

WICKED ANGELO

OWNERS MANUAL



Megatech International - 8300 Tonnelie Avenue
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www.megatech.com

NITRO POWERED HIGH-SPEED MODIFIED VEE HULL OFFSHORE BOAT

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If you have questions about operating or installing your new Megatech product, or if you are missing parts... Please Call Megatech First!

DO NOT RETURN THIS PRODUCT TO THE STORE

**Call our Customer Service Department at:
(201)662-2800**

10:00am - 5pm, EST Monday through Friday (except holidays)

Technical assistance is also available on-line at www.megatech.com
or by e-mail to questions@megatech.com

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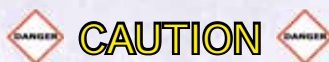
INTRODUCTION

Thank you for purchasing the new Wicked Angel Nitro boat. This manual will instruct you to operate and maintain your new boat.

Please read the entire owners manual, even if you are an experienced R/C modeler, because this boat has very different engine and radio settings from other models.

If all of the precautions are followed, and your Wicked Angel is operated in a safe and responsible manner, it is an exciting, safe and fun hobby for you and all who watch.

Please examine the Wicked Angel carefully and read ALL instructions thoroughly before attempting to operate this boat. Your Wicked Angel **CANNOT** be returned or exchanged after it has been run, or after any of the parts bags have been opened.



THIS BOAT IS NOT A TOY AND MUST BE OPERATED BY AN ADULT.

This boat is a nitro-powered high-speed radio control model and must be handled properly to avoid serious injury. The propeller turns at extremely high speeds and is very sharp. The propeller has the potential to cause severe injury if any body part comes in contact with it, whether it is moving or not. As the operator of the boat, you must see to it that all instructions and precautions are followed for safety.

OPERATING INSTRUCTIONS

This manual includes steps for engine and radio system setup, as well as a tuning guide to help you achieve the safest and fastest speed obtainable.

SMART BOATING TIPS

1. The Wicked Angel is not intended for use by children without responsible adult supervision.
2. Always use fresh alkaline batteries for the transmitter and receiver. Operating your Wicked Angel with weak transmitter or receiver batteries will cause the boat to run out of range, resulting in loss of control and possible injury.
3. Always use extreme care when handling the Wicked Angel. Keep the propeller away from yourself and any loose objects.
4. Never run the Wicked Angel at night.
5. Never run the Wicked Angel in water where people are swimming, wading or fishing.
6. The Wicked Angel is radio controlled and, therefore, subject to radio interference from sources outside your control. Radio interference may cause momentary loss of signal and erratic control. Always leave a safe margin of distance around your boat to prevent collision!
7. Never reach underneath the rear of the boat, as the propeller could spin unexpectedly and cause injury.
8. Make sure the body of water you intend to operate the boat in is calm, free from debris, at least 2 feet deep, and has an easy area to launch your boat.
9. We do not recommend running your boat in salt water, as this will cause corrosion and premature failure. If you do run your boat in salt water, clean off all of the salt water with fresh water and oil all moving parts. Flush the engine cooling system with fresh water.
10. Like an automobile engine, the Wicked Angel's engine emits poisonous carbon monoxide gas. Always operate outdoors and in a well ventilated area
11. The engine and exhaust system will get very hot during use. Do not touch these parts, especially when refueling.

REQUIRED RUNNING EQUIPMENT

To operate your Wicked Angel, you will need the following items, which should be available from your local hobby shop.

1. 12 AA alkaline batteries*
2. Glow plug igniter*
3. Glow plug wrench*
4. 25% or higher nitro boat or car fuel*
5. Fuel-filler bottle*
6. Silicone grease (propeller shaft lubrication)
7. Phillips and flat head screw drivers

* **Recommended To Use:** Megatech's High Performance Nitro Package (Pictured right). Ask your local hobby dealer.



