



Before Building

We want the assembly and operation of this airboat to be a success so BEFORE removing any parts from the parts bags, please read this manual thoroughly to familiarize yourself with the model. If for any reason you think this model is not for you, return it to your local dealer immediately. PLEASE NOTE: Your hobby dealer cannot accept a return on any model after assembly has begun.

Warranty

AquaCraft™ will warrant this kit for 90 days after the date of purchase from defects in materials or workmanship. **AquaCraft** will either repair or replace, at no charge, the incorrectly made part.

Make sure you save the receipt or invoice you were given when you bought your model! It is your proof of purchase and we must see it before we can honor the warranty.

To return your Air Force for repairs covered under warranty you should send your boat to:

Hobby Services
1610 Interstate Drive
Champaign, Illinois 61822
Attn: Service Department
Phone: (217) 398-0007 9:00 am - 5:00 pm Central Time M-F
E-mail: hobbyservices@hobbico.com

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INTRODUCTION

Thank you for purchasing the AquaCraft Air Force™ by Hobbico®! This manual contains the instructions you need to safely build, operate, and maintain your nitro R/C airboat. Read over this manual thoroughly before operating the Air Force.

SAFETY PRECAUTIONS

- Use care to avoid touching the propeller anytime the engine is running. Pay equally close attention to items such as loose clothing, shirt sleeves, ties, scarves, long hair or loose objects such as screwdrivers or pencils that may fall out of shirt or jacket pockets on to the spinning prop. If your fingers, hands, etc. come in contact with the spinning propeller, you may be severely injured. **Make all engine adjustments from behind the rotating propeller.**
- Because of the speed and mass of this boat, it is capable of inflicting property damage and severe personal injury if a collision occurs. Never run this boat in the presence of swimmers or where the possibility of collision with people or property exists.
- This boat is controlled by radio signals, which are subject to possible interference from other R/C transmitters, paging systems or other electrical noise. Before turning your radio on, make sure no one else in the area is operating a radio on the same frequency (channel).

- A weakened or loose propeller may disintegrate or be thrown off. Since propeller tip speeds with powerful engines may exceed 600 feet per second, it must be understood that such a failure can result in serious injury.
- Model engine fuel is poisonous. Do not allow it to come into contact with the eyes or mouth. **Always store fuel in a clearly marked container and out of the reach of children.**
- Model engine fuel is highly flammable. Keep it away from open flame, excessive heat, sources of sparks, or anything else that might ignite it. **Do not smoke or allow anyone else to smoke** in close proximity to open fuel. Make sure that fuel lines are in good condition so that fuel will not leak onto a hot engine causing a fire.
- Never operate your engine in an enclosed space. Model engines, like automobile engines, exhaust deadly carbon monoxide. **Run your engine only in an open area.**
- Model engines generate considerable heat. Do not touch any part of your engine until it has cooled. Touching the muffler, cylinder head, or exhaust header may result in a serious burn.
- Use safety glasses when starting or running engines. The propeller may throw loose material such as sand or gravel into your face.
- Use a “safety stick” or electric starter to start the engine. Do not use your fingers to flip the propeller. Make certain that the glow plug clip or connector is securely in place so that it does not pop off or otherwise get into the running propeller.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

HELPFUL HINTS

- Avoid working over a deep pile carpet. If you drop a small part or screw, it will be difficult to find.
- Place a mat or towel over your work surface. This will prevent parts from rolling off and will protect the work surface.
- Avoid running the boat in cold weather. The hull and other plastic parts can become brittle at low temperatures. In addition, grease and oil become thick, causing premature wear and poor performance.
- Test fit all parts before attaching them permanently.

REPAIR SERVICE

Repair service is available anytime.

After the 90-day warranty, you can still have your Air Force repaired for a small charge by the experts at AquaCraft's authorized repair facility, **Hobby Services**, at the address listed on the front page of this manual.

To speed up the repair process, please follow the instructions as listed below.

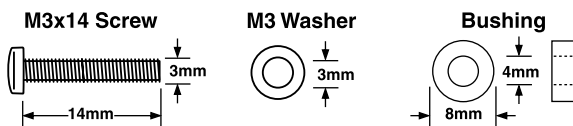
1. Under all circumstances return the **ENTIRE** system; boat and radio.
2. Make sure the transmitter is turned off, all **batteries are removed and fuel is drained** from the tank.
3. Send written instructions which include: a list of all items returned, a **THOROUGH** explanation of the problem, the service needed and your phone number during the day. If you expect the repair to be covered under warranty, be sure to include a proof-of-purchase date (your store receipt or purchase invoice).
4. Also be sure to send your full return address.

SPECIFICATION & DESCRIPTION CHANGES

All pictures, descriptions, and specifications found in this instruction manual are subject to change without notice. AquaCraft maintains no responsibility for inadvertent errors in this manual.

SCREW INFORMATION

Do not use too much force when tightening self-tapping screws into plastic or fiberglass. Over tightening will cause the threads in the plastic to strip. We recommend that you stop turning a self-tapping screw once you feel some resistance as the head of the screw comes in contact with the plastic. Do not use powered screwdrivers when assembling this kit. They tend to over tighten the screws. Do not use thread-locking compound on self-tapping screws. The thread-locking compound may damage the plastic. **IMPORTANT:** Use thread lock on any fastener that is threaded into metal or fastened with a nut. Vibration from the engine will cause the screws to loosen if thread-locking compound is not used.



BOAT TERMINOLOGY

BOW: The front of the boat

STERN: The back of the boat

PORT: This is the left side of the boat when aboard and facing the front (bow).

STARBOARD: This is the right side of the boat when aboard and facing the front (bow).

HULL: The body of the boat.

DECK: The top of the boat

REQUIRED FIELD EQUIPMENT

- HCAP2520 Hot Shot™ 2 Glow starter
- HCAP3335 Safety Stick Engine Starter
- HCAP3015 Hand crank fuel pump
- Fuel (10-20% nitromethane with at least 18% lubricant)

Optional Items:

- HCAP3200 Torqmaster™ 90 Deluxe Electric Starter
- HCAP0800 Torqmaster Hobby Battery (12 volt, 7 Ah)
- HCAP0200 Charger for Torqmaster Battery
- HCAP3105 Top Fueler™ 6/12V Electric Fuel Pump

Other Useful Items to Have on Hand:

- APCQ1108 11 x 8 Propellers
- OSMG2691 #8 Standard long glow plugs
- GPMQ4131 Fuel tubing
- HCAQ2000 #32 Rubber bands
- HCAP3000 After Run Engine Oil

TOOLS YOU WILL NEED

- Phillips head screwdriver (HCAR1022)
- Thin CA (GPMR6002)
- 4-way wrench (HCAP2550)
- Needle-nose pliers (HCAR0625)
- Adjustable wrench or 5.5mm wrench
- 2mm drill bit (pre-built version only)
- 3mm drill bit (pre-built version only)

FINISHING THE READY-TO-RUN AIR FORCE

Note: If you have the prebuilt version, proceed to page 6.

