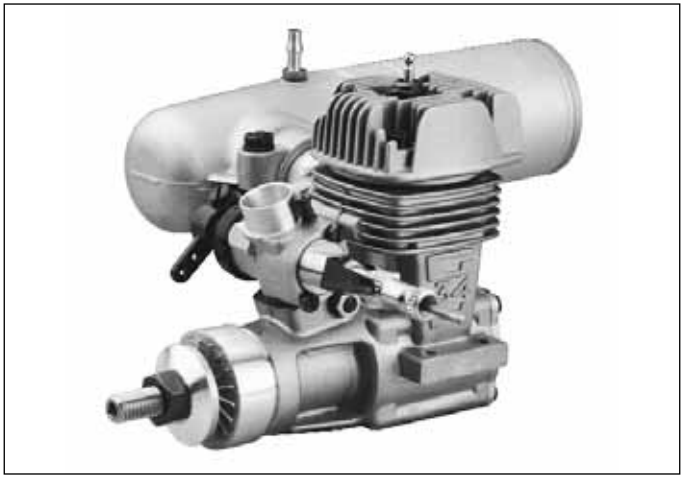
SUPERTIGRE®

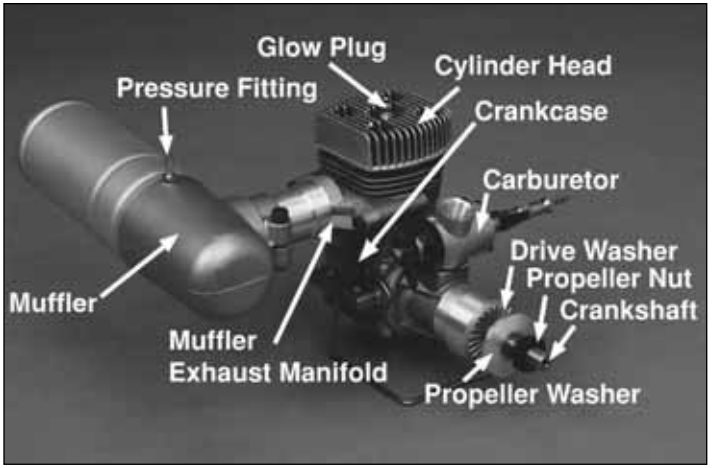


INSTRUCTIONS
G-34 to G-2300

Super TiGRE®

Important: Please read and follow this instruction manual before operating your engine. These instructions have been written so that you may get the greatest satisfaction from the operation of your SuperTigre engine. All SuperTigre engines are designed for outstanding performance, and are manufactured with the latest computer-controlled machinery to insure their high quality. SuperTigre engines have appeared worldwide in competitions from local club events to World Championship competition.

Basic Engine Parts



Crankshaft: The crankshaft transforms the reciprocating motion of the piston into rotational motion. The propeller is mounted on the portion of the crankshaft protruding from the crankcase. The portion of the crankshaft protruding past the drive washer is known as the “prop shaft.”

Propeller Nut: The propeller nut secures the propeller to the crankshaft.

Propeller Washer: The propeller washer provides a larger, stronger surface area to apply pressure to the propeller.

Drive Washer: The drive washer is secured to the crankshaft with a lock cone and is knurled on one face to provide a non-slip contact surface for the propeller.

Carburetor: The carburetor controls the amount of fuel and air that enters the engine.

Crankcase: The crankcase is the main body of the engine which houses the internal parts.

Cylinder Head: The cylinder head is mounted on top of the crankcase. It provides a seal at the top of the cylinder. The fins on the cylinder head provide a cooling surface. The cylinder head also holds the glow plug.

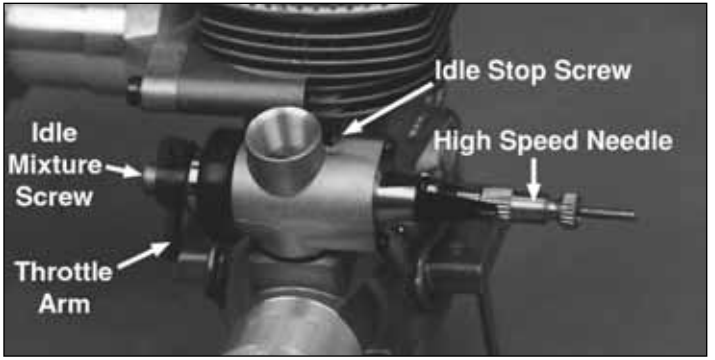
Glow Plug: The glow plug provides the heat needed to ignite the fuel in the cylinder.

Exhaust Manifold: The exhaust manifold allows the adjustment of the distance from the muffler to the engine.

Muffler: The muffler quiets the exhaust after it exits the cylinder.

Pressure Fitting: Allows air pressure from the exhaust system to pressurize the fuel tank.

