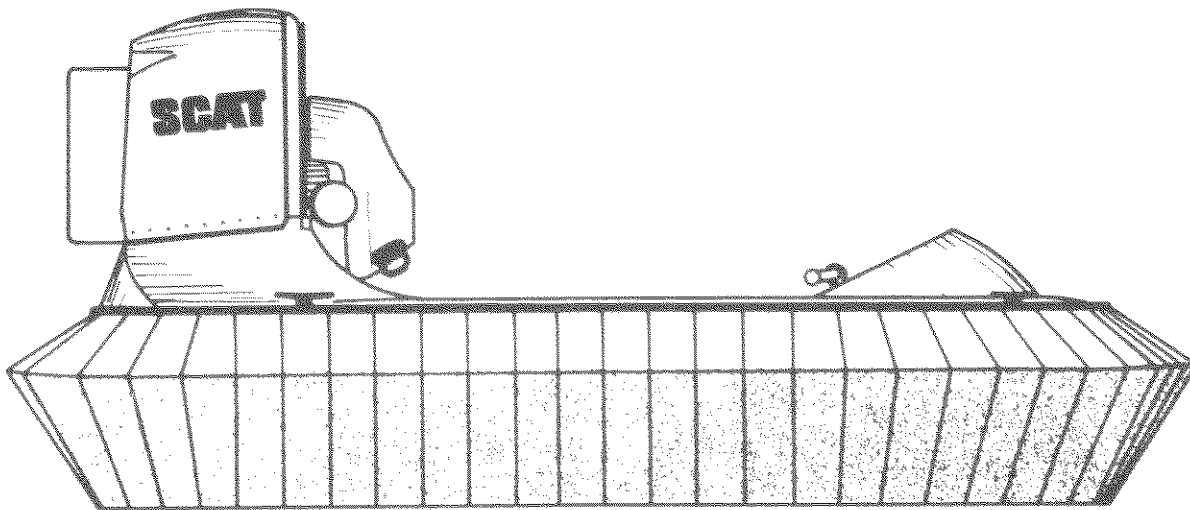


OPERATORS AND SERVICE MANUAL



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HOVERCRAFT DEPOT, INC

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Dear SCAT Owner:

Your SCAT Hovercraft is a high quality product manufactured in the United States. We have taken every precaution to see that the craft is manufactured to our exacting standards.

SCAT Hovercraft is the world's largest manufacturer of consumer hovercraft. We stress quality and service to our customers. Therefore, if your dealer has not properly trained you in the use of your craft or has not carefully acquainted you with preventive maintenance and service procedures, we want to know.

We hope your use of the hovercraft will be trouble free and we have prepared this owner's manual to provide you with the necessary information to properly maintain and care for your SCAT. The various manuals you receive are important to the safe operation of your SCAT and should be read until you thoroughly understand all of the information contained in them.

We wish you many fun filled hours flying your SCAT Hovercraft.

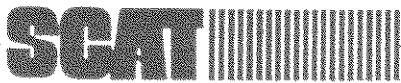
Sincerely,

A handwritten signature in cursive script that reads "Scat".

SCAT Hovercraft, Inc.
6865 N.W. 36 AVENUE
MIAMI, FLORIDA 33147

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INTRODUCTION

This operator's manual has been prepared to provide you with the information necessary for the safe operation of your craft. For better understanding of your craft, read this manual thoroughly and familiarize yourself with operating procedures and general maintenance. Proper operating techniques and maintenance will provide you with maximum craft life and performance.

If you have not completed the registration form included with your craft, be certain to do so and make sure that it is mailed to SCAT Hovercraft, Inc. This completed form is a necessary step to insure warranty coverage.

This operator's manual contains certain symbols which denote statements of particular importance. The symbol ■ **WARNING** ■ identifies personal safety related information. Therefore, be sure to read the directive because it deals with the possibility of personal injury or death. The symbol » **CAUTION** « identifies engine and craft related information. Be sure to read the directive because it deals with the possibility of damaging a part or parts of the craft. If the directive is violated, the craft will usually sustain major damage and may stop operating. The symbol « **NOTE** » identifies supplementary information worthy of particular attention.

