



megatech[®]

HIGH PERFORMANCE PRODUCTS



Tempest Gladiator *Monster Truck*

Stock Number MTC 7805

1/10 Scale Radio Controlled Ready to Run Monster Truck

Operating Instructions and Owner's Manual

Megatech International
8300 Tonnelle Ave.
North Bergen, NJ 07047

Replacement Parts / Tech Support 201-662-2800
Fax Orders 201-221-8030
Website <http://www.megatech.com>

Glossary

Break-In - The first 20-40 minutes that a model truck engine runs, during which the metal parts establish the correct clearances and “fit” with each other. Break-In actually means that the parts rub together (with lubrication from the fuel oil) and wear away slightly. This critical phase determines how well your engine will run for the rest of its service life.

Camber - The angle between the vertical axis of the left wheel and the vertical axis of the right wheel as seen from the front. If the top of the tires are a little farther apart than the bottom of the tires, then the suspension has **positive** camber. If the bottom of the tires are a little farther apart than the top, the suspension has **negative** camber. Your Tempest Gladiator has the correct amount of positive camber is set at the factory.

Glow Plug - The small hex-shaped piece that screws into the top of the engine, with a little tip on the end. There is a very small wire coil inside this plug, which glows **red hot** when you apply electric voltage. This glowing wire ignites the fuel/air vapor inside the engine to make power. Once the engine is running, the heat from burning fuel keeps the wire glowing.

Glow Plug Igniter - A small battery with an electrical connector that provides the electricity to heat the wire inside the glow plug. A small rechargeable glow igniter such as Megatech’s MegaNiter is safe and convenient, and can be left on the truck during Break-In.

LED - Light Emitting Diode, a tiny “light bulb” . The LED’s on the transmitter glow when the batteries are fully charged.

Mixture - The amount of fuel vapor mixed with air that the engine burns. More fuel vapor in the air is a “**rich**” mixture, less fuel vapor in the air is a “**lean**” mixture. The mixture is controlled by the High Speed Needle Valve at full throttle, and the Low Speed Needle Valve at low-medium throttle.

Needle Valve - A thin needle-tipped screw in the carburetor that allows the liquid fuel to flow. Screwing the needle valve **closed** allows **less fuel** into the carburetor, creating a “**lean**” mixture. Unscrewing the needle valve **open** allows **more** fuel and creates a “**rich**” mixture.

Nitro - Nitro-Methane, an additive to racing fuel that increases the **explosive power** of the fuel when burned. Nitro is used in high performance model engines, as well as in full-size dragsters and “Funny Cars”. 25% Nitro fuel (recommended) has 25% Nitro-Methane added to the fuel.

Receiver - The electronic device that picks up the radio signal from the transmitter and sends commands to the servos.

Ride Height - Also known as “Spring Pressure”, the amount of compression put on the suspension springs, which affects how high the truck sits above the ground at rest. This affects how “hard” or “soft” the truck rides over bumpy roads.

Servos - Electric devices that turn the receiver’s commands into physical force to steer the wheels or move the carburetor.

Slide Carburetor - A carburetor that opens and closes by sliding a barrel-shaped insert with an air opening back and forth in the main carburetor body.

Synthetic Lubricant - High-temperature, high- performance man-made lubrication oil that provides **far greater** engine protection than natural oils. Only fuel using synthetic oil, such as Megatech’s High Velocity 25% Nitro racing fuel, is recommended for your Tempest Gladiator.

Toe-In - The angle between the horizontal axis of the front left wheel and the horizontal axis of the front right wheel when viewed from above. If the front of the tires are a little closer together than the rear of the tires, the suspension has **Toe-In**. If the rear of the tires are a little closer together than the front of the tires, the suspension has **Toe-Out**. Toe-In provides stability, allowing the truck to go straight by itself. Toe-Out creates a very unstable condition, where the truck would swerve out of control easily, just like driving a car in reverse. Your Tempest gladiator has the correct Toe-In is set at the factory, however the Toe-In setting is fully adjustable for advanced drivers.

Transmitter - The transmitter takes your steering and throttle/brake commands from the steering wheel and throttle trigger, turns them into electronic signals, and sends these signals through the air to the receiver.

Warnings

Engine – The Tempest Gladiator is equipped with the Megatech M-16 high-output engine, producing over **one horsepower**, featuring a race-tuned aluminum exhaust system. The engine and exhaust both become very hot during and after operation, and can cause serious burns and other injuries. Do not ever touch the engine or exhaust system while they are operating or while they are hot after operation. The engine produces poisonous Carbon Monoxide gas when running. Do not run the engine indoors or in any closed space, or anywhere without good ventilation.

Fuel – The Tempest Gladiator uses Nitro model car/truck fuel. Always follow the precautions and safety warnings on the fuel container. Always keep this fuel out of reach from animals, children and away from any source of flame or electric current. Do not smoke, cook, or allow open flame within 25 feet of model engine fuel.

Model engine fuel is almost invisible when it burns.

Always keep a fire extinguisher nearby when using model engine fuel. This fuel is dangerous, poisonous, and highly flammable. Use a fuel dispenser with a long fueling probe to fill the fuel tank. Do not pour fuel into the tank directly from a gallon can and/or use loose funnels or any method which can spill raw fuel.

Radio – Always use new heavy duty Alkaline batteries in the Tempest Gladiator's radio transmitter and receiver battery holder. Weak or low quality batteries can cause a loss of control, resulting in injury to others and damage to your truck. The Tempest Gladiator can be affected by radio interference from other radio controlled vehicles or from other sources. Radio interference can cause momentary loss of control, and you must always operate the vehicle so that unexpected momentary loss of control will not cause a crash or injury.