THE RADIO SYSTEM

The Wicked Angel comes with a two-channel radio completely installed. The transmitter has one channel for digital proportional steering and one channel for proportional throttle control. The receiver, two servos and receiver battery pack sit in the sealed waterproof radio box. Before running the boat, always turn on the transmitter first and then the receiver. When finished running your boat for the day, always turn the receiver off first, then the transmitter.

Always check your controls and perform a range test before using. Simply make sure that the boat's steering and throttle mechanisms respond quickly and smoothly to the controller. To range test, have a friend hold the boat (with propeller safely away from their body and loose objects) while you walk away from them as far as the maximum range you plan to operate the boat, then test the controls again. Do not attempt to run the boat if the radio is functioning incorrectly.

The proportional steering and throttle allow you to control how much throttle you give and how sharply you want to turn. Adjust the throttle trim (**Diagram A**) so that the boat simply idles when the throttle is in the neutral position. Adjust the steering trim (**Diagram A**) until the Wicked Angel travels in a straight line when the steering control is in the neutral position. (See steps 5 & 6 for further details)



Diagram A.



NEVER TURN THE TRANSMITTER OFF WHILE OPERATING THE BOAT. THIS WILL CAUSE THE BOAT TO RUN OUT OF CONTROL AND CAUSE A DANGEROUS CONDITION.

FUEL

Proper fuel is critical to optimum engine performance. Poor performance, hard starting and excessive engine wear may result from using improper fuels. Use a high-quality blended boat fuel which contains *BOTH* synthetic and castor oils. Although Megatech can not guarantee the quality of other manufacturers' fuels, Megatech has tested the following fuels and found them to be satisfactory for use in the Wicked Angel engine: Megatech's High Velocity Fuel and Power Master's 30% Boat Fuel.

CAUTION: ALWAYS FOLLOW THE PRECAUTIONS PRINTED ON THE FUEL CONTAINER. KEEP IT AWAY FROM OPEN FLAMES AND OUT OF REACH OF CHILDREN. FUEL MIXTURES ARE FLAMMABLE AND POISONOUS.

PREPARATION FOR YOUR FIRST RUN

1. Assemble boat stand as shown (**Figure 1**) and always have the boat on the stand when not in use or when starting the engine. Be sure the propeller is clear of all surfaces.



Figure 1.

2. Transmitter batteries – Install the 8 AA batteries as illustrated inside the transmitter. Turn on the switch and the LED lights should go on. If not, go back and check that the batteries have a full charge and are installed correctly. Always use fresh batteries to assure full radio signal.
3. The receiver battery box is inside the sealed radio box. Open it up and install the 4 AA batteries as shown (**Figure 2**). Then make sure the radio box is properly shut and sealed using the supplied waterproof tape to keep water out (**Figure 3**).

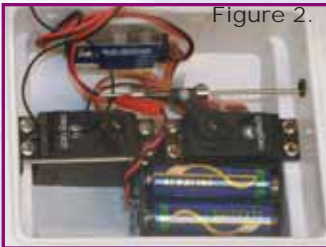


Figure 2.



Figure 3.

4. Turn the transmitter on first, then switch on the radio box.
5. Adjust the transmitter's steering trim so as to center the rudder (**Figure 4**) and the throttle trim to have the throttle setting closed on the carburetor (**Figure 5**).

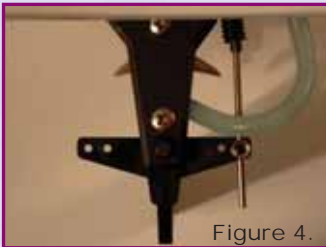


Figure 4.

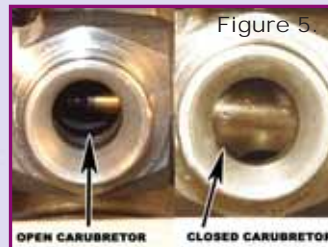


Figure 5.

6. Filling the fuel tank: Hold open the fueling cap and add fuel until it reaches the top of the fuel tank (**Figure 6**). If any fuel spills, wipe clean before starting the engine.



Figure 6.