At the time of publication, all information is believed to be technically correct. Because SCAT Hovercraft, Inc. constantly refines and improves its products, no retroactive obligation is incurred. « **NOTE** » This manual covers specifications for the SCAT II model equipped with a Rotax 277 engine. If you have purchased a different model, you will receive a supplementary manual. Please read and understand it as well.

Keep this manual accessible for easy reference.

CHECK LOCAL REGULATIONS

Your SCAT is not a toy; it is a highly powered craft. Some states may restrict their use under certain circumstances. Check your state and local regulations.

RECORD YOUR SERIAL NUMBERS

The engine and craft numbers are used to register your craft. These numbers are the only means of identifying your craft from others of the same model and may be needed when ordering parts. In the case of theft, authorities will require engine and craft ID numbers. Keep a copy of these numbers in a safe place.

I. SAFETY PRECAUTIONS AND WARNINGS

■ WARNING ■ LEARN TO RIDE SAFELY

Your SCAT Hovercraft requires skill to master and operate safely. Be sure you have received "hands on" instruction from your dealer, who has been trained to teach you to ride safely. IT IS STRONGLY ADVISED THAT YOU RECEIVE TRAINING FROM AN EXPERIENCED OPERATOR PRIOR TO ATTEMPTING YOUR FIRST "SOLO". Read your manual for instructions and tips on how to ride your SCAT in various weather and terrain conditions. Ask your dealer to explain all aspects of the SCAT operation and take the dealer's flying class before riding for the first time.

■ WARNING ■ USE SAFE SPEEDS

Although your SCAT will easily attain speeds up to 35 mph (may vary depending upon your model), it is strongly recommended that you keep your speed well below that and well within your ability to control the craft. Always allow yourself plenty of room to maneuver and stop. Recommended safe speeds are: on land or snow/ice, no more than 5 to 10 miles per hour or one-third to one-half throttle; on water, 20 to 25 miles per hour or two-thirds throttle. If you are an inexperienced rider, we caution you to remain well below even these speeds.

■ WARNING ■ YOUR FIRST TWENTY HOURS OF OPERATION

For the first twenty hours of operation we recommend you fly with an experienced flyer. One who has at least 100 hours of flying time. This will help you in your learning process.

■ WARNING ■ YOUR FIRST FIFTY HOURS OF OPERATION

For your first fifty hours of operation we recommend you fly on water only. Water is forgiving, flying on land as a novice can be dangerous.

■ WARNING ■ YOUR FIRST FIFTY TO ONE HUNDRED HOURS OF OPERATION

Ride slowly on land, not exceeding 5 miles per hour or one-third to one-quarter throttle.

■ WARNING ■ FLYERS MUST BE ABLE TO OPERATE A MOTOR VEHICLE

Anyone who does not, for any reason, have a valid license allowing them to operate a motor vehicle should not fly this craft. Under no circumstances should anyone under the age of 16 fly or ride on this craft. A hovercraft requires considerable skill and maturity to operate safely. It is a motorized, air cushion vehicle that can be dangerous if operated improperly.

■ WARNING ■ NO PASSENGERS

Never attempt to carry a passenger unless you have a minimum of one hundred hours of operating time and have mastered flying your craft. It is much more difficult to operate a hovercraft with a passenger.

Never fly with a passenger unless they are an experienced flyer

themselves. An unexperienced passenger can upset the balance of your craft.

Never fly with a passenger in front of you on the craft. This can be very dangerous in sudden stops or in your ability to maneuver the craft.

Never fly on land with a passenger.

■ **WARNING** ■ USE A PERSONAL FLOTATION DEVICE

A full vest type flotation device is recommended. The ski belt types generally do not qualify as adequate flotation devices. Check local regulations to see what type of life preserver may be required. We recommend use of a flotation device on all terrains to help protect you from injury.

■ **WARNING** ■ WEAR HEADGEAR

Always wear a protective helmet, with mouth guard, like the ones used by motocross or motorcycle riders. This is required of both pilot and passenger. This will reduce the possibility of serious injury resulting from any collisions or plough-ins.

■ **WARNING** ■ WEAR EAR PROTECTION

Always wear some kind of ear protection when operating a hovercraft. Continued exposure to the high noise levels in the hovercraft could cause damage to unprotected ears. We recommend ear protection which offers at least 25 DbA of attenuation be worn at all times by anyone operating or riding as a passenger in the hovercraft.