Introduction



Congratulations on purchasing your Tempest Gladiator, the Big Block Nitro Monster Truck from Megatech. Megatech has put precision engineering, cutting-edge design features, and years of racing experience into your Tempest Gladiator to give you the best truck that ever hit the dirt. An enormous amount of research and testing has gone into this product, so please follow all the instructions, warnings, and operating procedures in this manual, and your truck will give you years of high performance contest-winning fun. Regardless of whether you are a novice, intermediate, or experienced R/C 4-Wheeler, please read through the entire owner's manual before you attempt any setup or operation of your Tempest Gladiator truck. Failure to follow the instructions and warnings will cause significant damage to your truck, which will void the warranty and release Megatech from any and all responsibility to repair or replace the product. Should you

have any questions about the safe and enjoyable use of this product, call Megatech at 201-662-2800 during business hours.

Hazards

The Tempest Gladiator is a contest quality, **advanced hobbyist class** remote controlled vehicle. It is not a "toy-class" vehicle. This is a high-performance vehicle with the capability to exceed 45 MPH and cause serious injury and damage. The Tempest Gladiator is designed for operation by or under the supervision of a responsible adult.

Do not ever operate this vehicle -

- in a manner that causes or risks injury to people or animals, or
- in a manner that causes or risks damage to private or public property, or
- in a manner could cause a motor vehicle accident. Do not operate this vehicle on public or private roads or highways, or in large crowds of people.

Do not operate this vehicle during times or in locations where the engine's noise is objectionable to others.

If you are sensitive to engine noise, wear hearing protection.

Megatech shall not be liable for any loss or damages due to operator negligence, misconduct, intentional or accidental misuse of this product or any related products and accessories.

Your Tempest Gladiator

Features

- ✓ Your new Tempest Gladiator features the high-output M-16 Big Block Nitro race engine, capable of producing over one horsepower!
- ✓ Polished aluminum high-performance tuned exhaust that lets the engine put out all that power without conventional muffler power losses.
- ✓ Race-tested slide carburetor features fully adjustable high end, mid-range, and idle settings.
- ✓ Fully automatic 2-speed, adjustable transmission with Delrin gears and 4WD shaft drive
- ✓ Heavy Duty anodized aluminum chassis/radio plate with sealed receiver and battery box
- ✓ Adjustable oil filled coil-over shocks with powder coated springs
- ✓ All ball bearings
- ✓ Fully adjustable front and rear sway bars
- ✓ Fully adjustable suspension with turnbuckles to set camber, ride height, steering and toe-in
- ✓ Pistol grip 2 channel radio system

Best of all, the Tempest Gladiator comes fully factory assembled and set up, with all components installed, tires installed and glued, and the engine installed and adjusted for break-in. The body is fully painted with decals in place... You're almost **Ready to Rumble** when you open the box! (After engine break-in)

Tempest Gladiator Specifications

- Length: 15.375" (390mm)
- Width: 12.75" (325mm)
- Height: 9" (227mm)
- Weight: 55 oz. (1540g)
- Drive: Full 4 Wheel Drive
- Transmission: 2 speed automatic
- Engine: .16 cu. in. M-16 Nitro
- Radio: Pistol Grip 2 Channel

Required Equipment

For the best performance and maximum enjoyment, your Tempest Gladiator will require several additional items for proper operation and adjustment. We highly recommend purchasing Megatech's Gas Car/Truck completer kit, MTC 7500, which contains many of these items. The items should be available through your local hobby shop. The list of items you will need are:

- + 12 new heavy duty AA size Alkaline batteries for transmitter and receiver
- + Fuel for model car/truck engines (MTC 502 recommended)

- + Rechargeable glow plug igniter (MTC1160)
- + Spare glow plug
- + 4-Way wrench (MTC 1200)
- + Small/medium Phillips & flat head screwdrivers
- + Small adjustable open end wrench or wrench set
- + Allen wrench set



Megatech's Gas Car/Truck Completer Kit, # MTC 7500, contains many items you will need to operate your Tempest Gladiator, including fuel, glow plug igniter & charger, radio batteries, multi-wrench, and spare glow plug.

Radio

Your Megatech Tempest Gladiator is equipped with a top quality 2 channel pistol grip radio control unit. The components are completely installed and set up at the factory. Please see the transmitter photo for the location of the controls, trim knobs and other features. The radio control unit operates on either the 27 or 75 mhz band. Your radio includes:

- Transmitter (takes your steering and throttle control inputs, turns them into radio signals, then sends the radio signals through the air to the truck)
- Receiver (takes the transmitter's radio signals, decodes them, and sends the proper electronic commands to the truck's servos)
- Servos (which turn the Receiver's electronic commands into physical force that steer the wheels or operate the slide carburetor)
- On-Off Switch for Transmitter and Receiver
- Battery Holders for Transmitter and Receiver

Setup

The Tempest Gladiator comes from the factory fully assembled and almost ready to run. There is only a very small amount of setup and adjustment needed, however properly setting up the truck is **critical** to maximizing the performance and enjoyment you get from your truck.