FINAL ASSEMBLY

Engine and Propeller Installation



❑ 1. Looking down at the top (deck) of the hull, remove the four large mounting screws with washers located toward the rear of the hull (stern).

❑ 2. Place the engine pod assembly onto the hull lining up the four holes and making sure that the engine points forward, toward the front of the hull (bow). The engine will appear to point slightly to the starboard side (right). This is done deliberately to counter the torque of the engine. Check the alignment by looking down on the deck and engine from overhead.



❑ 3. Install the four large mounting screws and washers. Tighten them completely to make sure that the engine pod is securely fastened to the hull.

❑ 4. Locate the spinner assembly and propeller. Remove the propeller (prop) nut and washer from the crankshaft of the engine.

❑ 5. Separate the spinner assembly by removing the two small self-tapping screws.



❑ 6. Place the spinner backplate onto the crankshaft so that it rests against the drive washer.



❑ 7. Place the propeller onto the crankshaft so that the blades rest against the alignment pegs of the backplate and replace the prop washer.



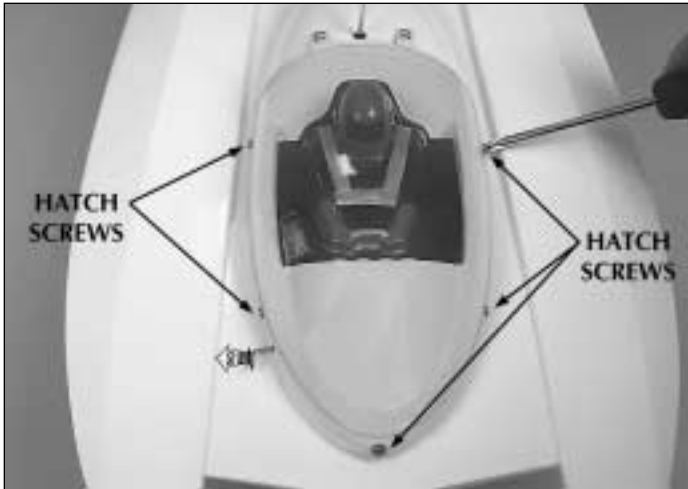
❑ 8. Replace the prop nut. **IMPORTANT: Tighten the prop nut firmly.**



❑ 9. Place the spinner cone over the prop so that the blades of the prop fit into the notches of the cone. Replace the two spinner assembly screws. The cone should sit flush against the

backplate. If you see a gap, check to make sure that the prop is installed correctly.

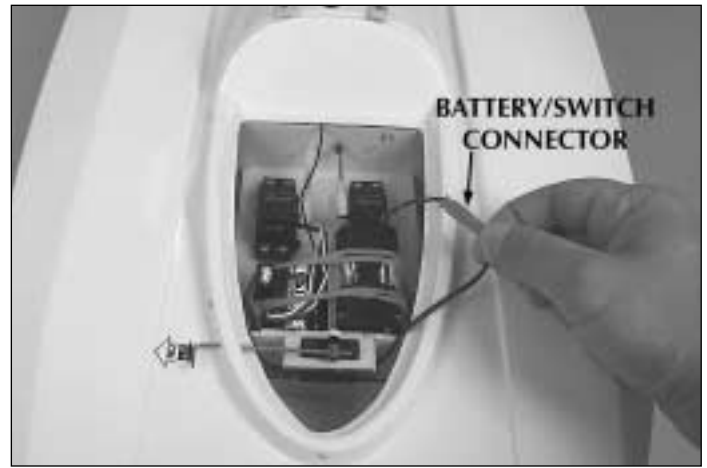
Installation of Batteries



❑ 1. Remove the five hatch screws and lift the canopy assembly from the deck.



❑ 2. Remove the battery box. **Do not cut the rubber bands.**

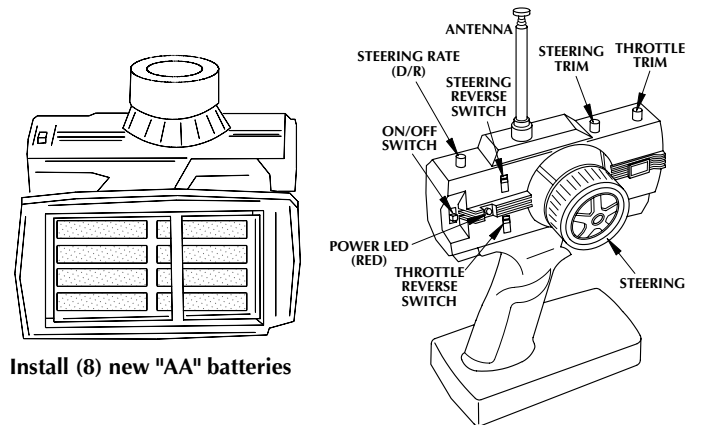


❑ 3. Install four new “AA” batteries into the battery box and re-install the battery box into the boat. There is hook and loop material provided with the model to make your battery box extra secure. Make sure to plug the battery box connector into the switch connector.

❑ 4. Replace the canopy and secure it with the five hatch screws.

Transmitter Assembly

❑ 1. Remove the transmitter antenna from the parts bag and screw it into the top of the transmitter as shown. To ensure that the antenna is attached, lightly pull on the base of the antenna. If it slides out, it is not installed properly.



Install (8) new "AA" batteries

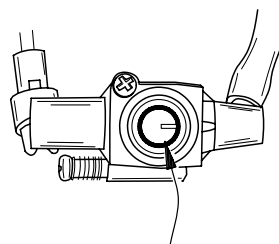
❑ 2. Slide off the battery door on the bottom of the transmitter. Install eight new “AA” batteries into the transmitter. Re-install the battery door onto the bottom of the transmitter.

❑ 3. Turn the transmitter on using the switch on the front. The red LED light next to the on/off switch should light up. If the LED does not light up, turn the transmitter off and check to make sure that the batteries are installed properly. **If you see a flashing LED, the batteries are low and need to be replaced.**

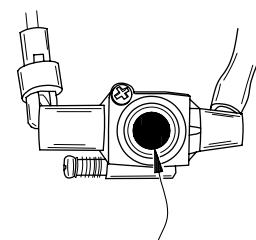
Check the Radio System:

- Pull the on/off switch located on the boat to the “ON” position.