■ **WARNING** ■ WEAR KNEE PADS

Always wear knee pads. This will reduce the possibility of injury to your knees and increase the comfort of your ride.

■ **WARNING** ■ WEAR EYE PROTECTION

Always wear eye-protection when flying your craft. This will reduce the possibility of eye injury from air born debris.

■ **WARNING** ■ CARRY A FIRE EXTINGUISHER & FIRST AID KIT

A fire extinguisher should be carried at all times while operating your SCAT. Check with your dealer for information on the proper type and installation. Consider the advisability of carrying flares and a first aid kit.

■ **WARNING** ■ TAKE HEALTH PRECAUTIONS

Riding your SCAT hovercraft is a very exciting and stimulating sensation. However it does require some degree of control and a certain amount of physical strength. For these reasons SCAT does not recommend the use of its products by anyone with any history of:

- heart disease
- back problems or history of injury
- neck problems or history of injury
- head problems or history of injury

problems with muscle control
problems with balance control
hearing problems
any physical or mental disabilities
any other physical problem that can be aggravated by riding the craft.

In addition, under no circumstances should a pregnant woman ride this craft.

■ **WARNING ■ NEVER FLY ON ALCOHOL OR DRUGS**

Never, under any circumstances, fly a hovercraft while under the influence of alcohol or drugs, including medications prescribed by a doctor or over the counter drugs. Alcohol and drugs can impair your ability to safely operate this craft and can result in injury or death.

■ **WARNING ■ DO NOT LEAN FORWARD IN THE CRAFT**

Never lean forward in the craft in an attempt to gain extra speed. This can result in plough-ins or sudden stops, causing possible injury.

■ **WARNING ■ DO NOT ATTEMPT STUNT MANUEVERS**

Never attempt to jump your craft over the wakes of passing boats. Never fly your craft off a jump ramp or off a pier. Come to a complete stop and then slowly increase throttle before making turns. Your disregard of these warnings could result in serious injury.

■ **WARNING ■ DO NOT RIDE DOWNHILL**

It is extremely dangerous to ride your craft downhill at high speeds. If, for any reason, you are required to ride downhill, always keep the craft moving in a forward direction, with the landing skids touching the surface. Never attempt to ride downhill on slick or wet surfaces such as ice or snow.

■ **WARNING ■ RIDE IN SMOOTH OPEN AREAS**

Always ride your craft in smooth open areas. Riding the craft on rough terrain or with major obstacles in your flight path is extremely dangerous for any rider.

■ **WARNING ■ USE EXTREME CAUTION WHEN TRAVERSING SURFACES**

Always use extreme caution and slow speeds (under five miles per hour) when moving from one type of surface to another.

■ **WARNING ■ NEVER FLY ALONE**

Never fly your craft alone. As with scuba diving, use the buddy system. Always tell someone at home what your flight plans are and when you expect to return. These precautions will allow help to arrive if you experience mechanical problems or are injured.

■ **WARNING ■ DO NOT STAND ON THE SIDE OF THE CRAFT**

Standing on the side of the craft can damage the craft. In

addition, you can cause the craft to tip over. Remember, on water, this craft has the properties of a small boat.

■ **WARNING** ■ NEVER FLY SIDEWAYS

It is extremely dangerous to fly your hovercraft sideways. While moving in a sideways direction, any loss of power can result in your being thrown from the craft or the craft overturning.

■ **WARNING** ■ ALWAYS FLY WITH TWO HANDS

Always fly with two hands securely on the handle bar grips. Flying with one hand is dangerous.

■ **WARNING** ■ NEVER TURN YOUR BODY WHILE RIDING

While riding your hovercraft, never turn your body to look behind you. Twisting your body in this manner can result in loss of balance or failure to see oncoming obstacles.

■ **WARNING** ■ DO NOT STAND WHILE FLYING YOUR CRAFT

Always remain straddling the seat in a kneeling position. Standing up in the craft can cause you to lose your balance, resulting in your being thrown from the craft.

■ **WARNING** ■ DON'T FLY AT NIGHT

Never operate your SCAT after dark. It is not equipped with lights.