Transmitter Controls

Setup Step 1- Battery Installation

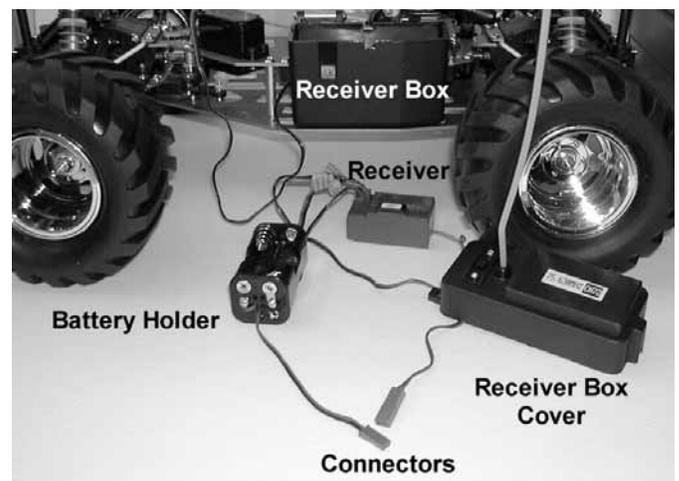
Always turn the transmitter on first, and turn the transmitter off last. Do not leave the truck electric power switch on without the transmitter power switch on. Without the transmitter power on, the truck will be affected by stray radio signals and can be damaged, or cause injury and damage if the engine is running.

Install a set of **new** AA Alkaline batteries in the Transmitter. Open the battery access panel on the bottom of the transmitter, and install 8 AA batteries in position as shown by the markings inside the battery compartment. Take extra care to insure the batteries are pointing in the right direction. Replace the battery access panel, and turn on the transmitter power switch on the rear edge of the transmitter. The LED power indicator lights should glow brightly, showing full battery power. If the “full” LED light is not glowing, remove the battery access panel and re-install the batteries in their correct positions until the “full” LED light is glowing.

Remove the 4 body clips holding the Tempest Gladiator body in place on the chassis, and remove the body. Carefully open the retaining clips on the side and rear of the black receiver/battery compartment on the truck chassis. Move the compartment cover and the radio receiver aside,

and remove the battery holder. Unfold the battery connector wire out of the way, and install, four **new** AA Alkaline batteries in the battery holder, making sure to install them in the correct direction as shown by the markings in the battery slots. With the switch in the off position, plug the red battery connector into the red receptacle attached to the on-off switch. Turn on the transmitter power switch, then the truck electric power switch, and listen for the servos to move slightly. Move the steering control wheel and the throttle trigger on the transmitter, making sure that the steering control operates the front wheels, and that the throttle trigger operates the slide carburetor. When the trigger is pulled toward the pistol grip (full throttle), the throttle servo should pull the carburetor throttle slide away from the engine. If the servos do not respond, remove the batteries and re-install them in their correct position.

Turn off the truck switch first, then the transmitter switch. Carefully put the battery holder back in the compartment, followed by the receiver, and tuck in any loose wires. Replace the receiver/battery compartment cover, making sure the snaps on the side and rear are engaged properly.



Receiver Box, Receiver, Battery Holder, Receiver Box Cover

Setup Step 2 – Spring Setting

The Tempest Gladiator is shipped with the truck securely tied to the box with plastic straps. To prevent the springs from becoming “set” in this position during shipping, the Ride Height / Spring Pressure adjustment rings are shipped in the fully relaxed position. Before the next step in setting up your truck, you must adjust the spring pressure on the suspension to the factory recommended setting. Turn the rings until **8 screw threads** are visible above the ring on the **rear** shock struts, and **6 threads** are visible above the ring on the **front** shock struts. See the photos regarding Ride Height adjustment for the location of the spring pressure adjustment rings. The factory set-

ting is optimum for general on and off road running, but the spring pressure and ride height is fully adjustable for different tracks and conditions.

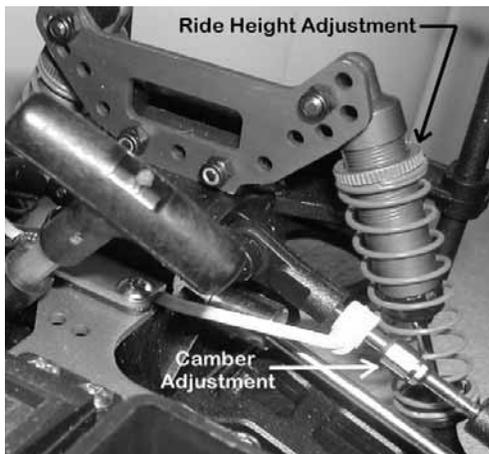
Setup Step 3 - Steering Trim

Although the Tempest Gladiator is factory assembled and set up, it is important to finely adjust the steering trim before operation. Turn on the transmitter, then the receiver, but do not start the engine. Position the steering trim knob in the neutral (center) position.

On a smooth, level, paved surface roll the truck forward a few feet at a time, and verify that the truck rolls straight, not turning towards one side or another. Also check the steering function. If the truck does not roll straight, adjust the steering trim knob until the truck rolls straight on its own. (In the event of damage or excessive wear, you can also adjust the steering arms on the truck using a small open end wrench or adjustable wrench on the hex shaped portion of the metal rod. Adjusting the steering arms this way also requires that you adjust **both** of the steering arms to maintain the correct toe-in setting at the same time.)



Adjustments for Steering and Toe-In



Adjustments For Ride Height and Camber (rear)

Operation

The Tempest Gladiator is a contest quality, **advanced hobbyist class** remote controlled vehicle. It is not a “toy-class” vehicle. This is a high-performance vehicle with the capability to exceed 45 MPH and cause serious injury and damage. The Tempest Gladiator is designed for operation by or under the supervision of a responsible adult.