Basic Carburetor Parts



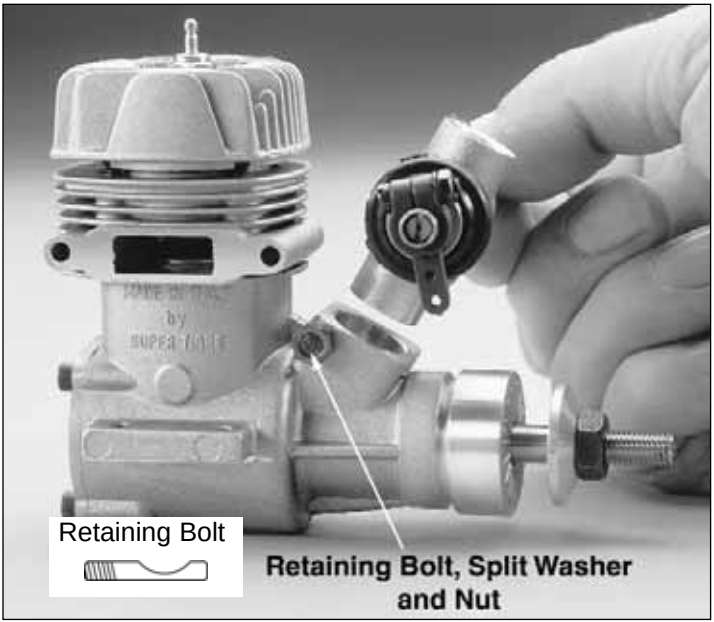
High Speed Needle: The high speed needle controls the amount of fuel entering the carburetor during medium and high speed operation.

Idle Mixture Screw: The idle mixture screw controls the amount of fuel entering the carburetor while the engine is idling.

Idle Stop Screw: The idle stop screw controls how far the throttle barrel closes. We suggest that it be set to allow the throttle barrel to close completely to enable stopping the engine by the throttle trim on the transmitter.

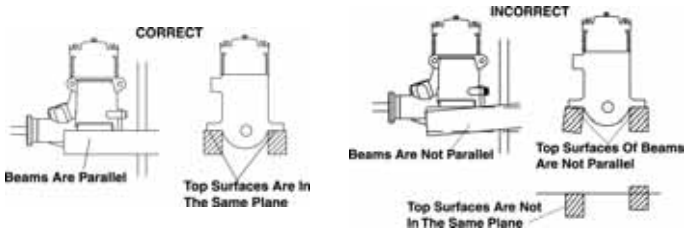
Throttle Arm: The throttle arm is connected to the carburetor barrel. By moving the throttle arm, the barrel is opened and closed. This regulates the speed of the engine.

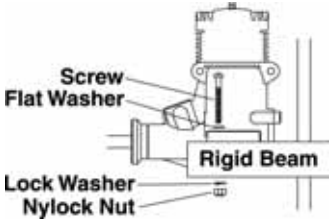
Carburetor Installation



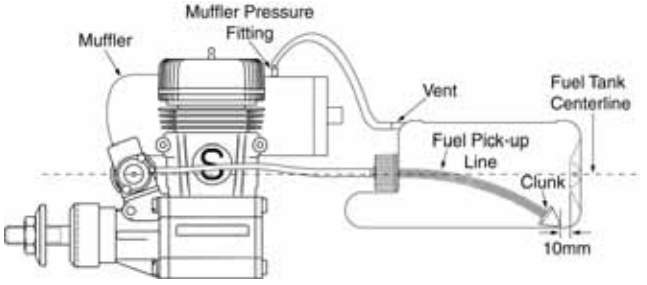
First insert the carburetor retaining bolt (the bolt has a curved area removed from its center) into the hole in back of the carburetor opening. Rotate the retaining bolt so that the removed area in the bolt matches the curve of the carburetor opening. Install the split washer and the nut on the threaded end of the bolt. Insert the carburetor in the carburetor opening and press down on the carburetor while tightening the nut making sure the O-ring is tightly sandwiched between the carb and crankcase.

Engine Installation





The beams on which the engine is to be mounted must be rigid, parallel with each other, and the top surface in the same plane. Set the engine on the beams at the correct angle to the centerline of the fuselage, according to the instructions provided by the airplane manufacturer.



When the engine is mounted in the upright position, the centerline of the fuel tank should be at the same level as the high speed needle, or no more than 3/8" lower, to insure proper fuel flow. When the engine is mounted on its side, the centerline of the fuel tank should be at the same level as the center of the intake in the carburetor, or no more than 3/8" lower, to insure proper fuel flow. Most airplane kits have this fuel tank position built into them.

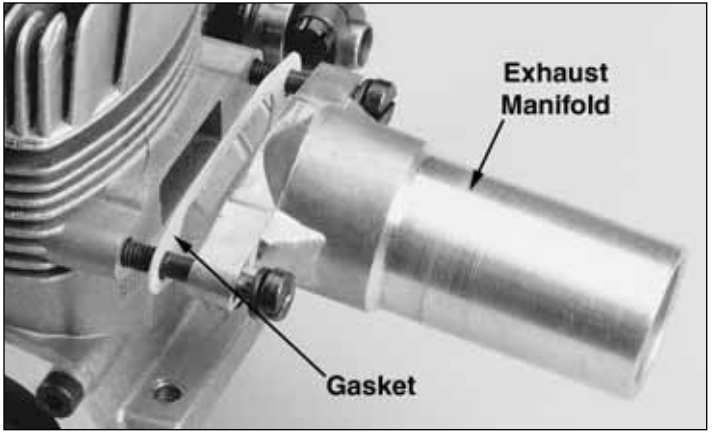
Engine Size	Mounting Screw Size	Drill Size	Tap Size	Drill Size For Tap
.34-.51	4-40	7/64"	4-40	#43
.61-G2300	6-32	11/64"	6-32	#36

Mark on the engine mounting beams the locations of the four mounting holes. If mounting the engine on wooden beams, drill four 7/64" holes for the .34 to .51 size engine (or 11/64" holes for the .61 to G-2300 size engines) through the beams perpendicular to the top surface of the beams. Secure the engine to the beams with 4-40 screws, flat washers, lock washers and 4-40 nylock nuts for the .34 to .51 engines (or 6-32 screws, flat washers, lock washers and 6-32 nylock nuts for the .61 to G-2300 engines).