- Standing behind the boat with both the vessel and transmitter powered up, rotate the wheel to the left. The back of the rudder should move towards the left. Move the wheel to the right. The back of the rudder should move towards the right. If this is not the case, simply move the steering servo reverse switch to the other position.
- Use the knob marked steering rate D/R to adjust the amount of rudder throw. Turning the knob clockwise increases the amount of steering while turning the knob counterclockwise decreases the amount of steering. **Too much steering can cause the air Force to flip over.**



Carburetor Fully Open



Carburetor Closed

- Squeeze the trigger on the transmitter; this should open the carburetor. For full stop, pushing the trigger forward should close the carburetor completely.
- Your Airforce Airboat is now ready for action. Go to page 9 for information on running and breaking in your engine.

FINISHING THE PRE-BUILT AIR FORCE

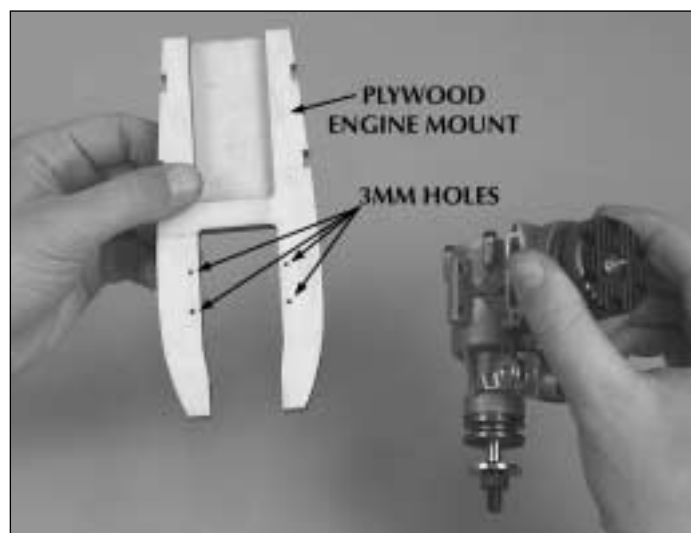
ADDITIONAL REQUIRED ITEMS

- .40 – .46 size engine.
- 2-channel radio system w/ two servos

ENGINE POD ASSEMBLY & INSTALLATION



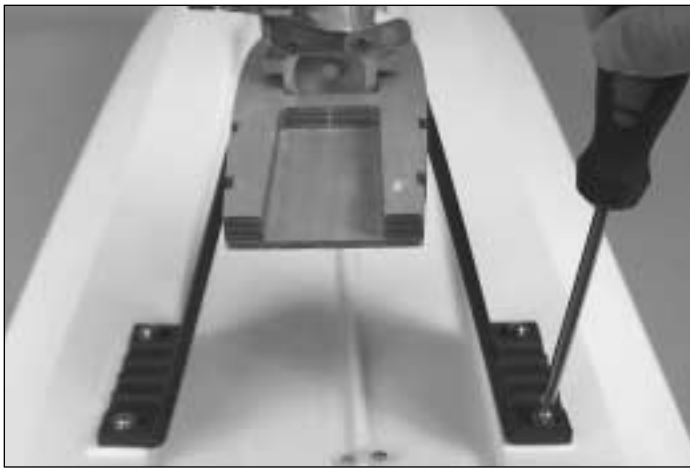
1. Remove your engine's upper right backplate screw as shown, to install the metal pushrod guide bracket.



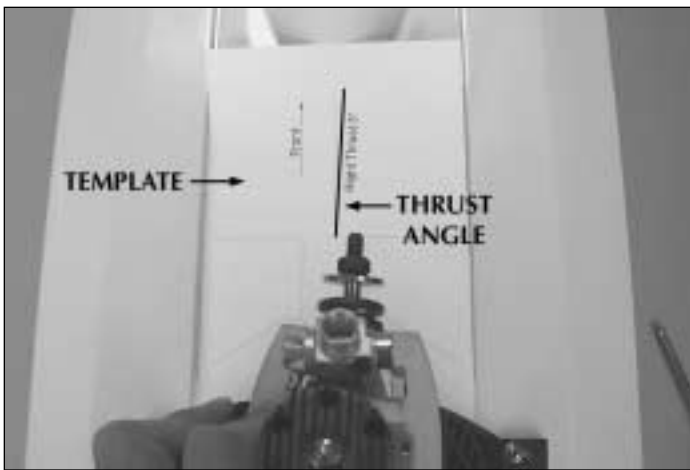
2. Place your engine on the plywood engine mount so that the drive washer extends 4mm [1/8"] beyond the front edge of the engine mount plate. After removing the engine, mark and drill the mounting holes using a 3mm drill bit.



3. Install the engine pod supports with the 4 x 20mm screws and 4mm washers but leave them a little loose so that the supports can be adjusted to determine the proper width for your engine.



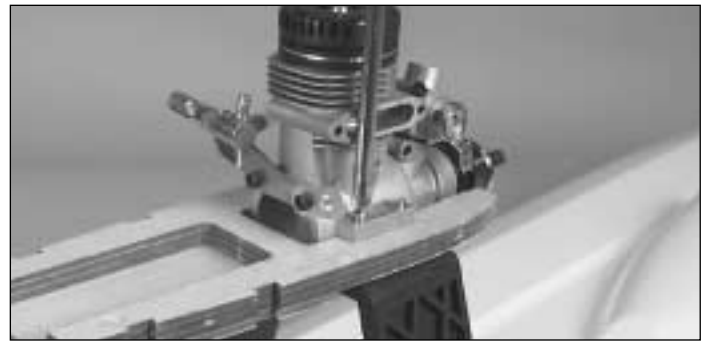
❑ 4. Test fit the engine and engine mount to determine the proper width of the supports. Then tighten the 4 x 20mm screws.