■ **WARNING** ■ DO NOT SMOKE WHILE IN YOUR CRAFT

Smoking, lighting matches or lighters in or around your craft is dangerous.

■ **WARNING** ■ DO NOT LEND YOUR CRAFT TO ANYONE

Lending your hovercraft to an inexperienced, untrained flyer can result in their injury or death causing a potential lawsuit against you, the owner.

■ **WARNING** ■ KNOW HOW TO SWIM

When operating the SCAT on water, driver and passenger should be competent swimmers. Do not travel off-shore any further than you can comfortably swim.

■ **WARNING** ■ PRACTICE COURTESY AND CAUTION

A hovercraft is a unique vehicle that has the ability to travel on land and water at equal speeds. You know this, but a lot of people do not. Therefore, exercise extreme caution when approaching a crowded beach, shore or other area. Ride only in open, flat areas; NEVER NEAR PEOPLE OR OTHER VEHICLES. At all times you must be aware of your obligation to others; to operate your craft in a responsible manner without causing offense by way of noise or speed or by endangering the safety of others or yourself. Never turn the air thrust from the hovercraft directly towards people or cars.

■ **WARNING** ■ COLD WEATHER OPERATING PRECAUTIONS

Please be advised that when operating the SCAT Hovercraft at near freezing or below freezing temperatures the following precautions must be taken.

1. Check for any ice and snow build-up in and around the engine area. Clear away the ice and snow completely and wipe down the area with a dry cloth.
2. Be careful not to track snow, ice, rocks or stones into the craft from your clothing and/or your footwear.
3. Always check all passage ways, engine compartment, inner hull cockpit, your clothing and footwear for any foreign objects (including ice/snow) and remove them before you start the engine.
4. When operating your craft in near or below freezing temperatures, shut down your engine at least once every twenty minutes and go through safety steps 1,2 and 3 listed above, to ensure no ice has accumulated anywhere on the craft.
5. Always operate your craft at a safe speed whether on land, water or ice.
6. If your craft is stored in an un-heated area the engine and cockpit areas should be covered to prevent ice build up.
7. The SCAT Hovercraft is not recommended for use on any frozen bodies of water incapable of withstanding the weight of the craft.

■ **WARNING** ■ TAIL WINDS CAN RESULT IN PLOUGH-INS

Tail winds can cause your craft to move at excessive speeds and result in loss of control and plough-ins, possibly ejecting you from the craft. If you find yourself flying with a tail wind, reduce your speed slowly and move to the back of the craft.

■ **WARNING** ■ KNOW YOUR TERRAIN

Never fly your hovercraft in unfamiliar terrain. For example, flying on unfamiliar terrain in the snow, which can hide obstacles, can result in craft damage or injury to you.

■ **WARNING** ■ DO NOT FLY YOUR SCAT IN ADVERSE WEATHER

Adverse weather conditions can unfavorably affect the operating stability of your hovercraft.

■ **WARNING** ■ ATTACH YOUR KILL SWITCH

Always attach the kill switch to your person before setting out on any flight. If you are inadvertently thrown from or fall out of the craft, the engine will shut itself off if you have the kill switch attached to yourself.

■ **WARNING** ■ NO LOOSE OBJECTS IN THE CRAFT

Never have any unsecured or loose objects in the craft or on your person during your flights. Small loose objects in the craft can be pulled into the fan and propelled outward at very high speeds or can cause a blade failure which can be extremely dangerous. In addition, unsecured objects can move forward in the craft, upsetting your balance.

■ **WARNING** ■ DO NOT LEAVE YOUR ENGINE RUNNING

Always shut your engine off after setting the craft down. Leaving your craft running while it is unoccupied can attract other people, particularly small children, and entice them into placing their hands in the revolving fan.

■ **WARNING** ■ NEVER FLY WITH DAMAGED SKIRTS OR BOTTOM

Always repair any ripped skirts or damaged bottoms immediately. Flying with damaged skirts or bottoms can result in the craft performing improperly. Damaged bottoms can catch the surface, resulting in sudden, unexpected stops.

■ **WARNING** ■ NEVER FLY WITHOUT A FAN GUARD

Never fly your SCAT without the fan guard securely fastened.