7. The Wicked Angel's engine and carburetor have been pre-set by Megatech for starting. Do not adjust any needle setting until after the engine has been broken in (see steps 8-16).
8. Starting the engine: Push the primer pump on the fuel tank 6 to 10 times or until fuel has run through the fuel line to the carburetor (**Figure 7**).
9. Prime engine by pulling the starter cord 3 times using quick short pulls without the glow igniter being attached. Hold boat securely on either side of the engine where the motor mounts attach to the top of the hull (**Figure 8**).
10. Attach a charged glow igniter to the glow plug (**Figure 9**). While holding boat securely, pull the starter cord in quick short pulls until the engine starts.



Figure 7.



Figure 8.



Figure 9.

11. Allow the engine to warm up for 30 seconds and remove the glow igniter. Slowly squeeze the throttle control on your transmitter to increase the speed and clean out the excess fuel from startup.
12. Do not operate the engine at high RPM's for an extended time or run the engine for more than 1 minute while the boat is out of the water. This will cause overheating.
13. If the engine will not accelerate without dying, the high-speed fuel mixture is too rich. Turn the high-speed fuel mixture needle clockwise one quarter of a turn (**Figure 10**). Repeat the startup and acceleration test of the throttle. Once the engine can accelerate without dying, the Wicked Angel is ready to be put into the water. Install the top cover securely with the included hatch clips before putting the boat in the water.

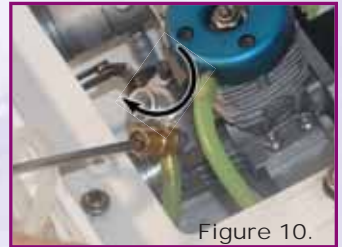


Figure 10.

14. Place the boat in at least two feet of water and accelerate slowly until at full throttle. The Wicked Angel should come up on plane and accelerate strongly after about 25 feet. The steering will become very responsive once the boat is up on plane. Use Caution when turning due to the high speed of this boat.
15. The water-cooling system only functions when the boat is at speed or planing. For this reason, do not allow the boat to idle for more than a minute or the engine could overheat. Always check that water is flowing out of the exit tube on the port (left) side of the boat (**Figure 11**).



Figure 11.

16. **Breaking in the engine:** The engine must be broken in properly to achieve optimum performance and ensure the engine's longevity. During this break-in period, your engine may experience stalling, poor performance or fouled glow plugs. These are normal occurrences with new engines. Just keep running the engine between $\frac{1}{2}$ and $\frac{3}{4}$ throttle and after about three tanks of fuel, your engine will have consistent performance.
17. **Final fuel mixture adjustment:** After break-in, adjustments can be made to the high and low mixture settings to achieve optimum performance. High-speed needle setting - $2\frac{1}{4}$ to $2\frac{3}{4}$ turns out (**Figure 12**). Low speed needle setting - 2 to $2\frac{1}{2}$ turns out (**Figure 13**). These settings will vary due to environmental conditions such as elevation, temperature as well as the type of fuels used.



Figure 12.



Figure 13.

18. If the engine stalls when the glow plug igniter is removed, this usually indicates that the glow plug is defective or the high-speed needle setting is too rich. First determine if the glow plug is good by removing it from the engine and connecting it to a glow plug igniter to see if it glows bright orange. If the glow plug is good, adjust the high-speed fuel mixture needle (*refer to step 13*). If your carburetor has been properly adjusted for optimum performance and your engine stalls, it is always a bad glow plug.
19. **Final testing and optimum running:** The Wicked Angel is an extremely fast nitro boat and will outperform any boat in its class. Always check *all* fittings, screws and mounting hardware to ensure that they have not loosened due to the high RPM of the engine and vibration.
20. To shut off your Wicked Angel, either pinch closed the fuel line until the engine shuts off or close off the exhaust tube until the engine shuts off.

