is getting dirty, you should change the fluid in the shocks. You may also want to change the shock fluid and or the pistons to better address the conditions you are running on. Regardless of what the reason you will want to follow these simple steps to service, refill, and bleed your Ten-T shocks. Note that if you are cleaning or changing the fluid you will find the LOSA99217 Nitrotec[™] Spray Cleaner to be the quickest and easiest way to remove oil fluid and dirt safely.

- 1. If you are changing the pistons, clean the threads on the end of the shock shaft and apply thread locker (LOSA99202) to the threads.
- 2. Install the small shock piston washer and shock piston using the 4-40 mini lock nut on the shock shaft to secure them.
- 3. Put a drop of shock fluid on the shaft before replacing it in the shock body.
- 4. If you are changing the shock end use the shock tool provided with the Ten-T to hold the shaft. You will see that this plastic tool has serrations on both sides that allow you to hold it with a pair of pliers and not scratch up the micro finished surface. This method works very well to protect the shock shafts from damage.
- 5. After installing, make sure the shaft is fully extended when filling the shock.
- 6. Fill the shock body with 30–35-weight shock fluid until it is to the top of the Body.
- 7. Work the shock shaft up and down a few times. This will release the air bubbles trapped beneath the piston.
- 8. Place the filled shock, in the upright position, off to the side for a few minutes until the air bubbles escape from the fluid.
- 9. Once all the air bubbles are out of the fluid, gently place the shock bladder onto the top of the shock. Some fluid will "bleed" from around the bladder.
- 10. Screw the shock cap onto the body until a little resistance is felt.
- 11. Slowly push the shock shaft up. This will allow excess fluid to bleed out.
- 12. Tighten the cap all the way down using the shock tools included in your kit.
- 13. Move the shock shaft up and down. The shaft should be easy to push up into the body of the shock.
- 14. If increased pressure is felt towards the top, there is too much oil in the shock. Loosen the shock cap and bleed the shock as done in steps 11 & 12.
- 15. Make sure each pair (front/rear) of shocks has the same rebound and compression. This is checked by holding one shock in each hand horizontally and pushing them together by the shock end. Watch carefully to ensure that both compress evenly. Now release both shocks and again watch carefully as they should rebound the same.





Warranty Information

Warranty Period

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

Limited Warranty

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any goods by Purchaser must be approved in writing by Horizon before shipment.

Damage Limits

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

Law: These Terms are governed by Illinois law (without regard to conflict of law principals).

Safety Precautions

This is a sophisticated hobby Product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the Product or other property. This Product is not intended for use by children without direct adult supervision. The Product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

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Questions, Assistance, and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a service technician.

Inspection or Repairs

If this Product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. A Service Repair Request is available at www.horizonhobby.com on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

Non-Warranty Repairs

Should your repair not be covered by warranty the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of 1/2 hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly. Please note: non-warranty repair is only available on electronics and model engines.

United States:

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center 4105 Fieldstone Road Champaign, Illinois 61822 USA

All other Products requiring warranty inspection or repair should be shipped to the following address:

Horizon Product Support 4105 Fieldstone Road Champaign, Illinois 61822 USA

Please call 877-504-0233 or e-mail us at productsupport@ horizonhobby.com with any questions or concerns regarding this product or warranty.

United Kingdom:

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Hobby UK Units 1-4 Ployters Rd Staple Tye Harlow, Essex CM18 7NS United Kingdom

Please call +44 (0) 1279 641 097 or e-mail us at sales@ horizonhobby.co.uk with any questions or concerns regarding this product or warranty.

CE Compliance Information for the European Union

Instructions for Disposal of WEEE by Users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

UK	DE	DK	BG	SE
FI	EE	LV	LT	PL
CZ	SK	HU	RO	SI
AT	IT	ES	PT	IE
NL	LU	MT	CY	GR
		FR		

Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

No. HH20091013

Product(s): Ten-T RTR Item Number(s): LOSB0126 Equipment class: 2

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 300-328	Technical requirements for Radi equipment.		
EN 301 489-1, 301 489-17	General EMC requirements		