Do not ever operate this vehicle in a manner

- that causes or risks injury to people or animals, or
- in a manner that causes or risks damage to private or public property, or
- in a manner that could cause a motor vehicle accident.

Do not operate this vehicle on public or private roads or highways, or in large crowds of people. Do not operate this vehicle during times or in locations where the engine’s noise is objectionable. If you are sensitive to engine noise, wear hearing protection.

Megatech shall not be liable for any loss or damages due to operator negligence, misconduct, intentional or accidental misuse of this product or any related products and accessories, and in all cases Megatech’s limit of liability shall be a maximum of USD \$1.00

Your new Tempest Gladiator will provide years of on and off road fun, deliver thrilling performance, and awesome action for you and your spectators if operated safely and responsibly. The Tempest Gladiator is suitable for sport and competition on:

- | | |
|----------------|----------------------|
| * Paved Tracks | * Gravel |
| * Dirt Tracks | * Sand |
| * Off-Road | * Standard Jumps |
| * Grass | * Standard Obstacles |

The Tempest Gladiator is **NOT** designed for:

- ⊗ Rock Climbing
- ⊗ Curbs
- ⊗ Brush
- ⊗ Tall Grass
- ⊗ Demolition Derby
- ⊗ Crashes

Operating your Tempest Gladiator under these **unapproved** conditions is unsafe for people and property, will void the warranty, and release Megatech from any and all liabilities. Never operate **any** Nitro or gas powered vehicle in dry brush, dry grass, or dry leaves! This creates a very

dangerous **fire hazard** that can cause loss of life and property.

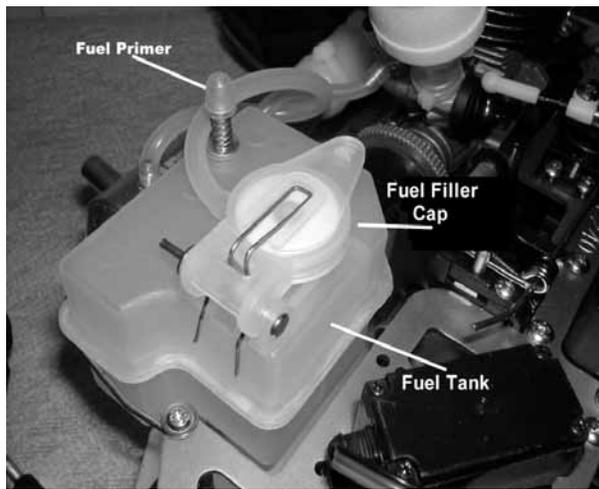
Engine safety

Before you attempt to start your engine, it is important for you to be familiar with the correct method of shutting off the engine when necessary. To shut off the engine, use needle nose pliers or a surgical hemostat clamp to squeeze the fuel supply line closed. The fuel supply tube is the clear silicone rubber tube that connects the bottom of the fuel tank to the carburetor on the engine. Squeezing this tube closed for a few seconds is the **only** method you should use to stop the engine safely.

Do NOT remove the fuel tube, or attempt to stop the engine by touching or holding any part of the engine, transmission, or wheels! Do not use your fingers to squeeze the tube because you can be burned by touching the very hot engine or exhaust system. Wrap several layers of thick tape around the jaws of the pliers or hemostat to prevent cutting or damaging the fuel line.

Fueling

The Tempest Gladiator is equipped with a competition fuel tank and priming system. The fuel tank uses a spring-loaded filler cap over a wide filler neck for fast, easy fueling. Simply pull the cap open and it springs back closed when you remove the nozzle. Use a fuel filler bottle with an attached long nozzle that can be inserted into the filler neck. Do NOT pour fuel from an open can into the tank or attempt to use funnels or loose parts to fuel your truck. We recommend Megatech's "High Velocity" 25% Nitro fuel, or other premium quality car/truck fuel with 25% Nitro content.



Fuel Tank, Filler Cap, Primer

The fuel tank is equipped with a primer pump to allow easier and safer engine starting. The primer is located on the top of the fuel tank next to the filler cap. To prime the engine, fill the tank with fuel, close the filler cap, and press the spring-loaded primer 5 to 8 times until you see fuel pushed through the fuel supply line all the way to the carburetor. Then press the primer two more times only, to inject a small amount of fuel into the engine. The fuel line and engine are now ready to start.

Engine break-in

Important! For the best performance, maximum enjoyment, and longest service, your Megatech M-16 engine must be properly broken in before you adjust the engine for maximum power. The M-16 is a close-tolerance, precision machined engine, which needs to be broken in so that the matching surfaces and parts establish the correct running tolerances. Proper break-in during first few tanks of fuel determines how well your engine will run for its entire life.

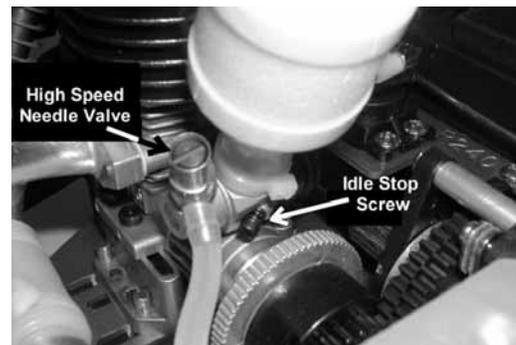
This is an easy process that requires only three full-tank engine runs at reduced power settings. Only **after** the break-in period can the engine be adjusted for maximum power. The break-in period is also an excellent opportunity to get used to driving your Tempest Gladiator and become familiar with the truck's great handling qualities.