DRIVING THE WICKED ANGEL

The Wicked Angel weighs less and is more agile than many comparably sized, nitro-boats. Because of its lighter weight, it is faster and rides higher out of the water. Operate the controls smoothly and carefully to avoid spinouts as you turn. Exercise caution in rough, choppy water and in high winds. We recommend driving your Wicked Angel on calm days (winds less than 15 MPH). While its modified “deep-v” hull design offers great stability, the Wicked Angel could still spin out or flip if the wind catches it too high out of the water or if it hits a wave at an odd angle.

You will find the steering of your Wicked Angel is very responsive. Take extra care in driving until you become familiar with its handling characteristics. If the boat pulls to one side, adjust the steering trim on the transmitter until the boat travels in a straight line. Constant steering input may be required to maintain a straight course in crosswinds.

Immediately reduce the throttle if the Wicked Angel appears to be unstable or starts “chine walking” (*This is when the hull sways from side-to-side while running*). Always reduce the throttle when approaching a turn, especially in rough water.

Cavitation occurs when the propeller loses “bite” in the water and makes the boat slow down or come off of plane. If this occurs, slow the boat down and then gradually advance the throttle to bring the boat back up to planing speed. This also occurs if there is debris on the propeller or rudder. Check the prop and rudder for any nicks or chips, as this will reduce the overall performance of your boat.

MAINTENANCE

Keep the Wicked Angel clean of dirt and oil. This will normally accumulate due to the fuel and excess oil coming from the exhaust. Do not use any solvents other than denatured alcohol or soapy water, otherwise the finish and decals may be damaged. Do not allow water to enter the engine or radio compartments. This can cause loss of radio control and corrosion. Frequently re-oil the bushings in the drive housing and all linkages attached to the engine. This can be done by putting silicone grease into the prop-shaft oiler (**see photo**). If the radio system becomes wet, do not use your boat until all components have been cleaned, dried and then range-tested to ensure good radio reception. Detailing and waxing of the hull can be done with any polish that is approved for use with plastics. Always test a small area first to ensure success. Remember, *never* store your Wicked Angel with unused fuel still in the tank.



FINAL THOUGHTS

The Megatech Wicked Angel can be characterized as pure offshore racing excitement in modeling form. With proper use and maintenance your Wicked Angel will provide years of enjoyment. Always remember to follow all safety precautions when operating your boat. Enjoy!

LIMITED WARRANTY

Megatech International guarantees the parts included in this kit to be free from defects that exist at the time of purchase for a period of 90 days from date of purchase. If any component of this product fails to function properly due to defects in materials or manufacturing process during this 90-day period, the manufacturer's obligations are limited and manufacturer can choose to either repair the defective part or replace it.

This warranty does not cover any damage caused by use, misuse, alteration, accident, or neglect, nor does it cover normal wear and tear of the product. This warranty is void if the part/product in question has been altered or modified or repaired by anyone other than Megatech International or an authorized agent.

Under no circumstances will Megatech International or any of its representatives be held liable for injury to persons or property damage resulting from assembly or use of the product. Megatech is not liable if any outside radio frequencies interfere with the product's frequency causing loss of control. Megatech International will not be held liable for any personal injury or property damage resulting from an out-of-control model caused by use or misuse of the product.


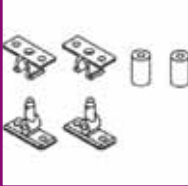



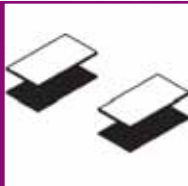

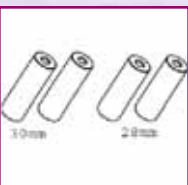

Megatech International expressly excludes any and all express warranties not specifically stated here and all implied warranties of merchantability and fitness for a particular purpose. There are no warranties which extend beyond the description of the warranties contained herein.

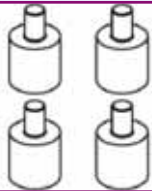

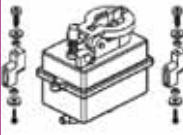












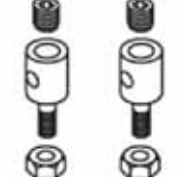




Contact Megatech International before returning any part/product that is defective according to the limitations listed above. Please be sure to pack the returned item(s) carefully and insure it as this warranty does not cover loss or damage during transit.