■ **WARNING** ■ CHECK YOUR MOTOR MOUNTS

Always check your motor mounts to make sure they are properly secure and without damage. Over torquing motor mounts can result in damage. Please refer to the maintenance section for proper torque information.

II. HOW YOUR SCAT WORKS

■ NOTE ■ YOU MUST READ AND UNDERSTAND THIS SECTION THOROUGHLY BEFORE OPERATING YOUR SCAT.

HISTORY

Hovercraft technology has existed for over thirty years. In commercial applications, it is used in multi-ton ferries which can carry automobiles, buses and passengers. Military applications and Marine Patrol and Rescue operations are some of the other uses for larger hovercrafts. Your SCAT utilizes most of the same engineering principles as these larger, commercial craft. One primary difference, besides size, is that your SCAT is an "integrated" hovercraft. This means it utilizes one engine and one fan to provide both your static pressure (lift) and dynamic pressure (thrust).

PRINCIPLES

In order for you to become a competent and safe hovercraft operator, it is necessary that you understand some of the basic principles of how your SCAT flies.

The SCAT Hovercraft is made from a combination of polyurethane foam, fiberglass and high impact ABS plastic. The polyurethane foam is completely sheathed in ABS plastic and provides the principal strength for the structural frame. It also provides buoyancy. The six foot wide body can carry up to 350 pounds, depending upon pilot experience and operating terrain. (See supplemental manuals for particular model specifications.) This broad body design also provides solid stability. Three aluminum runners are bonded to the underside of the craft to serve as landing pads.

The skirt system consists of 64 neoprene coated nylon segments. Each segment is centered over a corresponding air port in the hull. The design gives maximum flexibility when passing over obstacles and also allows for easy replacement and repair, if needed. The bottom portion of the segments are attached by plastic cable ties to "P" clips which are riveted to the underside of the hull and the top of the segments are attached to the deck molding using three spring clips. Lift air is obtained by ducting approximately one-third of the fan output to the underside of the craft. This air circulates around the hull and is fed through varying size holes into each individual skirt segment. Slight openings of the engine throttle brings the SCAT into a hover position, and further openings and adjustments results in forward motion. The air that is routed into the hull actually pressurizes the area underneath the craft. The skirts seal to the ground and allow the pressure to increase until the craft lifts to a hover-height of six to eight inches. Anything which prevents the skirts from sealing to the ground (e.g. tall grass, narrow ditches, etc.) can cause the craft to lose lift pressure. The pressure pocket beneath the craft feels like you are riding a rounded bubble of air. With some practice you will

learn how to use weight shifting to your advantage, allowing you to accomplish tight turns and more demanding maneuvers.

The craft is maneuvered by a combination of aerodynamic rudders at the stern, weight shifting and throttle response. The combination of these three steering methods makes SCAT easy to maneuver over land, water and snow. The craft is extremely responsive to the rudders, which enables the operator to readily follow a predictable path over land as well as water. At an approximate 50% setting of the throttle, an estimated speed of 20 miles per hour can be achieved on a straight run. At full throttle, speeds of up to 35 miles per hour can be achieved.

■ **WARNING** ■ Full throttle should not be used for speed but for maneuverability purposes only. At low speeds, it is possible to steer a select path to avoid obstructions or to settle down on snow, land, or water. ■ **WARNING** ■ At the same throttle positions, higher speeds will be obtained on land than on water, and on snow/ice than on land, so use extreme caution when moving from one surface to another.

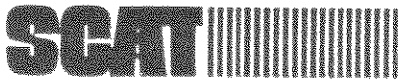
The normal riding position is to straddle the seat in a kneeling position with your legs tucked behind you. Hovercraft are sensitive to trim, therefore, by merely sitting slightly forward or back, differing payloads are easily catered to.

The craft weighs approximately 330 pounds when empty, and is relatively easy to lift. Lifting of the craft bow enables a trailer to be pushed under the craft and drawn onto the trailer in a manner similar to a conventional leisure boat. For long journeys, the craft can be easily transported by conventional road trailers. Be certain to secure the craft to your trailer with a standard trailer strap.