Break-in Settings

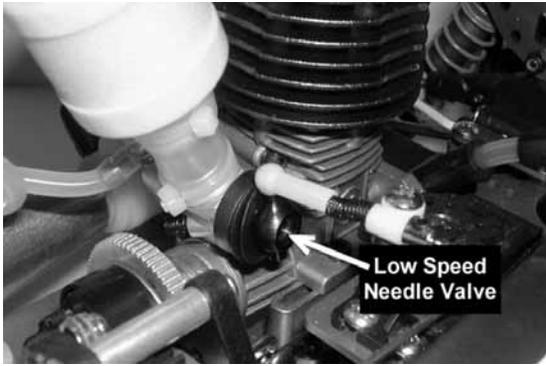
The M-16 engine is adjusted at the factory for the correct settings to break-in the engine. If for some reason you lose the settings, close both the high speed and slow speed needle valves (clockwise), then

- open the high speed needle valve three full turns (counter-clockwise), and
- open the low speed needle valve four full turns

(Important! Do not force the needle valves closed firmly; only close them until you feel slight resistance)



Location of High Speed Needle Valve and Idle Stop Screw



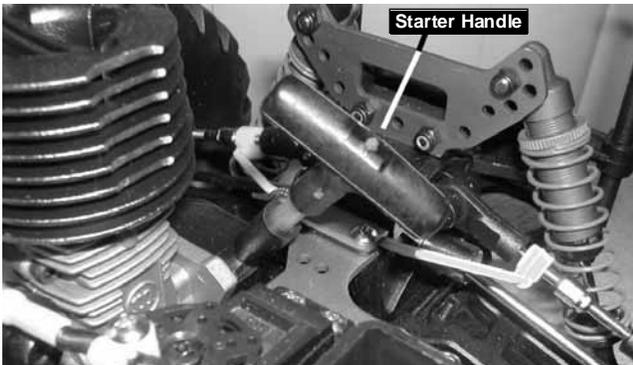
Location of Low Speed Needle Valve

Starting Engine

General – During break-in, it may be necessary to leave the glow plug igniter attached to the engine to keep it running while the fuel-air mixture is adjusted “rich” for break-in. This is normal.

The high speed needle valve adjusts the fuel-air mixture only at higher throttle settings and will not affect low speed. The low speed needle valve affects the fuel-air mixture only from idle through mid-range. The idle speed stop screw is a mechanical stop that determines only how far the carburetor barrel will close, and has no effect on fuel-air mixture. There must be approximately a 1mm opening in the carburetor barrel when the carburetor is closed (idle position). If this adjustment is not correct, (and the engine idle speed is too slow) it will be nearly impossible to set the low speed needle valve properly.

After priming the engine, and turning on the transmitter and receiver, pull the engine starter handle two or three times to circulate the fuel in the engine.



Starter Handle

Important! Whenever you start the engine, always pull the starter handle with short, quick pulls straight away from the engine. Do NOT pull the handle all the way out, or at any angle that allows the cord to contact any part of the engine or truck. Always let the starter handle back in slowly after each pull, do not let go and allow the handle to snap back into the engine. Make sure the throttle trigger is set at idle speed.

Break-In procedure

Attach a fully charged 1.5 volt glow plug igniter to the engine, and wait three seconds to allow the glow plug to heat up. Start the engine using short, quick pulls on the starter handle. Once the engine is running, observe the idle speed. If the speed is too high (above 3000 RPM), open the low speed needle valve (counterclockwise) until the engine speed slows to a safe idle. If the engine stops or runs too “rich” (lots of smoke and liquid fuel droplets coming from the exhaust), then close the low speed needle valve (clockwise) until the engine reaches a reliable idle speed. Adjust the low speed needle valve so that the engine idles as “rich” as possible while still running. If the engine will not keep running reliably at idle speed during this time, turn the idle speed stop screw ½ turn clockwise to increase the minimum speed.

As soon as you are able to keep the engine running (with the glow igniter attached if necessary) at a reliable, ultra-rich idle, run **two full tanks** of fuel through the engine at the rich idle setting.



Megatech's MegaNiter rechargeable glow plug igniter allows easy starting, and can be left on to keep the engine running reliably during the rich mixture break-in period.

If the cylinder head temperature reaches 230 degrees F, shut down the engine, let it cool completely, and start it again.

After idle break-in, the low speed needle valve can now be adjusted for optimum low and mid-range running. With

the engine running, reduce the throttle to idle speed for about 5 seconds, then apply full throttle very briefly and observe the engine response. If the engine accelerates slowly with lots of smoke and liquid fuel drops (too rich of an air-fuel mixture), turn the low speed needle valve clockwise 1/8 of a turn at a time until the engine accelerates briskly and reliably. Make sure to test the throttle response after each adjustment to the low speed needle valve.

When you shut down the engine, you can also see if the low speed needle valve is set properly. When you pinch the fuel line closed, the engine should speed up just a little, then quit. If it quits instantly with no increase in speed, the low speed setting is too “lean” and you must turn the needle valve counter-clockwise. If the engine speeds up excessively and runs for a long time, the low speed mixture is too rich, and you must adjust the low speed needle valve by turning it clockwise.

After the idle and mid-range adjustments, slowly increase the engine speed to approximately 50% of full throttle, but no further. Adjust the high speed needle valve so the engine again runs as rich as possible (you *want* it to be producing lots of oily smoke and spitting oil droplets from the exhaust). Again, you may need to leave the glow plug igniter attached to keep the engine running.