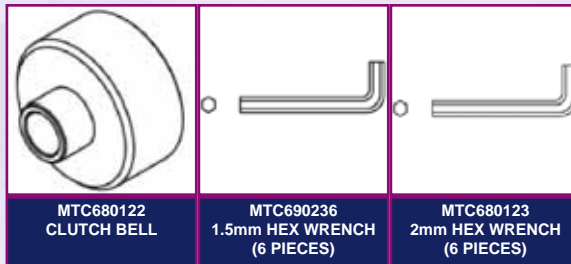
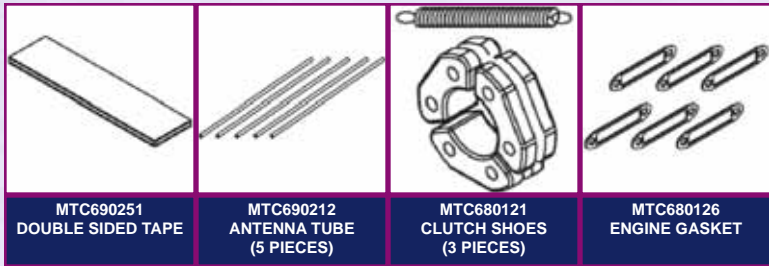
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DISCLAIMER

Megatech Corporation 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 and any accessory required to operate this product.

			
MTC690214 BOAT STAND	MTC690215 RUDDER SET	MTC690223 HATCH HOLDER	MTC690219 TRIM TAB
			
MTC690220 SERVO MOUNT	MTC690222 WING	MTC690226 WATER PROOF BOOTS	MTC690229 DRIVE COLLARS
			
MTC690232 HATCH CLIPS (6 PIECES)	MTC690233 BUSHINGS (4 PIECES)	MTC690252 WATERPROOF PVC TAPE	MTC690253 MAGIC TAPE
			
MTC690224 CABIN HATCH	MTC690201 RECEIVER BOX	MTC690225 MAIN HULL	MTC680101 ENGINE MOUNTS (2 PIECES)
			
MTC680102 ALUMINUM ENGINE MOUNT SLEEVE SET	MTC680103 ALUMINUM REINFORCED PLATE	MTC690227 DRIVE SHAFT	MTC690228 STERN TUBE

			
<p>MTC680104 ENGINE SHOCK HOLDERS (4 PCs)</p>	<p>MTC680105 SHOCK PLATES (2 PIECES)</p>	<p>MTC680106 75CC FUEL TANK</p>	<p>MTC680107 THROTTLE RETURN SET</p>
			
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<p>MTC680114 SILICONE EXHAUST DEFLECTOR</p>	<p>MTC690211 75cm WATER COOLING FUEL TUBE</p>	<p>MTC680116 QUICK LINKS (2 PIECES)</p>	<p>MTC690254 PUSH ROD CONNECTORS (2PCs)</p>
			
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MTC680124 COMPLETE SCREW & HARDWARE SET (INCLUDES THE FOLLOWING ITEMS)

Set Screw 3x3	6 pieces
Set Screw 4x4	6 pieces
Taping Screw 2x8	6 pieces
Taping Screw 3x8	6 pieces
Taping Screw 3x12	6 pieces
Taping Screw 3x10	6 pieces
Bind Screw 3x8	6 pieces
Bind Screw 3x25	6 pieces
Nut 3mm	6 pieces
Washer 2x5	6 pieces
Washer 3mm	6 pieces
Washer 5mm	6 pieces
Nylon Nut 2mm	10 pieces
Nylon Nut 3mm	6 pieces
O-Ring	6 pieces
Spring Washer 3.5mm	6 pieces
Hex Screw	6 pieces
Hex Screw 4-12	6 pieces
Hex Screw 4-6	6 pieces
E-Rings (E-7.0)	6 pieces
E-Rings (E-3.0)	6 pieces
Drive Washer	1 piece



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