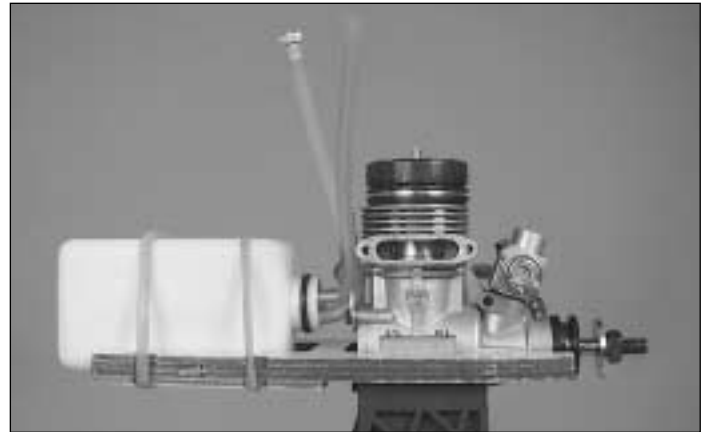
❑ 5. Cut out the engine mounting template (on page 15) and place it on the deck in front of the engine pod supports. This will help to determine the proper thrust angle. There will be approximately 3° of right thrust to counter the torque of the engine. Place the engine and engine mount atop the pod supports and line up the crankshaft with the “right thrust” line on the template.



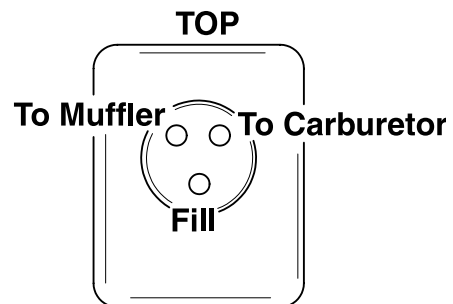
❑ 6. Use a drill bit to mark the supports. Using a 3mm drill bit, drill the holes for the engine pod.



❑ 7. Insert the four 3 x 27mm screws (with washers) and secure the assembly with 3mm locknuts.



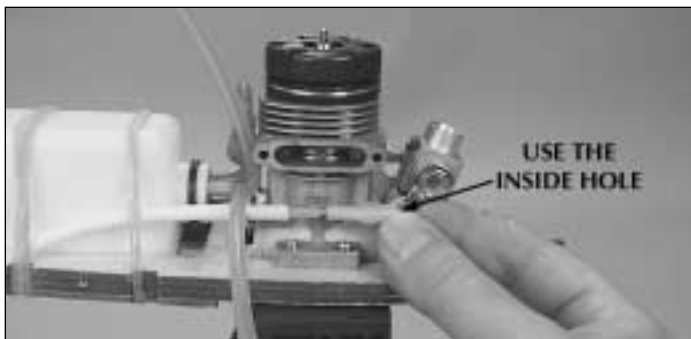
❑ 8. Position the fuel tank directly behind the engine. Hold it in place with rubber bands. Leave enough space for the fuel tubing.



❑ 9. Attach the required fuel line to the carburetor. The muffler (pressure) line and fill line will be routed through the cowl later.



❑ 10. Route the throttle pushrod cable up through the hole located at the rear of the engine mount and through the metal pushrod guide bracket.



❑ 11. Screw the clevis onto the throttle pushrod and attach it to the inside hole of the throttle lever.



❑ 12. Finish the throttle cable installation by placing a couple of drops of thin CA where the cable goes through the engine mounting plate.

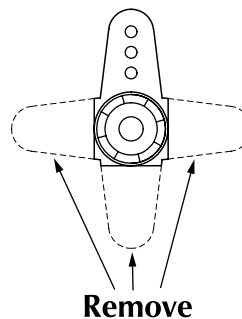
❑ 13. The engine cowl has been pre-cut but you may have to make modifications based upon which engine you are installing. Next, place the cowl over the engine and secure it to the plywood using the four 2.5 x 8mm panhead self-tapping screws.



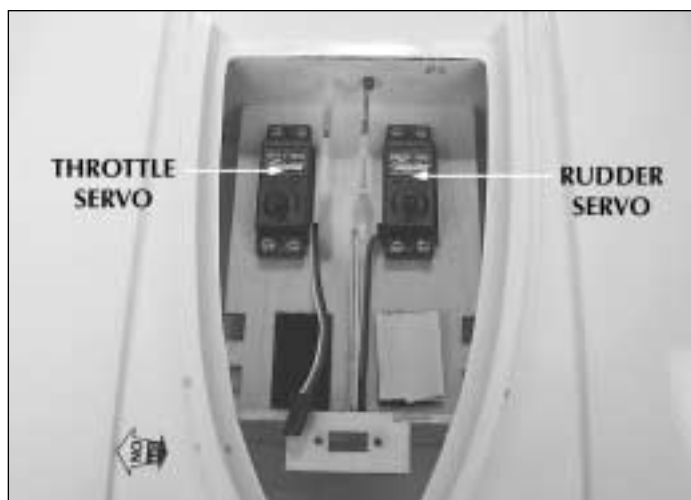
❑ 14. Attach the muffer.

Refer to page 4 for spinner and prop installation.

INSTALL THE SERVOS



❑ 1. Cut two X-shaped servo arms as shown. This will cut down the chances of any radio wiring getting tangled in the radio compartment.



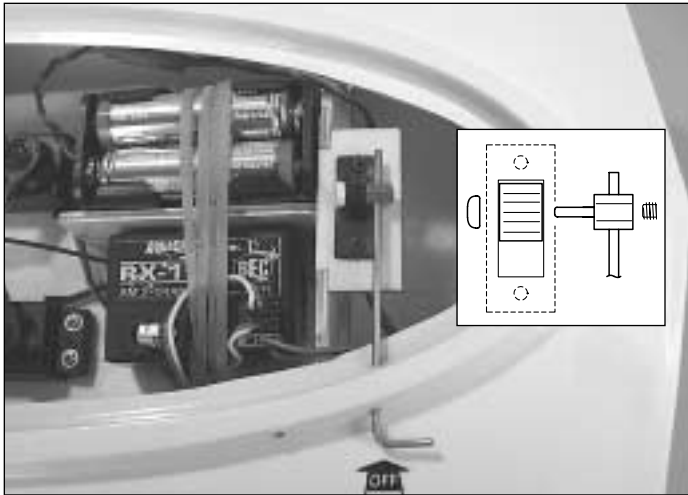
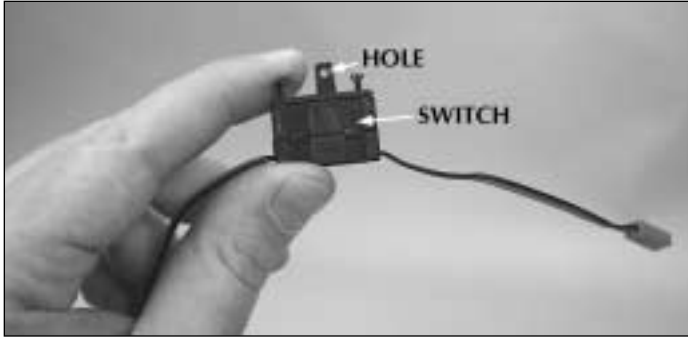
❑ 2. Install the throttle and rudder servos with rubber grommets and mounting screws.