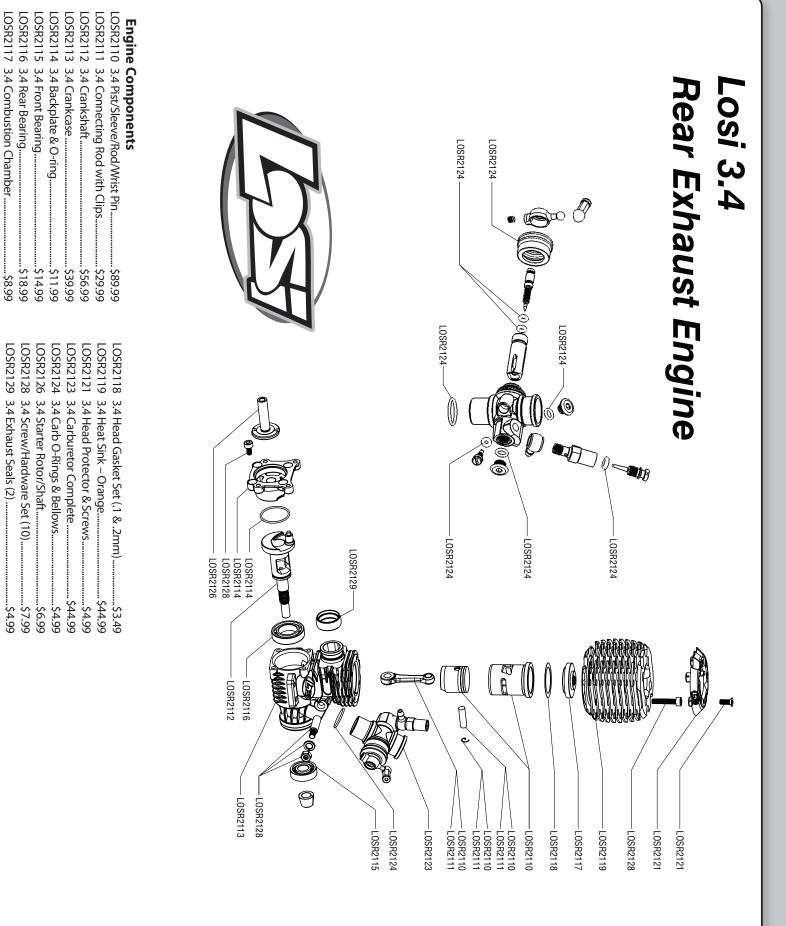
Signed for and on behalf of: Horizon Hobby, Inc. Champaign, IL USA Oct 13, 2009

Steven A. Hall

DEGTAll

Vice President International Operations and Risk Management Horizon Hobby, Inc.





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lame: 10T		Date: 9	0/1/09	Event:	
City:	State:	Track:	-		
Track 🔲 Indoor 🗔 Tight 🕅 Sm	ooth 🛛 Hard Packed 🛛 Blue Groove			gh Bite	
Conditions M Outdoor M Open C Rou	ugh 🔲 Loose/Loamy 🖵 Dry	Dust	y 🏼 Med Bite 🛛 Ot	her	
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Ride Height: 30mm Camber: -1 degree				$\langle \mathbf{Q} \rangle$	Õ_
Caster: Stock/20 degrees				₽V ●	
Sway Bar: 1.8mm			ð đ	5	
Piston/Oil: 2 holes @ 1mm/	30 wt				\rangle
Spring: Black/Medium				Inside ——— Center ———	
Limiter/Droop:				Outside	
Overall Shock Length: 86n	nm Center to Center				
Steering Ackerman: Long					
Bump Steer: Down					
Camber Link: Position 2					
Shock Location: Position 2	/ Center				
Front Diff Fluid: Grease			Notes: Use 1.6	<u>mm Sway Ba</u>	ar for more steering
Receiver Battery Type: 10	00mAh				
Center Diff Fluid: Grease					
Rear Suspension					
Toe: 3 degrees					
Anti-Squat: 2 degrees					
Ride Height: 32mm					
Camber: <u>-1.5 degrees</u> Rear Hub Spacing: <u>2 space</u>	ars on both sides				
Sway Bar: 2.0 mm	ers on both sides				
Piston/Oil: 2 holes @ 1mm/	30 wt				
Spring: Black/Medium			ß	-A Cent	
Limiter/Droop:					
Overall Shock Length: 102	.4mm Center to Center			´	
Camber Link: Position 2 -					
Shock Location: Position 2	- Center		HUL		
Rear Diff Fluid: Grease			Carl 1		
Engine			Notes: Mover	rear hubs ba	ck for more
Engine: Losi 3.4	Fuel: Nitrotane 20%		on-power stee	ering	
Glow Plug:	Head Clearence: Sto	ock			
Pipe/Header: Stock	Gearing: <u>17/48</u>				
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