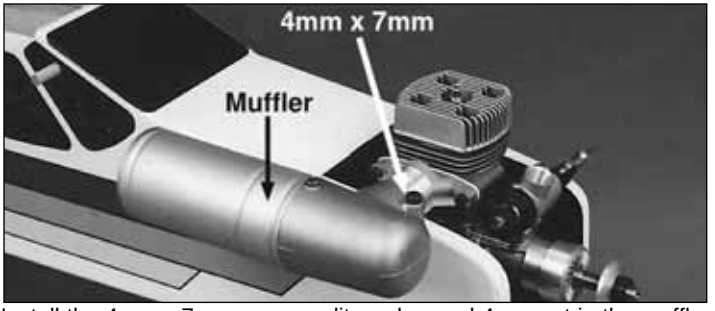
If mounting the engine on a metal or fiberglass engine mount, drill and tap the engine mount to accept 4-40 screws and lock washers for the .34 to .51 engines (or 6-32 screws and lock washers for the .61 to G-2300 engines), installed through the engine mounting flanges and into the engine mount.

Note: Some airplane kits require a slight amount of "right thrust." Sometimes this is done by angling the engine to the right to counteract the torque factor of the propeller. Follow the kit manufacturer's instructions to incorporate the correct amount of right thrust, if required.

Muffler Installation

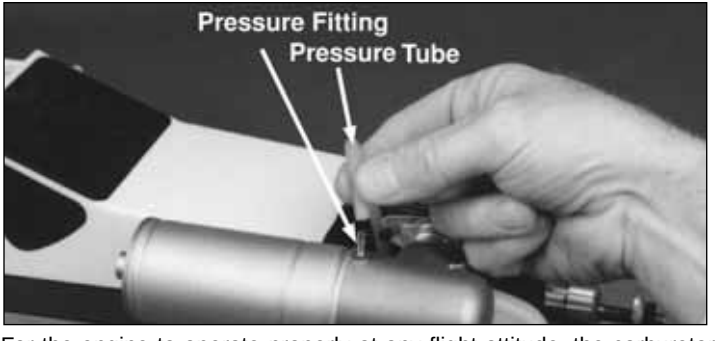


Use the two supplied screws, split washers and nuts to attach the exhaust manifold to the engine. Make sure to install the gasket between the manifold and the engine and tighten the screws securely.



Install the 4mm x 7mm screw, split washer and 4mm nut in the muffler, but do not tighten. Slide the muffler over the exhaust manifold and position it so that it does not touch the fuselage. Also, to reduce drag it is best to position the muffler parallel to the fuselage. When the muffler is positioned correctly, tighten the 4mm x 7mm screw to clamp the muffler over the exhaust manifold.

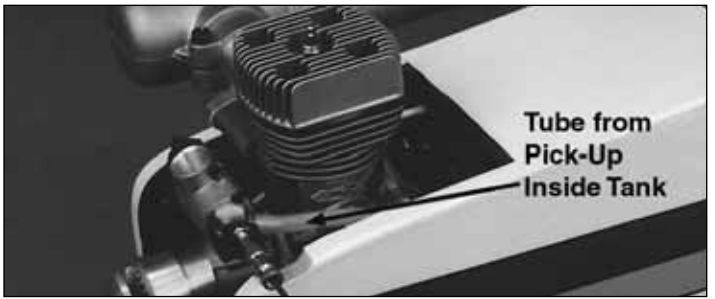
Pressure Line Installation



For the engine to operate properly at any flight attitude, the carburetor requires constant fuel pressure. When the engine is running, pressure

is created in the muffler by the exhaust. Some of this pressure is used to pressurize the fuel tank. This pressure is provided by a tube from the pressure fitting on the muffler to the vent tube in the fuel tank. Although not absolutely necessary, pressurizing the fuel tank with muffler pressure will provide more consistent running, and will help to maintain more consistent fuel flow during maneuvers. To install the pressure fitting, remove the screw in the side of the muffler. Install the gasket washer on the threaded end of the pressure fitting. Screw the pressure fitting into the threaded hole in the muffler.

Fuel Line Installation



Connect a medium size (3/32") silicone fuel line from the fuel inlet on the carburetor to the fuel pick-up tube that is connected to the clunk in the fuel tank. We suggest that a fuel filter be installed in the fuel line between the carburetor and the fuel tank. The filter will prevent any contaminants in the fuel from clogging the carburetor, or damaging the engine parts.

Equipment Required To Operate Your Engine

High Quality Fuel: The recommended fuel for your SuperTigre engine should contain a minimum of 18% - 20% oil (either Castor oil, Synthetic oil, or a blend of the two), 0%-15% nitromethane and the balance Methanol. Almost all of the fuels on the hobby market with between 0% and 15% Nitro content will be fine, but you may get better results from a Premium fuel as opposed to a Sport fuel. Higher levels of nitromethane may require adjustment of the compression ratio to prevent detonation. Check with your hobby dealer to see what fuels are popular in your area.