❑ 3. Center the servos as indicated in the radio system instructions.



❑ 4. Attach the servo arms and screws to the servos and attach the throttle and steering linkages as shown.

INSTALL THE RADIO GEAR



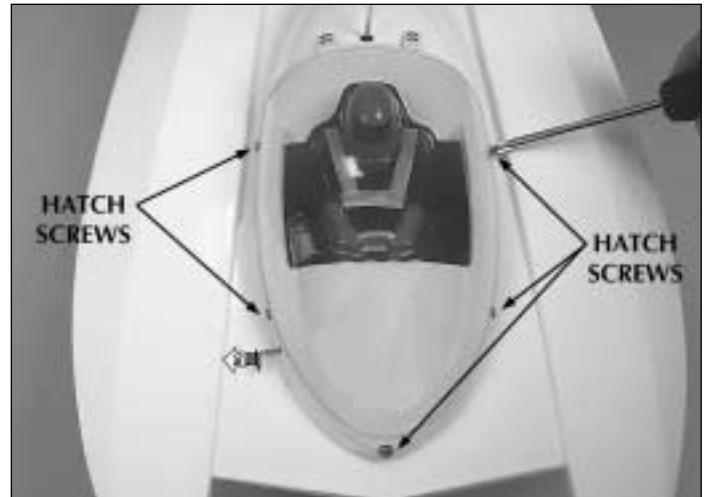
- ❑ 1. If your radio system's on/off switch has a hole through the side, attach the exterior switch hardware as shown. The battery box and receiver are held in place with #32 rubber bands. Refer to your radio system's instruction manual for proper radio operation.



- ❑ 2. The receiver antenna should be routed through the small hole located at the rear of the radio compartment. The

easiest way to accomplish this task is to snake a piece of thin wire through the hole first and then attach the antenna wire to the thin wire. Now gently pull it through. Route the antenna wire through the antenna tube. Insert the antenna tube into the grommet, securing it into place.

- ❑ 3. See step 3, on page 5 and 6, of the "Transmitter Assembly" section for proper carb and rudder linkage settings. Setup the rudder so there is only 7mm [9/32"] of throw left and 7mm [9/32"] of throw right.



- ❑ 4. Place the canopy/ hatch over the radio compartment and secure it using five 2.5 x 8mm panhead self-tapping screws.

RUNNING THE ENGINE

Before running the engine, read the instruction manual that came with your engine.

Note: The needle valve settings listed in this manual are for the AquaCraft Pro 46 engine included with the RTR Air Force. If you purchased the ARR version, see your engine instruction manual for the proper needle valve settings.

There are Several Simple Steps to Starting the Engine:

- ❑ 1. Install a glow plug if one is not in your engine. The glow plug threads into the top of the cylinder head.



- ❑ 2. Remove the fuel tank pressure line from the muffer.



❑ 3. Remove the fuel line stopper from the fill line and insert the filler nozzle (not included).

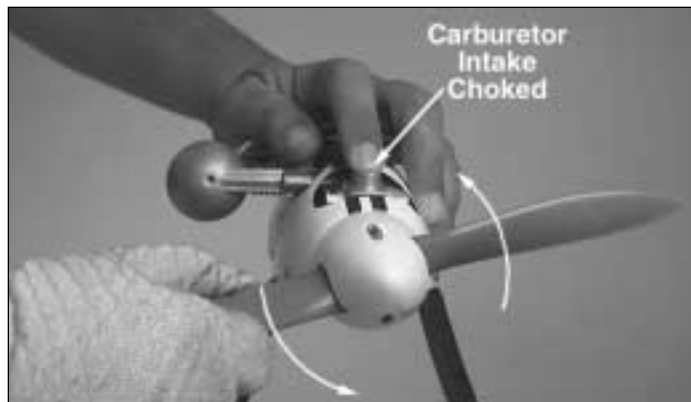


❑ 4. Fill the tank almost to the top (viewable from the back) of the tank. Leave a little air at the top of the tank. Excess fuel will flow out of the tank pressure line.

❑ 5. Replace the fuel line stopper and tank pressure line.



❑ 6. Open the high-speed needle valve three full turns out (**counterclockwise**) from fully closed. The high-speed needle is sticking out the left side of the engine (looking at it from behind the prop). If you have previously run the boat, keep the same needle valve setting that you used on your last run.

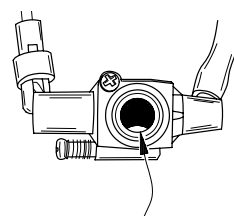


❑ 7. Prime the engine by rotating the propeller counterclockwise with the carburetor intake choked. **CAUTION!** Use a glove to protect your hand while rotating the propeller. Once you see fuel reach the carburetor (in the fuel line), rotate the engine 2-3 more times. It's ready to start.

IMPORTANT NOTE! This engine uses an ABC construction (Aluminum piston with a Chrome plated Brass cylinder liner) which provides outstanding performance and long life. When new, your engine will feel tight and difficult to rotate. It may even squeak when approaching top dead center. **This is normal** and is the result of the precision tolerances of the tapered cylinder. After fuel starts flowing through the engine, this tight condition will "break in" and the engine will turn over easier. If you are using a safety stick to start the engine for the first time, we recommend that you place 5 to 7 drops of After Run Oil (HCAR3000) through the glow plug hole and rotate the engine 12 or more times. This will make the engine easier to flip start.



❑ 8. Secure the glow starter onto the engine's glow plug.



❑ 9. Check that the throttle is 1/8 open from the fully closed position. Bring the electric starter into contact with the spinner and depress the starter switch for one or two seconds. Repeat, if necessary. When the engine fires, withdraw the starter immediately. If using a safety stick, quickly flip the propeller counterclockwise.

- ❑ 10. Remove the glow starter after 10-15 seconds.

IMPORTANT NOTE: Never place your finger over the carburetor intake when applying the starter. Such an action will cause an excess quantity of fuel to be forced into the cylinder and result in a hydraulic lock that may damage the engine.

If the engine fails to start, refer to the “**Engine Troubleshooting**” section on page 14.