Your SCAT is powered by a two cycle engine and is sensitive to proper operation and maintenance. The fan is mounted to a two-to-one gear box and runs directly off the engine. This fan has been chosen because of its ability to create both static pressure for lift and a high volume flow for thrust. The pitch on the blades has been set to govern the engine to its maximum operating RPM. Any change to the fan pitch, number of blades, etc. would only decrease the performance of the craft by upsetting the balance between pressure, volume flow and use of maximum available engine horsepower.

The rudder/handle-bar controls are very simple, using a standard marine push/pull cable. Access to the forward linkage is via the dry storage hatch, located in front of the handle-bar and is visible when the front storage bag is removed. Light oil lubrication of rudder linkage is required periodically.

The engine frame on your SCAT is designed to handle all of the stress and vibration generated by the engine and revolving fan.



Hovercraft

The frame is specially treated with rust resistant paint to provide many years of trouble free service. It is mounted to the craft in six (6) locations, each with its own heavy duty engine mount. It is extremely important to carefully protect the engine frame from damage to its alignment and to inspect the engine mounts periodically for wear. This will ensure that the fan remains perfectly aligned within the cowling.

III. FLYING YOUR SCAT

■ **WARNING** ■ Before you fly your SCAT for the first time, make sure you have read and understood your owner's manual and have received thorough flight training from your authorized SCAT dealer. In addition, you should fly with an experienced pilot for your first twenty hours of operation. Consult your SCAT dealer for the names of experienced flyers in your area.

» **CAUTION** « Refer to your owner's engine manual for proper break-in procedures. If they are not followed properly, it could result in damage to your engine and loss of warranty.

GAS AND OIL

With a new engine, a higher than normal oil mix ratio is advised during the break-in period. Consult your engine manual for specific details on break-in. Normal fuel mixture after break-in varies depending upon your model of craft. Consult your engine manual for specific ratios. » **CAUTION** « Failure to add oil to the gas will result in permanent damage to your engine. Moisture can form in tanks left dormant for long periods of time. Water in your fuel system can also cause damage or make the SCAT difficult to start. If you develop moisture in the fuel line or gas tank it may be necessary to replace the gasoline and clear the fuel line. See the Maintenance & Repair section. Do not use gasohol, racing fuels or fuel additives. Such fuels may damage the engine and/or fuel system. SCAT recommends high octane (91 octane or above) gasoline for better operating efficiency. Only two cycle oil for use in air cooled engines (e.g. chain saws, snowmobiles, ultra-lights and motorcycles) should be used in your SCAT unless your model has a water cooled engine (refer to your engine owner's manual). Do not use oil made for water cooled two cycle engines such as outboard boat engines or universal oils which are designed for use in either water or air cooled engines. It is important that the oil and fuel are properly mixed before running you SCAT. If not, the oil will settle in the bottom of the tank and clog the fuel system. For best results the tank should be filled in the following manner:

1. Remove tank from craft.
2. Add oil to tank
3. Add one gallon of gas to tank.
4. Install the lid and shake the tank vigorously for a few seconds.
5. Fill the tank to approximately one inch below the top with gasoline.
6. Reinstall the tank and reconnect fuel line.

Once the oil and fuel are properly mixed the oil will not separate from the fuel.

■ **WARNING** ■ Don't fill the gas tank completely to the top. Expansion of the tank in warm weather may cause overflow of fuel.

RECOMMENDED FLIGHT GEAR

For your protection and safety, the following flight gear is recommended:

1. Helmet with mouth protection,
2. Goggles for eye protection,
3. Life vests,
4. Ear protection,
5. Knee pads,
6. Survival suits for cold weather,
7. Spare parts:
 - a. extra skirt tie straps,
 - b. extra skirt clips,
 - c. extra skirts,
 - d. spark plugs,
8. Tools:
 - a. pliers,
 - b. screwdrivers,
 - c. spark plug ratchet wrench,
9. Miscellaneous:
 - a. WD 40,
 - b. small flashlight,
 - c. sun block,
 - d. fresh water,
 - e. a spare gas tank for long flights,

PRE-FLIGHT CHECKS

■ **WARNING** ■ Your failure to follow the pre-flight checks exactly could result in injury or death.