Fuel Pump: We recommend an electric fuel pump that can be operated from a 12V battery. If you do not have a 12V battery, we recommend a hand operated fuel pump.

Propeller: Choose a propeller for initial running from the heading "Break-In" from the chart listed in the "Initial Setup" section.

Starter Stick or Electric Starter: We recommend an electric starter that can be operated from a 12V battery. If you do not have a 12V battery, a starter stick can be used to flip the propeller to start the engine. **Caution: Never use your finger to flip the propeller.** If the engine should backfire, the propeller could injure your finger.

Glow Plug Battery: For ease of operation and safety we recommend a glow starter with a self contained battery (1.2 – 1.5 volts). If using a separately powered locking glow plug clip connected to a power panel on a field box, make sure the wires are behind the propeller when starting the engine.

Glow Plug Wrench: The glow plug will eventually fail to retain heat or it will need to be removed to clear a flooded engine. We recommend a 4-way wrench that can be used to remove the glow plug.

Glow Plug: A general-purpose R/C Long glow plug will work great in your SuperTigre engine.

General Information

Your SuperTigre engine is a two-stroke engine that works on a semi-diesel principle. The fuel is a mixture of methanol, castor or synthetic oil, and nitromethane. This fuel is ignited in the engine by a combination of compression heating and the catalytic action of the platinum coil of the glow plug. The glow plug must be initially heated by using a glow plug battery, which is disconnected once the engine is running. The glow plug requires 1.2-1.5 volts to glow properly. There are many glow plug batteries and connectors on the market that will do the proper job of heating the glow plug. Once the engine is started, the heat of combustion will keep the glow plug hot.

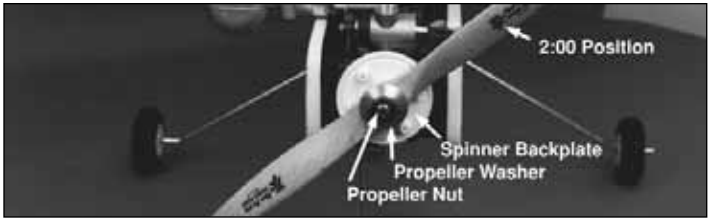
Your SuperTigre engine uses either a piston with a piston ring, or an ABC-type cylinder and piston. Ringed engines have a dark piston ring near the top of the piston. ABC engines do not have piston rings. You should also be aware of the fact that ABC-type engines will have a tight "feel" when the crankshaft is turned over by hand. This is because the cylinder liner is made with a slight taper towards the top. When the engine is cold, the piston will barely fit. Once the engine is running, the heat will cause the liner to expand to the proper fit, so don't be concerned if an ABC-type engine is tight when you try to turn it over and might even squeak until thoroughly broken in.

Initial Setup

While your SuperTigre engine does not require extensive break-in running, you should spend some time running the engine to allow it to loosen up a bit before you fly it, and to also get the carburetor set for the first few flights.

Check your glow plug by briefly attaching the glow plug battery to the plug. The plug must glow brightly.

1. To install the glow plug in the engine, first slide the brass colored compression washer onto the glow plug. Carefully screw the glow plug into the top of the cylinder head with your fingers. Tighten the glow plug "finger-tight," then use a glow plug wrench to tighten the glow plug securely. Do not overtighten the glow plug or the threads in the cylinder head may strip.



2. Locate the correct propeller for your airplane from the chart. Enlarge the hole in the propeller to the appropriate diameter using a prop reamer and balance your propeller using a prop balancer available from your local hobby dealer. To install the propeller on the engine, remove the propeller nut and propeller washer. If installing a spinner, install the spinner backplate first, following the manufacturer's instructions. Trim

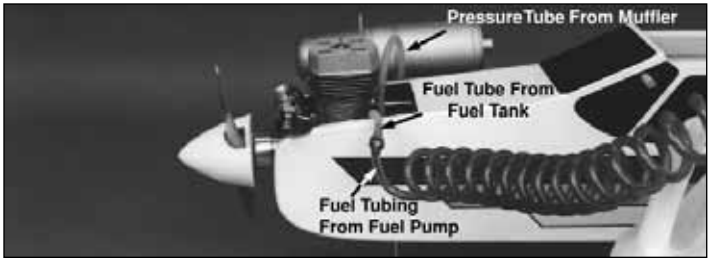
the spinner cone as necessary so the propeller does not touch the cone. Have at least 1/16" of space between the propeller blade and spinner cone. Next, install the propeller with the rounded surface of the propeller blade facing forward. Install the flat side of the propeller washer against the propeller. Thread the propeller nut against the propeller washer, but do not tighten it. Rotate the crankshaft of the engine counter-clockwise to the compression stroke (the crankshaft will become difficult to turn).