BREAKING IN THE ENGINE

*In order to perform adjustments as needed, the break-in procedure should be performed on dry land with your Air Force **securely** held in place.*

To insure long life and good performance from your AquaCraft Pro .46 engine, you **MUST** break-in the engine. The break-in period is critical for long life of the internal parts of the engine. This should be done over the first 5 or 6 tanks of fuel. If you have the HCAB27** RTR Airforce, then watch the included video.

Fuels

Use nitro fuels that are specially formulated for **model airplane engines** (this a boat, but it uses an airplane engine). Typically this would be 10-20% nitromethane.

Some Things to Remember During Break-In

1. Use the same fuel that you will use for normal running.
2. Resist the urge to accelerate and decelerate the engine quickly.
3. Break-in puts stress on the glow plug and you can burn it out during break-in. Make sure you have an extra plug or two on hand.

How To Stop Your Engine

Just as squeezing the throttle trigger on your transmitter increases power, pushing the trigger the opposite way decreases power. Pushing the throttle trigger forward should close the carburetor completely, cutting off air supply and stopping the engine.

The First Tank

Your first tank of fuel should be running the boat at a very rich high-speed needle valve setting. This allows the fuel to carry as much oil as possible into the engine to lubricate the internal parts during the break-in.

- ❑ 1. Make sure the needle valve is 3 turns out from fully closed (**counterclockwise**). This should be factory set already, but check it to make sure. When closing the high-speed needle, close the needle until you feel some resistance. **DO NOT** overtighten or you will damage the engine.

- ❑ 2. Start the engine.

- ❑ 3. Once the engine is started, open the high-speed needle valve around 1/8 turn at a time, finding the setting where the engine just barely runs. This may take a few times adjusting the needle. The engine will perform sluggishly and stall from time to time – this is normal during the break-in process.

- ❑ 4. Run the engine at a medium speed, periodically accelerating and decelerating. **Do not give the engine full throttle at this time.**

- ❑ 5. Continue running the engine until the tank is almost out of fuel. Do not allow the engine to run out of fuel. This leans out the engine and can cause overheating.

Tanks 2-6

Turn in the needle valve (clockwise) around 1/8 turn from the previous setting following each tank. You should notice that the engine performs better during each run. After the sixth tank, you should be near to the peak performance of the engine.

ENGINE MAINTENANCE

Ways To Ensure A Long Life For Your Engine.

1. Keep your engine clean. Dirt will act as insulation on an engine. It will not be able to shed heat as easily.
2. Do not over-lean your engine.
3. Do not run your engine without a propeller.
4. Do not over heat the engine. This goes along with keeping it clean and not over-leaning the engine.
5. Do not use a fuel with low oil content. Make sure that you use a fuel from a reputable manufacturer that is labeled as model airplane fuel.
6. Avoid using old fuels in the engine. Always run all of the fuel out of the engine. After running for the day, use after-run oil and work it into the engine by turning the prop 3-4 times.
7. Do not use a fuel with a nitromethane (often called nitro) content over 20%.
8. Do not use silicone sealer on the engine joints. Silicone sealer contains acetic acid, which is corrosive if it gets inside your engine.
9. Store your engine someplace where it will not be subjected to extreme temperature changes.

If you are having problems with your engine consult the “Engine Troubleshooting” section on page 14 of this manual. The following are some potential problems.

Glow Plug

The glow plug is an item that will wear out and need replacement from time to time. It is a good idea to remove the glow plug before your first run, heat it and see how well it glows. You should see a bright orange glow from the filament. If a coil or two will not glow or the plug will not glow at all, replace the plug. If the engine quits when you remove the glow starter, the plug might need to be changed, although this may be because you are running too rich and need to screw in your high-speed needle some. Look at the glow plug when you are running the engine. If you see some bubbles coming from around the plug, replace the glow plug (copper) gasket, or both the plug and the gasket. The only real way to test a glow plug is to replace it. Make sure you have a spare plug or two on hand every time that you run the Air Force.

Fuel

Fuel can go bad. The main ingredient in model fuel is methanol, which is basically a form of alcohol. Alcohols can absorb water out of the air, so keep your fuel jug capped at all times. Store your fuel out of the sunlight and in a cool place. Bad fuel is one of the most difficult problems to diagnose in engines. If you have tried everything you can think of to remedy an engine that is not running correctly, try using some fresh fuel.

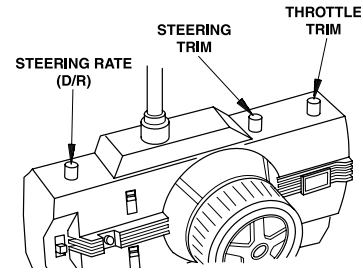
Fuel line is susceptible to pinhole leaks. You cannot see the hole in the fuel line, but if you see bubbles in the line going to the carburetor, replace the fuel line. Another symptom of a leak in the fuel line is a surging engine. The properly tuned engine will surge when the air bubbles enter the carburetor. It is basically leaning out the mixture.

Overheating

One of the worst things you can do to your engine is overheat it. The oils that lubricate the engine are carried in the fuel. If your engine is set too lean, there will not be enough oil in the engine to lubricate the internal parts. This will cause premature wear in the engine and cause damage.

RUNNING THE AIR FORCE

- Before running your Air Force, it is a good idea to check over all screws to make sure they are securely fastened.
- Place the boat in water that is at least 8" deep and free of obstacles (weeds, sticks, ducks, muskrats, etc.).
- **CAUTION:** Airboats are top-heavy by nature. It is common practice to slow down a little for sharp turns. If you don't, there will be an increased chance of flipping over.



- Slowly advance the throttle to full speed and note if the boat has a tendency to turn right or left. Adjust the steering trim knob on your transmitter until the boat runs in a straight line when the steering wheel is at neutral.
- **CAUTION:** Running in windy conditions will affect the performance of your Air Force and increase the chances of capsizing.
- Total run time of the Air Force is approximately 6 minutes (assuming you begin with a full tank of fuel). When you notice an increase in power, it means the fuel tank is nearly empty and it's time to head for shore. As soon as the boat reaches shore, **stop the engine**, turn off the receiver, and finally the transmitter (in that order).
- **CAUTION:** The engine will be hot! Allow it to cool for a few minutes before restarting.
- Your Air Force will often take on small amounts of water, especially when running in rough water and when making tight turns. Keep a roll of paper towels handy and dry out the hull interior after every run. If you notice excessive amounts of water in the hull, check for leaks, especially around the hull/deck joint. You may reseal the joint using medium cyanoacrylate (CA) Glue.
- Always store your Air Force with the canopy /hatch cover removed to allow the interior to dry out completely. If you neglect to do this, it may result in corrosion of the electronic components.
- **IMPORTANT:** If, for whatever reason, your boat takes on a large amount of water, swamps or sinks, causing the radio equipment to get wet, you must do the following immediately: Remove the battery pack and radio equipment from the boat. Open the receiver and servo cases. Allow the components to air dry completely before reassembling. Reinstall the components and check for proper operation before running the boat in water.