Run the Tempest Gladiator on a smooth surface at low to medium throttle setting for another tank of fuel, being careful not to maneuver it too harshly, or use any more than half throttle. Leave the truck body off for maximum cooling. Leaving the glow plug igniter attached will often allow the engine to keep running during this rich mixture phase.

Now you may begin adjusting the **high speed** needle valve. Carefully turn the high speed needle valve in clockwise 1/8 of a turn at a time, which will allow the engine to run faster and at a higher pitch sound. Your truck will start running faster and smoother. As you become more familiar with the Tempest Gladiator, you may continue to adjust the high speed needle valve 1/8 of a turn at a time until maximum speed and power are produced. When the truck starts to lose acceleration and performance, and overheats, you have adjusted the high speed needle valve too far (the air-fuel mixture has become too “lean”), and you **must** turn the valve out counter-clockwise to richen the air-fuel mixture.

The optimum high speed setting (after break-in) is achieved by first adjusting the high speed needle valve so the vehicle runs at the highest possible straight-line speed (without overheating), then turning the high speed needle valve counter-clockwise 1/8 of a turn (richen the fuel-air mixture) to give a slight safety margin.

Be patient and make the adjustments slowly, until your

Tempest Gladiator has smooth and predictable response through the full range of throttle settings and driving conditions.

Important! The engine needle valve adjustments can only be made accurately when the truck is running on a course or a track. NEVER run the engine with the wheels off the ground, because it can cause damage to the engine, the truck, and cause injury to you.

Note: If the engine does not run properly, or the adjustments are difficult to make accurately, always check that both fuel tubes between the fuel tank and engine are not cut, cracked, or have pinholes in them. Make sure there are no blockages or dirt present.



We recommend the Megatech high performance replacement glow plug, and Megatech “High Velocity” 25% Nitro racing fuel, available through your hobby dealer or direct from Megatech Replacement Parts / Tech Support

Operational Reliability

- We highly recommend using a fuel filter.
- Always have fresh fuel, spare glow plugs, air filter elements, and fresh batteries.
- Change or clean the air filter elements often. Dust and dirt are the primary destroyer of model engines.
- Changing the type of fuel or glow plug will always have an effect on the performance and engine settings, which may need to be re-adjusted to suit.
- Changes in humidity, altitude, and temperature will also have an effect on the engine’s performance and settings.

Engine Replacement Parts

Please see your local hobby dealer first. If replacement parts are not available through your dealer, you may order the parts through Megatech Replacement Parts/Tech Support.

- * Phone orders can be placed by calling 201-662-2800
- * Orders can also be mailed to:

Megatech Replacement Parts / Tech Support 8300 Tonnelles Avenue North Bergen, NJ 07047
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- * Or visit Megatech online at www.megatech.com

Radio Trim Adjustments

Steering - Adjust the steering trim knob to keep the truck rolling in a straight line with the steering wheel centered. If the truck requires excessive amounts of trim, check thoroughly for damage or excessive wear in the suspension or steering parts of the truck.

Throttle – The throttle trim adjusts the center point of the throttle servo, allowing you to fine-tune the operation of the transmitter throttle trigger.

Ongoing Maintenance, repair and troubleshooting

Proper care and maintenance of your Tempest Gladiator is crucial to keeping it performing well and operating reliably.

The single most important thing you must do is check the truck thoroughly after each run, to make sure there have been no bent or broken parts. Continuing to drive the Tempest Gladiator with bent or broken parts (knowingly or unknowingly) will cause damage to the truck, present a safety hazard to people and property, and void your warranty. Check **all** screws, fasteners, bolts, and hardware for tightness after each run. Check all running gears, transmission, and drive joints after each run for wear and excessive “play” or looseness.

It is important to thoroughly clean your truck after each time you run it, and remove oil, fuel, and dirt. We recommend Megatech’s MegaWash, a safe and effective spray cleaner.

Important! Never leave any fuel in the truck’s fuel tank or engine! The Nitro fuels used in high performance R/C vehicles contain chemicals that can cause corrosion and damage to the engine. Whenever possible, use up the entire tank of fuel until the engine quits, leaving no fuel in the tank, the fuel tubes, or the engine.

After each session, use a good engine “after-run” oil. Remove the screw at the top of the carburetor air filter and remove the yellow filter cover. With the carburetor barrel fully open (full throttle), put three of four drops of after-run oil into the carburetor, and then replace the filter cover and retaining screw. Pull the engine starter handle three of four times to distribute the oil through the engine. This will provide protection against rust and congealed fuel from clogging the engine.

In addition to the regular checks after each run, periodically check the fasteners, screws, nuts and bolts on the Tempest Gladiator for tightness. Do not over-tighten the screws and fasteners! Where screws are threaded into plastic, simply check periodically for a snug fit. On screws that thread directly into metal, you may remove and re-install the screws using small amounts of thread locking compound (“Loctite”, etc.) to secure fasteners against loosening because of vibration. Taking the time to use thread locking compound once in the beginning can save many hours of re-tightening over the life of your truck.

Should you find that any mechanical or suspension parts are bent or broken, **you must repair or replace them** immediately before operating the Tempest Gladiator again. Very few parts can be safely straightened or readjusted if damaged, and it is far more likely that the parts will need to be replaced. See your local hobby dealer first for replacement parts.