Propeller Chart

Engine	Break-in Prop sizes	Recommended Prop Range
G-34	9x6, 9x7	8x7, 9x6, 9x7, 10x5
GS40	10x6, 10x7	9x7, 9x8, 10x5, 10x6, 10x7, 11x4, 11x5
GS45ABC	10x7, 10x8,	9x8, 10x6, 10x7, 10x8, 11x5, 11x6
G-51	10x8, 11x6,	9x8, 10x6, 10x7, 10x8, 11x5, 11x6
G-61 Ring & ABC	11x7, 11x8,	10x8, 10x9, 11x7, 11x8, 12x6, 12x7
G-75	12x7, 12x8,	11x8, 11x9, 12x7, 12x8
G-90	12x8, 13x6,	11x8, 11x9, 12x7, 12x8, 12x9, 13x6, 13x7
G2300	18x8,	16x8, 18x8, 18x10

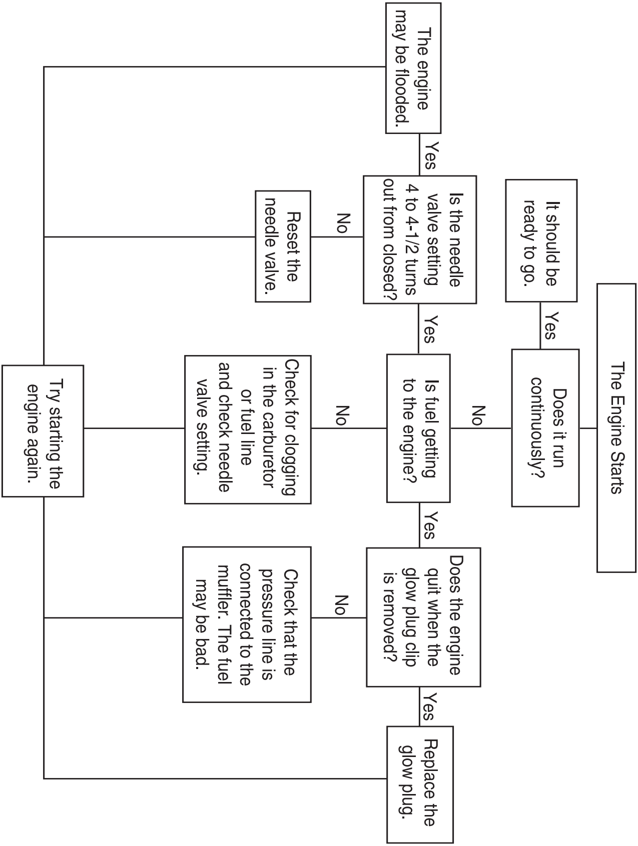
You can use the break-in prop for most uses. The lists of props under “recommended prop range” reflect prop sizes that are also suitable for use.

Continue rotating the propeller until it’s at the two o’clock position, then tighten the propeller nut **securely** against the propeller washer. Some people use a 4-way wrench for this purpose, but it is difficult to get the nut tight enough with that type of wrench. Many modelers use (and we recommend) a 6-inch adjustable wrench for tightening prop nuts.

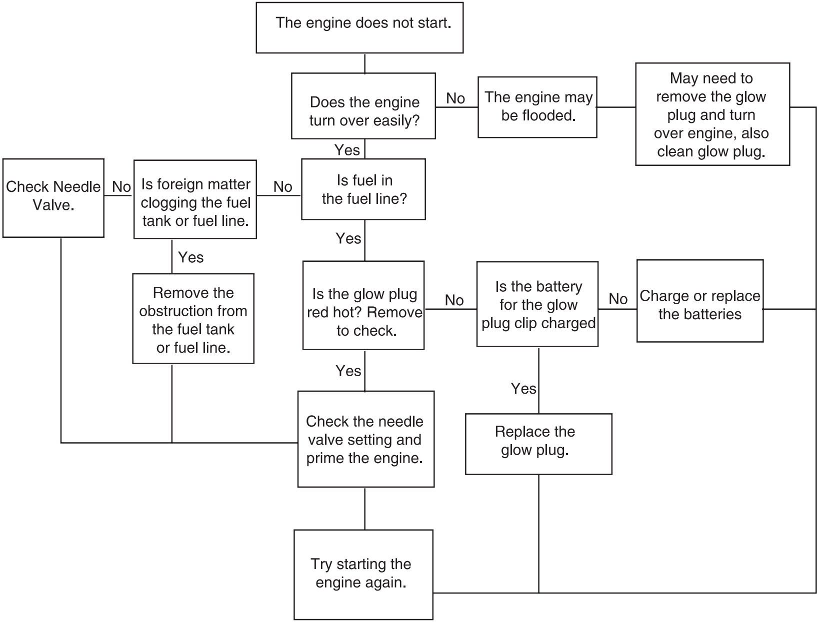


3. Fill the fuel tank by removing the fuel tube from the fuel inlet on the carburetor, and connecting it to the fuel tubing from the fuel pump. Remove the pressure line from the pressure fitting on the muffler and direct this fuel into an “overflow bottle.” Start filling the fuel tank. When the tank is full, fuel will overflow out the pressure line. Disconnect the fuel pump from the fuel line and reconnect it to the carburetor. Reconnect the pressure line to the muffler pressure fitting.