The Waiting Game

If your Air Force airboat should happen to stall or capsize, water currents will slowly carry it to shore. The bad news is that the boat could be carried to the opposite shore. When surveying areas to run your Air Force, keep in mind things like wind direction, size of the lake, strength of river currents, etc.

Helpful Tip

Use a fishing rod with at least 12lb. line and a tennis ball tied to the end to retrieve a stalled or capsized model boat.

GOOD LUCK AND GREAT BOATING!

ORDERING REPLACEMENT PARTS

To order replacement parts for the AquaCraft Air Force, use the order numbers in the **Replacement Parts List** that follows. Replacement parts are available only as listed and can be purchased from hobby shops or mail order/ Internet order firms. Hardware items (screws, nuts, bolts) are also available from these outlets. If you need assistance locating a dealer to purchase parts, visit www.hobbico.com and click on "Where to Buy." If this kit is missing parts, contact **Hobbico Product Support**.

Replacement Parts List

Order #	Description
HCAB6500	Engine mounts w/ screws (left & right engine pod "legs")
HCAB8700	Rudder assembly w/ screws (rudder, rudder mount, rudder arm)
HCAB7900	Spinner assembly (spinner assembly complete)
HCAB6450	White engine cowl/ fiberglass (white cowl w/4 screws)
HCAB6451	Yellow engine cowl/ fiberglass (yellow cowl w/4 screws)
HCAB6452	Blue engine cowl/ fiberglass (blue cowl w/4 screws)
HCAB6453	Green engine cowl/ fiberglass (green cowl w/4 screws)
HCAB6454	Orange engine cowl/ fiberglass (orange cowl w/4 screws)
HCAB6455	Red engine cowl/ fiberglass (red cowl w/ four screws)
HCAB6456	Gray engine cowl/ fiberglass (gray cowl w/ four screws)
HCAB6300	Decal sheet (three main sheets plus cockpit decals)
HCAB6550	Engine platform w/hardware (pre-assembled engine mount)
HCAB9010	Throttle and rudder cable w/hardware (cables cut to length)
HCAB6900	Fuel tank (complete fuel tank)
HCAB6210	Assembled white canopy/ hatch (comes w/hardware)
HCAB6211	Assembled yellow canopy/ hatch (comes w/hardware)
HCAB6212	Assembled blue canopy/ hatch (comes w/hardware)
HCAB6213	Assembled green canopy/ hatch (comes w/hardware)
HCAB6214	Assembled orange canopy/ hatch (comes w/hardware)
HCAB6215	Assembled red canopy/ hatch (comes with hardware)
HCAB6216	Assembled gray canopy/ hatch (comes with hardware)
HCAB6200	Canopy/ hatch unpainted (unassembled canopy w/ hardware)

OTHER ITEMS AVAILABLE FROM HOBBICO



Hobbico Safety Stick™ Starter

Start your engine the safe, easy, economical way – with Hobbico's "chicken stick"-style Safety Stick. Its comfortably contoured, hardwood handle gives you the perfect grip for flip starting your engine on the flight line. The end is rubber-coated to prevent breaking or damaging your propellers. There's no better way to turn a couple of dollars into years of dependable engine starts! **HCAP3335**



Hobbico Super Hot-Shot™ 2 Glo-Starter

The Super Hot-Shot 2 combines a locking glow plug clip for standard or 4-stroke plugs with a high-capacity Sanyo® rechargeable NiCd. It delivers 4000mA – enough for an entire day of modeling. Features include a Twist-and-Lock Connector and heavy-duty wall outlet adapter with LED indicator for recharging. **HCAP2520**



Hobbico Hand-Crank Fuel Pump

Uniquely geared for efficient operation – and ergonomically shaped for comfort – the Hand Crank Fuel Pump delivers over 1/4 ounce of glow fuel with every turn of the handle. It fills or drains with equal ease. The pump comes with fuel tubing and two screws for easy field box attachment. **HCAP3015**



Hobbico TorqMaster™ 90 Deluxe 12V Starter

The TorqMaster 90 Deluxe 12V starts engines up to .90 cu. in. and includes an aluminum starter cone with grooved silicone insert; soldered copper contacts; thick carbon brushes; easy press switch; 5' DC input cord; and factory-soldered battery clips. Spinners and