Should you find that any gears, transmission, or drive joints are loose, worn, or have developed excessive play, replace these parts immediately. See your local hobby dealer first for replacement parts, repair, or technical advice on the condition of your truck. If parts are not available through your local hobby dealer, a full line of replacement parts is available through Megatech’s Replacement Parts / Tech Support department at 201-662-2800.

If you experience problems with your Tempest Gladiator, see your local hobby dealer first, or call Megatech’s Tech Support department at 201-662-2800 for assistance. Some common problems and their solutions are:

Radio transmitter LED’s not glowing

Remove lower battery compartment hatch, and re-install new batteries in the correct direction. If the LED power indicator still does not glow when the transmitter is switched on, seek help from your local hobby dealer or

Radio Receiver does not work

Remove the receiver cover, and re-install new batteries in the correct direction. Check for water or fuel in this compartment, and remove all moisture or liquid. Make sure servo connectors are plugged in to the receiver correctly. Make sure battery holder is plugged into receiver correctly. Make sure receiver antenna wire is not cut or missing. Make sure the transmitter is switched on and the LED power indicators are glowing. If the servos still do not function, seek help from your local hobby dealer or Megatech Tech Support.

Engine does not start

Fill fuel tank with fresh fuel, push primer button until fuel is seen flowing from the tank into the carburetor, then push the primer button twice more, and pull the starter handle twice without the glow igniter attached to circulate the fuel. Adjust the high speed and low speed needle valves to the settings shown in the Starting Engine section. Remove the glow plug and inspect the inside for the presence of excess liquid fuel or oil/dirt. Attach a fully charged glow igniter to the glow plug and verify the glow wire is glowing brightly. Replace the glow plug if necessary. Re-install the glow plug and re-start the engine.

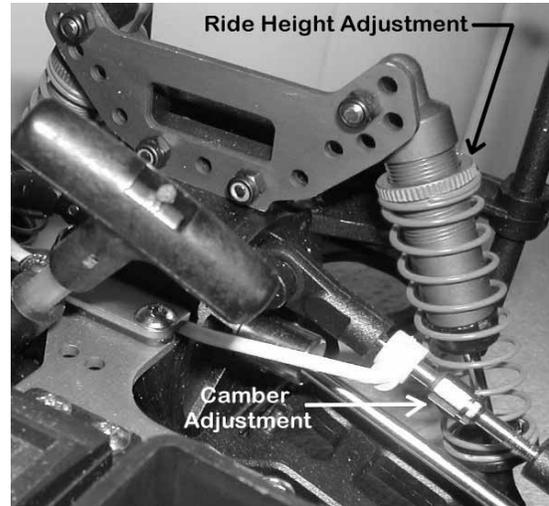
Starter handle will not turn over engine

Remove glow plug, turn truck upside down briefly, and watch for liquid fuel dripping out of the glow plug hole. If liquid fuel drips out, the engine may be “flooded” with too much fuel. Allow all excess fuel to drip from the glow plug hole, re-install glow plug and re-start engine. If starter handle still will not turn engine, remove the glow plug and attempt to turn engine by hand, using the silver knurled ring mounted between the engine and transmission. If engine turns freely, the starter cord assembly has frozen, and you should contact your local hobby dealer for the parts and assistance to replace starter cord assembly. If the engine cannot be turned by hand with the glow plug removed, the engine piston has seized in the cylinder, and the engine must be repaired. Seek help from your local hobby dealer or Megatech Tech Support.

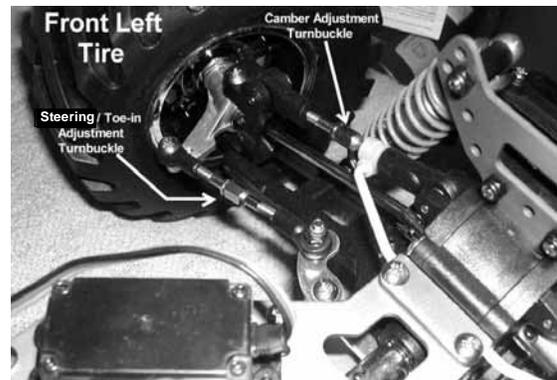
In all cases where you experience any difficulty that cannot be resolved per the above troubleshooting tips, if you have damaged parts, or are uncertain about the condition, safety, or operability of your Tempest Gladiator, seek help from your local hobby dealer or Megatech Tech Support before continuing.

Suspension Adjustments

The Tempest Gladiator was designed with fully adjustable suspension components, allowing adjustments, repairs, and competition tuning. The **steering** and **toe-in** adjustment is a metal turnbuckle located on the 2 steering links. The **camber** adjustment is the metal turnbuckle located on the 4 upper suspension links. Be careful when adjusting the suspension settings on your truck, using a small adjustable open end wrench.



Suspension Adjustment Points For Ride Height and Camber (rear)



Suspension Adjustment Points For Steering, Toe-In, and Camber (front)

Storage

Important! Always remove the used batteries from the transmitter and the receiver box if the truck will be stored for more than a few days. Old batteries leak chemicals and gases over time that can seriously damage your truck's electronic components.

Before storage, use clean paper towels and a degreaser to clean the parts of the truck, remove oil residue, dirt, and grime. Always store your truck in a clean condition, because fuel and oil drips and runs can leave poisonous and flammable materials behind.



Megatech's MegaWash is a convenient spray cleaner that safely cleans fuel residue and dirt from your truck

Never store your truck, fuel, oils, or tools directly on carpet, wood flooring, or on any porous surface. Never store your truck near electrical outlets and wiring, water heaters, stoves, or open flame, or near children and pets. We strongly recommend storing your truck on a non-porous sheet of plastic in its original box, in a garage or outside covered storage.