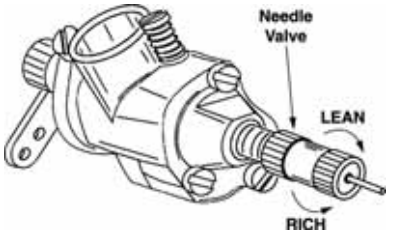
Engine Troubleshooting Diagram



Engine Troubleshooting Diagram



High Speed Needle Adjustment



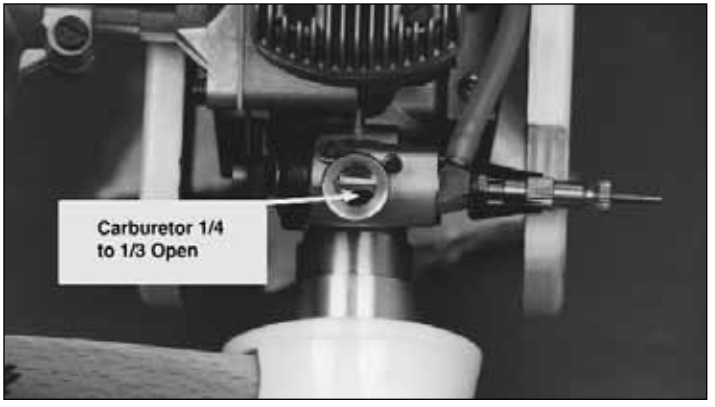
4. Gently turn the high speed needle clockwise until it stops. Do not tighten it. Then open it counter-clockwise 3 turns. Turning the high speed needle in a clockwise direction is called “leaning” the mixture, and turning it counter-clockwise is called “richening” the mixture. Do not worry about the setting of the idle mixture screw at this time. It has been pre-set to the proper setting by the factory.

5. Switch on the transmitter, then the receiver. Fully open the throttle. **Do not attach the starting battery at this time.** Place a finger over the carburetor intake and turn the propeller over several times (counter-clockwise). Watch the fuel line. You will see the fuel come up to the carburetor. Once the fuel reaches the carburetor, turn the propeller two more revolutions. Remove your finger from the carburetor intake, and briskly flip the propeller one or two times to work the fuel into the cylinder. This process is called “choking” the engine.

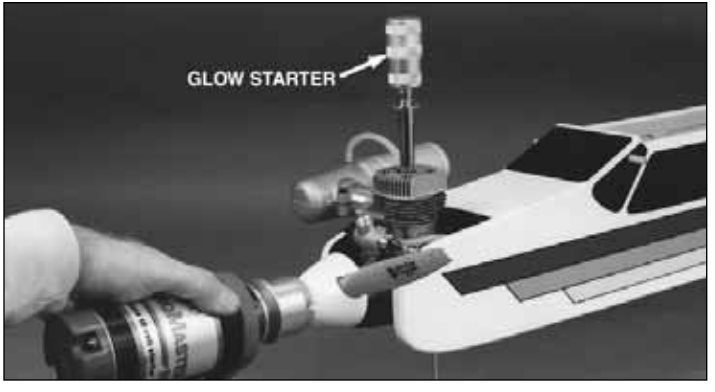
Initial Running and Break-In (Ringed Engines)

Caution: Make sure you have plenty of ventilation. Model exhaust fumes are just as deadly as automobile fumes. Always wear hearing protection when you’re operating your engine.

1. Have an assistant hold the airplane securely from behind the wing to prevent the airplane from moving forward. You will see some modelers starting their engine with one hand while holding their airplane with the other. This is an unsafe practice that greatly increases the chances of an accident.



2. Close the throttle to about 1/4-1/3 open.



3. Securely attach the glow starter to the glow plug. If using a glow plug clip connected to the power panel of a field box, make sure the wire cannot become entangled in the propeller.

4. If using a starter stick to start the engine, flip the propeller counter-clockwise using quick flips. Some engines start easily with a starter stick, others do not. If the engine fails to start after 10 flips, it may not have enough fuel in the engine. **Remove the glow starter** and repeat the choking process. If the propeller becomes difficult to rotate, the engine is flooded with fuel. Remove the glow plug and turn the airplane upside down (pointing away from you), and flip the propeller backwards a few times, allowing the excess fuel to drain out. Reinstall the glow plug, attach the glow starter and try starting the engine again. **Do not under any circumstances attempt to start the engine using only your finger.**

5. If using an electric starter to start the engine, make sure the starter will turn the propeller counter-clockwise. If your engine has a spinner on it, place the large opening of the rubber adapter on your starter against the spinner. Switch the starter on and hold it against the spinner until the engine starts. You may need to switch the starter on first and bump the spinner with the rubber adapter to get it started the first few times. If only a propeller nut is on the front of the propeller, turn the rubber adapter around on the starter and center the small hole of the rubber adapter over the nut. Switch the starter on and hold it against the propeller until the engine starts. If the starter has difficulties turning the engine over, the engine may be flooded with fuel. Clear the engine of fuel as described above. **Do not** continue to try and start a flooded engine. The connecting rod in the engine could be damaged. Never run the electric starter on the engine for longer than 8-10 seconds. If the engine will not start in 8-10 seconds something is wrong.

6. The engine should start and keep running, although it may be running slightly rough at this time. This is normal. Allow the engine to warm up for 15 to 20 seconds before removing the glow plug clip. Let the engine run at this throttle setting for 30 seconds and then open the throttle to full.

The engine should be running at full throttle, but running somewhat rough, with a lot of fuel/oil being discharged from the muffler. This is because the engine is running in a very rich condition–that is, more than enough fuel is running through the engine than is needed. Run the engine at this setting for at least five minutes.