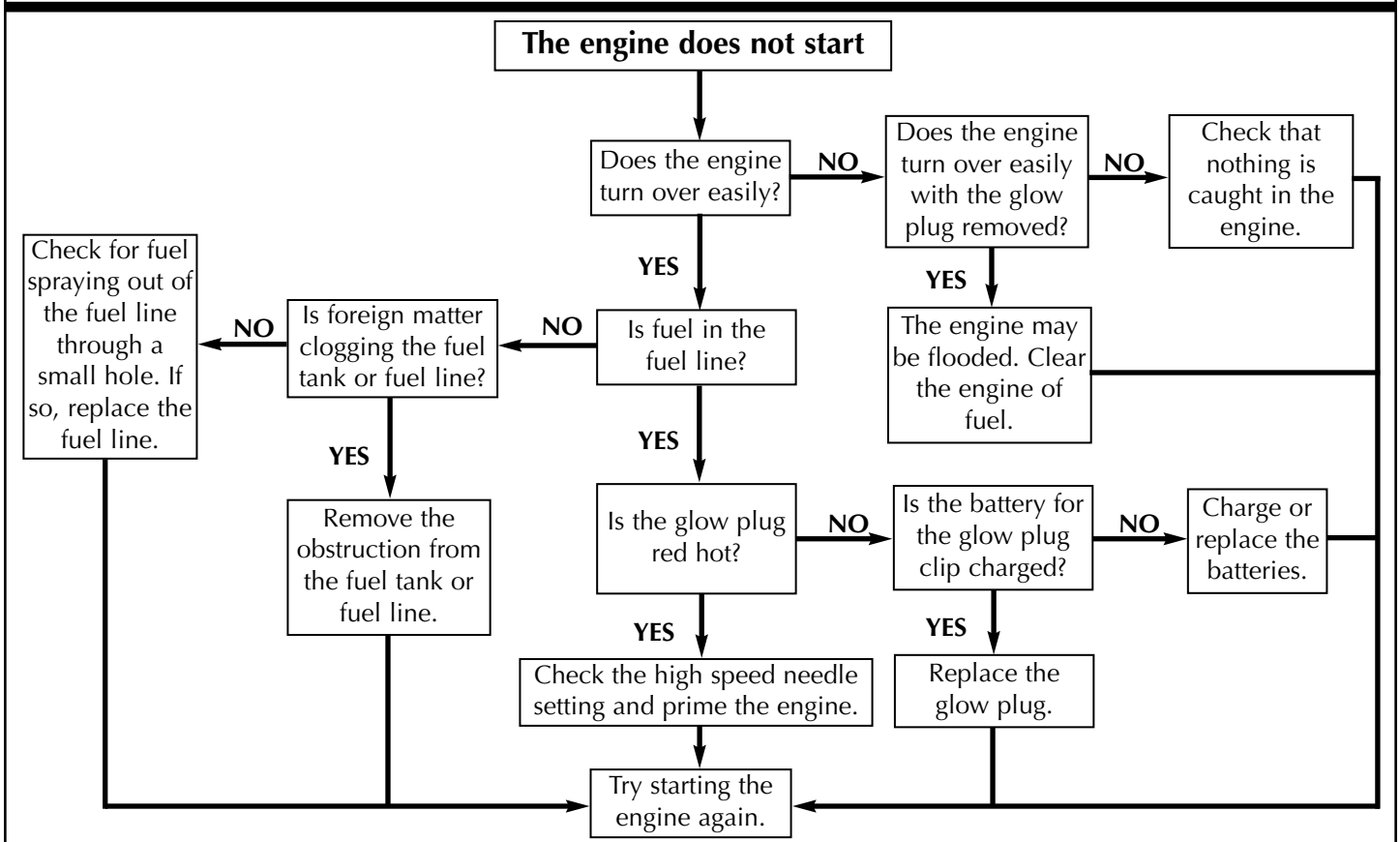
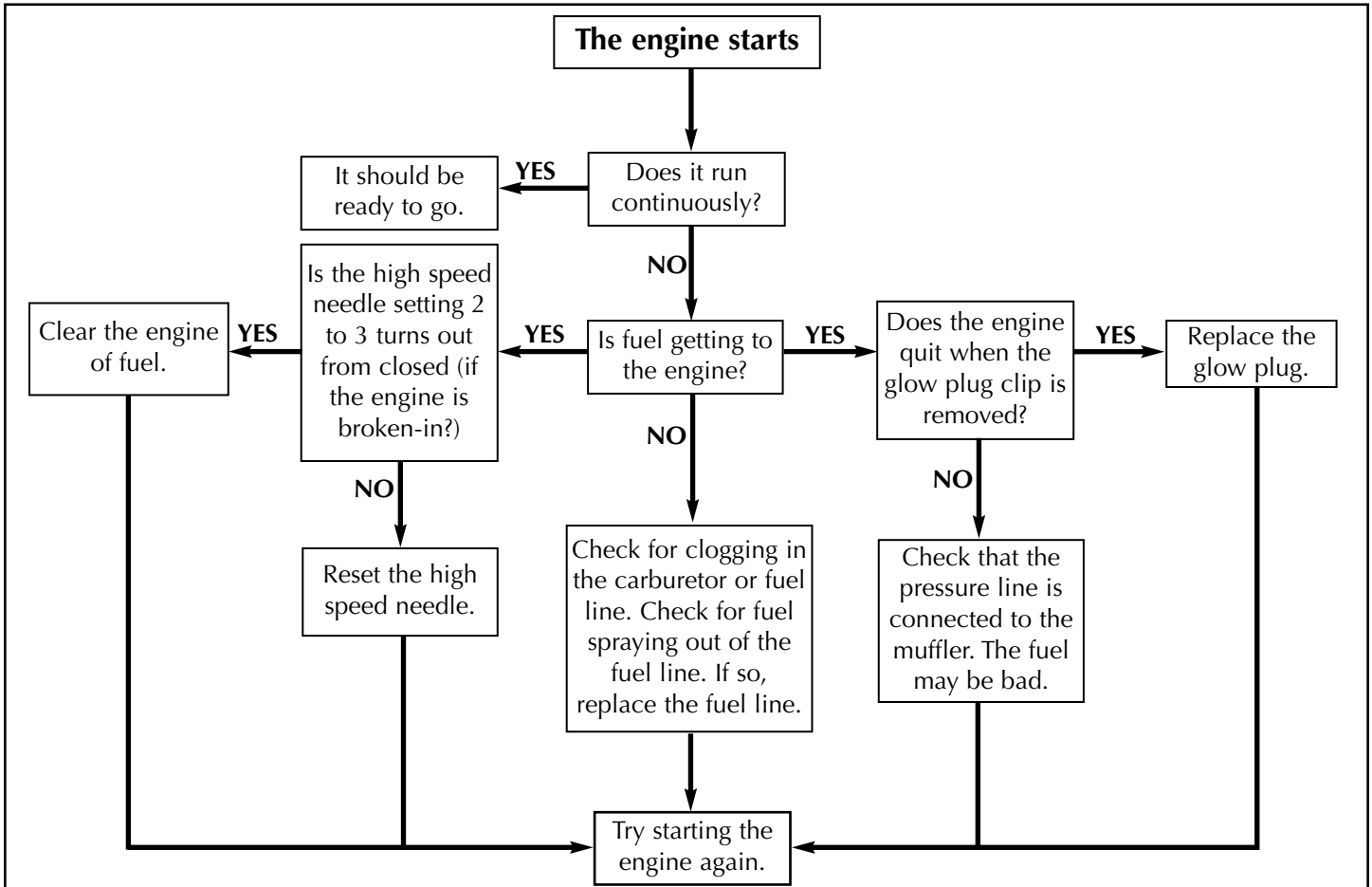
hubs over 3" in diameter require both Jumbo Starter Cone and Jumbo Rubber Insert, available separately. **HCAP3200**



Hobbico After Run Engine Oil

After each time you run your engine, just take a few seconds to put After-Run Engine Oil into its carburetor – that's a quick, easy way to prevent varnish or gum build-up, and to protect bearings and internal parts from rust and corrosion. After-Run Engine Oil works wonders to keep 2- and 4-stroke engines performing in peak condition. Available in a handy, 2-ounce bottle. **HCAP3000**

ENGINE TROUBLESHOOTING



ENGINE MOUNTING TEMPLATE