Competition hop-ups

Always the leader in high performance **competition quality** products, Megatech offers a growing line of hop-ups, racing upgrades, and high performance options. Visit Megatech online at www.megatech.com for the latest available upgrades/hop-ups for your Tempest Gladiator.

Megatech's **Rapid Fire** one touch R/C starting system allows easy, instant electric starting of your M-16 engine, replacing the stock pull starter. Simply hook up a 7.2 volt starting battery, touch the Rapid Fire start button, and your

Tempest Gladiator engine is running. Disconnect the starting battery, and the truck is ready for competition **without** lugging around the extra weight of the battery!



Megatech's Rapid Fire one touch R/C starting system offers convenience without lots of extra weight!

Warranty

Megatech 90 Day Limited Warranty

Megatech warrants this product to be free from original manufacturing defects upon purchase by the consumer. Megatech makes no express or implied claims regarding this product once it has been assembled. This warranty does not cover damage from intentional misuse, abuse, fire, flood, or other damage unrelated to the use of this product for the purpose of which such products are normally intended. This warranty does not cover damage from products used with this item that are not approved for use with this product. The purchaser of this product acknowledges and understands that they alone assume all risk and liability for personal or property damage and/or injury resulting from the buyer's use of this product. Under no circumstances shall Megatech's limits of liability from use of this product exceed USD \$1.00. The express warranties contained above are in lieu of all other warranties, expressed or implied, including but not limited to the warranty of merchantability and/or fitness for a particular purpose, nor shall Megatech, its divisions or assigns be liable for any incidental or consequential damages, costs

or expenses incurred by the purchaser of this product.

This warranty gives you specific legal rights, but other rights that vary from state to state may be available to you.

For a period of **90 Days** from the date of purchase the radio manufacturer will REPAIR OR REPLACE defective equipment covered by this warranty, otherwise the purchaser and/or consumer is responsible for any charges for the repair or replacement of the radio. This warranty does not cover cosmetic damages and damages due to the acts of God, accident, misuse, abuse, negligence, improper installation, or damages caused by alterations by unauthorized persons or entities. This warranty only applies to Megatech products purchased and used in the United States of America, Canada, and Mexico. Batteries, plastic cases and gears are not covered by this warranty.

THIS WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND WHETHER EXPRESS OR IMPLIED. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY. NEITHER MEGATECH NOR THE RADIO MANU-

FACTURER SHALL BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THIS PRODUCT, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow the exclusion or limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.



Megatech International
8300 Tonnelle Ave.
North Bergen, NJ 07047 USA

Replacement Parts / Tech Support 201-662-2800
Fax Orders 201-221-8030
Website <http://www.megatech.com>

Tempest Gladiator Parts List
Stock Number MTC 7805

MTC780204 RADIO BOX
MTC780207 SUSPENSION HINGE PINS 50MM
MTC780212 STEERING LINKS
MTC780218 BRAKE DISC
MTC780220 REAR BUMPER/HANDLE
MTC780223 HUB CARRIERS
MTC780225 GEAR CASE SHELL
MTC780226 GEAR CASE SIDES
MTC780234 100CC QUICK-FILL FUEL TANK
MTC780239 CENTER DIFFERENTIAL DRIVE JOINTS
MTC780243 CENTER DIFFERENTIAL MOUNTS WITH BRAKE CAM
MTC780244 ALUMINUM BRAKE SPACER
MTC780290 FRONT STEERING HUBS
MTC780291 SHOCK MOUNT SCREWS
MTC780293 SUSPENSION HINGE PINS 13.5MM
MTC780294 SUSPENSION HINGE PINS 23MM
MTC780295 COMPLETE DIFFERENTIAL W/ ALUMINUM SPUR & PINION
MTC780296 DIFFERENTIAL JOINT
MTC780297 HEX DRIVE WASHERS
MTC780298 WHEEL SHAFT
MTC780301 BRAKE ACTUATOR CAM
MTC780303 ALUMINUM RADIO TRAY POST
MTC780304 CENTER DRIVE SHAFTS
MTC780305 REAR HUBS
MTC780306 BRAKE PADS
MTC780308 MIDDLE GEAR ASSEMBLY
MTC780309 42T MIDDLE DIFFERENTIAL GEAR
MTC780310 2 SPEED ASSEMBLY
MTC780501 FRONT BUMPER
MTC780502 SHOCK ABSORBERS
MTC780503 TITANIUM SHOCK TOWER
MTC780504 3MM BALL END
MTC780505 SUSPENSION ARMS
MTC780506 UNIVERSAL DOGBONE
MTC780507 SERVO SAVER SET
MTC780508 TITANIUM RADIO PLATE
MTC780509 SHOCK HUB
MTC780510 ROD HEAD SET
MTC780511 STEERING ROD
MTC780512 SWING SHAFT
MTC780513 BODY SUPPORT
MTC780514 5 X 10 X 4 METAL BUSHING
MTC780516 STEERING TIE RODS
MTC780517 8 X 14 X 4 BALL BEARING
MTC780519 CENTER DIFF. GEAR ASS'Y
MTC780520 REAR WING MOUNT
MTC780521 KINGPIN SCREWS
MTC780522 TITANIUM MAIN CHASSIS
MTC780523 ALUMINUM RACING WHEELS
MTC780524 FRONT SHOCK MOUNT



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