7. After five minutes, you can start leaning the engine by turning the high-speed needle clockwise. Never turn the needle more than 1/8 of a turn at this point. To determine if the engine will accept having the needle leaned, give the fuel line a quick pinch and release...just pinch the fuel line and let go. You should hear the engine increase a bit in RPM, with the sound going up in pitch. If the engine increases in RPM, you can lean 1/8 of a turn. Allow the engine to run for one minute at this setting. Now give the fuel line a quick pinch and release. Wait thirty seconds and do it again. Do this five times. If the RPM increases all five times, lean the high-speed needle another 1/8 of a turn. Wait one minute, and then start the pinch and release series again. If the engine doesn't increase in RPM when you pinch and release, wait one minute before you try the pinch and release series again. Don't lean the high-speed needle until you get an increase in RPM every time you pinch and release the fuel line.

8. Keep repeating the "pinch and release" method until the RPM does not change when you pinch the fuel line. You've leaned the engine as far as possible. **Do not ever** lean the engine to the point that the RPM decreases when you pinch the line or severe damage will result. For flying, you want to set the high speed needle so that you get an increase in RPM when you pinch the fuel line or when you pick up the airplane and point the nose of your model straight up. If you hear the engine's RPM decrease when you

pinch and release, you must immediately turn the high-speed needle counter-clockwise at least 1/4 turn. The decrease in RPM tells you that the engine is too lean, and needs to be run at a richer setting for at least a few more minutes.

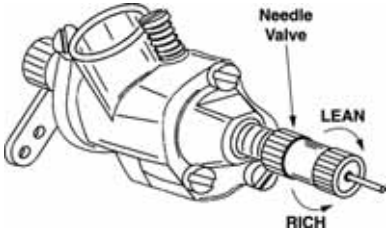
The entire process detailed above can be done by the end of the second tank of fuel, or part way into the third tank. It should take a little over 1/2 hour to get your engine ready to fly. At this point, you can adjust the idle mixture setting.

Note: It is always safer to have the engine run a little rich. This will increase the longevity of the engine and make throttle response more reliable.

Initial Running and Break-In (ABC Engines)

The ABC engine break-in process is similar to the ringed engine break-in process with one major difference: ABC engines are not run as rich as ringed engines in the early process.

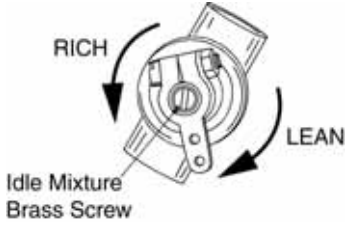
Choke and start your SuperTigre ABC engine in the same manner as detailed above in the **Initial Running and Break-in (Ringed Engine)**. Let it warm up for 30 seconds, and then advance the throttle to full. Now slowly lean the high-speed needle while you listen to the engine. As you lean the needle, you will hear the engine increase in RPM. At some point, you will hear the engine sound like it's jumping up and down in RPM. The exhaust sound will be jumping up and down in pitch. You want to continue to lean the engine until it's running mostly at the higher-pitch sound, with just an occasional break to the lower sound. Let the engine run at this setting for five minutes.



After five minutes of running, lean the engine using the “pinch and release” method as detailed above in **Initial Running and Break-in (Ringed Engine)**.

Idle Mixture Setting

The idle mixture is adjusted with the brass screw that’s located in the center of the throttle arm. It operates in the same manner as the high speed needle – turning it clockwise leans the idle mixture, and turning it counter-clockwise richens the idle mixture.



The basic adjustment of the idle needle has been set by the factory, and should require little adjustment, if any. Use the same “pinch and release”

method to determine if the idle mixture is rich or lean. You may have to hold the pinch a bit longer than when the engine was running at high speed because fuel flow is slower at low throttle settings. The best way to adjust the idle mixture is to have the engine running at full-throttle, and slowly close the throttle. Once the engine has been throttled back to below 1/2 throttle, try the pinch and release method. The engine should increase in RPM slightly. This means that you can lean the idle mixture a bit, about 1/8 turn. Reduce the throttle a little more, and repeat. You should be able to work your way down to a nice, low idle. The carburetor barrel will be open about 1/32" to 1/16" when the engine is idling properly.

Stopping & Restarting the Engine

To stop the engine before it runs out of fuel, we suggest that the radio be set up so that when the transmitter throttle and throttle trim are moved to the low position, the carburetor is completely closed. If the throttle was not set up this way, pinch the fuel line from the fuel tank to the carburetor and hold it until the engine stops.

Restarting the Engine

If the engine is still warm, try to start the engine without choking it first. If the engine has cooled down it may need to be choked. If the engine does not start after choking, the engine may be flooded. Clear the excess fuel from the engine as described before. While the glow plug is removed, attach the glow plug clip to the glow plug and check that it glows bright orange. If it does, reinstall it in the engine. If it does not, replace the glow plug with a new one. Try to restart the engine without choking it.

Troubleshooting

Engine won't fire: Check to make sure the glow plug is glowing brightly. If not, replace the glow plug and/or recharge the glow starter. Make sure the engine is getting sufficient fuel. Make sure the engine isn't flooded.

Engine fires, but runs only for a brief time: The engine isn't getting enough fuel. Open the high-speed needle 1/4-1/2 turn. You may have to choke the engine again. Check for kinks in the fuel line.

Engine only "pops" and sputters: The engine is flooded. Remove the glow plug and turn the airplane upside down (pointing away from you), and flip the propeller backwards a few times, allowing the excess fuel to drain out. Reinstall the glow plug.

Engine fires and runs at a very high speed: The high speed needle may be too lean. Open it at least 1/2 turn. The fuel line may have an air leak (especially if the engine will not respond to opening the high-speed needle). The muffler pressure line may have come off the muffler or the fuel tank.

Engine runs for a few minutes and then quits: The high speed needle may be too lean, the fuel tank may be too low. The fuel line may have a kink or air leak. Your propeller may be too big for the engine. The fuel is deficient in oil content. The engine isn't getting enough cooling air.

Care and Maintenance

When it's been properly broken-in, your SuperTigre engine should give you years of reliable service. To make sure it lasts as long as possible, there are a few things you can do to care for it:

• At the end of every flying session, drain the fuel tank completely. Then remove the fuel line from the engine, and attempt to start it. It should start and then run for a short period. Keep trying to start the engine until it just won't fire. You want the engine "dry" of fuel.

• After the engine is dry of fuel, open the throttle to "full" and put several drops of a good-quality "after-run oil" into the engine. Don't have the glow plug clip attached while doing this. Briskly hand-flip the engine, as if you were trying to start it, to make sure the oil is worked into the engine. Repeat the process. Be liberal with the oil. You want to make sure all of the internal parts get well-coated. Several manufacturers make specific after-run products to protect your engine between flying sessions. We don't recommend that you use any kind of water-dispersant or penetrating oil in your SuperTigre engine. These kinds of oil will loosen any rust and allow it to be dispersed throughout the engine the next time it's run. Rust is iron oxide, which is an abrasive compound. If it is allowed to run through the engine, the parts will lose their proper clearances and performance will be diminished.

• For long-term storage, remove the engine from the model and be extremely generous in getting all of the engine parts coated with the after-run oil. Wrap the engine in a plastic bag to keep out moisture and to prevent the oil from drying out.

• Keep your engine clean. Wipe off the outside of the engine with denatured or rubbing alcohol to remove any fuel residue and dirt. If dirt or burned-on fuel residue is allowed to accumulate on the cylinder fins, the engine's cooling will be reduced. The dirt or burned-on residue will act as an insulating blanket and prevent proper cooling. This is especially critical in cowled installations. Dirt will also abrade the moving parts if it's allowed to get inside the engine.

• We suggest that a **fuel filter** be installed between the carburetor and the fuel tank to prevent dirt from entering the carburetor.

• Do not disassemble the engine unless you are qualified to do so.

• Avoid running the engine in dusty conditions. If the area you fly in is dusty, such as a dirt runway, we suggest installing an **air filter** made for airplane engines.

• After flying, check all engine mounting bolts, muffler screws, propeller nut and spinner to make sure they have not loosened up.

Safety Precautions and Warnings

1. Keep all spectators at least 20 feet away when operating the engine.

2. Keep yourself out of the path of the prop. Do not lean over the propeller when starting or adjusting the engine.

3. Always balance the propeller before installing it on the engine. Never use a propeller that is damaged, no matter how slight.

   Powerful engines can spin propeller tips at speeds of over 600 feet (180 meters) per second. Be aware that loose or damaged propellers can cause serious harm if they are thrown off.

4. Make sure the edges of the spinner do not touch the propeller blades. The sharp edges may cut into the propeller blades and cause them to break.

5. Be sure your glow plug clip cord will not interfere with the propeller when it's turning.

6. Never use your finger to start the engine. Always use a "starter stick" or electric starter.

7. Make all engine adjustments from behind the propeller. Always stop the engine before adjusting the idle stop screw or idle mixture screw.

8. Do not operate the engine in an area with loose gravel or sand.

9. Wear safety glasses or goggles when starting and running the engine.

10. Keep all loose clothing such as neck ties and shirt sleeves away from the propeller. Remove any objects from your shirt pockets to prevent them from falling into the propeller.

11. Keep model engine fuel away from your eyes and mouth, as it is highly poisonous. Store the fuel in a clearly labeled container far removed from childrens reach.

12. Keep all model fuel away from children, sparks and excessive heat. Do not smoke while handling model fuel. Model fuel is highly flammable and must be handled with caution. Model fuel must be stored in a cool, dark place, and kept tightly sealed. The temperature of the storage area must be fairly stable. Moisture will ruin model fuel.

13. Never operate the model engine in an enclosed area. The engine produces deadly carbon monoxide and must be run in a well ventilated area, outdoors.

14. Model engines get very hot when running. Do not touch any part of the engine until it cools. Considerable heat is quickly produced by a running model engine. If you touch any part of the engine (especially the muffler/silencer, cylinder head, or exhaust header), you could be seriously burned. Avoid contact until the engine cools.

Repairs

The warranty of your SuperTigre engine is detailed on a separate insert. For all repairs, warranty or non-warranty, your engine can be sent to:

Hobby Services
3002 N. Apollo Dr., Suite 1
Champaign, IL 61822
Phone: (217) 398-0007
e-mail: *hobbyservices@hobbyservices.com*

9:00 A.M. to 5:00 P.M. Central time
Monday through Friday

Contact Hobby Services for engine repair information only. For questions regarding engine setup or operation please contact Product Support at:

Phone: (217) 398-8970
e-mail: *enginesupport@greatplanes.com*

If you need information to send your engine in for service, please visit **www.hobbyservices.com** for all the information you need.

ENGINE DATA LOG

Model _____

Date Purchased: __/__/__

Date	Prop	Glow Plug	Fuel	RPM	Notes