Before starting your SCAT, always make these simple checks:

1. No loose objects in the cockpit or on your person.
2. Sufficient fuel and oil added.
3. Breather valve open on fuel tank.
4. Skirt segments in place and in good repair.
5. Drain plug secure.
6. Rudders and controls operating properly.
7. Check to be sure fan guard is securely fastened.
8. Be sure all nuts and bolts are securely tightened (e.g. fan, engine etc.).
9. Inspect fan blades for chips or cracks. Do not operate the craft if any problems appear.
10. Check bottom of craft for damage.
11. Inspect motor mounts for wear or damage.
12. Be sure no person is within 100 feet of your craft before starting your engine. Of particular importance, check for small children behind the craft.

STARTING YOUR ENGINE

1. Connect kill switch.
2. Prime carburetor by squeezing primer bulb.
3. Make sure breather valve is open.
4. Put choke in ON position.

5. Make sure that the throttle is fully closed and in idle position.
 6. Take up slack in recoil rope, then pull. (See instructions in supplemental manuals for other models.)
 7. After engine has started and run for a few seconds, return choke to the off position.
 8. Allow engine to warm up for two minutes before lifting off.
- » NOTE « See illustrations in manual for further clarification.
» CAUTION « Failure to properly warm-up engine, especially in freezing temperatures, could cause engine seizure.

YOUR FIRST LIFT OFF

Operating a Hovercraft is a totally new experience for most people; therefore, a certain amount of learning is necessary. There are seven basic rules you should memorize prior to operating your SCAT for the first time:

1. First and most important, GO SLOW until your experience and confidence grow. Watch your speed at all times, as speed can build up very quickly.
2. The bow of the craft will not always be pointed in the direction of travel (even for an expert).
3. Your rudders do not work unless air is flowing over them. Therefore, control is a combination of trim and rudder/throttle control.
4. The thrust from your SCAT can reach wind speeds of over 70 MPH. Always be aware of what is directly behind your SCAT, because small pieces of dust and debris can be picked up from these high wind speeds. Never point the stern of the craft towards people or cars when the engine is running.
5. Do not attempt to learn to fly your SCAT in places congested with a lot of boats or people. The curiosity of on-lookers may bring them closer to you than you can handle as a beginner.
6. Do not allow the craft to contact the ground when moving sideways over land. ■ WARNING ■ This contact will cause the craft to stop abruptly.
7. When riding, a light spray should be coming over the bow of the craft as an indication of proper trim. In other words, ride with the bow slightly high.

The ideal site for your first flight is an open water area. A trained and experienced operator must be on site. Kneel in your SCAT, straddling the seat, with your legs tucked behind you. Turn the throttle control, located on your right handlebar, towards you slowly (just like a motorcycle). This will cause the SCAT to lift and hover. More power will allow the craft to move forward. The bow (nose) of the craft should be slightly higher than the stern (tail). If not, move back some on the seat. It is essential, particularly at high speeds; to maintain this bow up position, called "trim". ■ WARNING ■ Failure to do so may result in the bow of the craft dropping which will in turn cause a "plough in". If you see that the bow of the craft is beginning to drop, it is a warning of impending plough-in. An easy

maneuver is to, at first sign of impending "plough-in", immediately shift your weight towards the stern, increase the throttle and turn the handlebar. This will force the "bubble" of air beneath you to shift forward, thereby lifting the bow back up to proper trim. All hovercraft require the operator to maintain the correct trim and the faster you go, the more critical the trim becomes. ■ NOTE ■ Excessive spray from one side of the craft or from the front indicates improper trim. Shift your weight forward or to the side of the craft that is generating the spray to correct the situation. At slow speeds, practice your turns. This can be accomplished by shifting to the left and turning your handlebars to the left for a left turn. Practice this several times. Then practice right turns. Use your body weight when turning like you would with a motorcycle. You will note that you can control the craft appreciably by shifting, (not leaning) to one side. This is because you are causing skirt drag on the down side and allowing air to escape from the raised side which has a thrust effect. Do not carry a passenger until you have achieved proficiency in turning and controlling your SCAT. While practicing, you will notice a certain amount of "fish-tailing" occurs while executing turns, and you will have to over-steer your intended course. Remember to anticipate your turns early and allow plenty of room to safely complete the turn. Once you are confident at slow speeds, try maintaining a course and set yourself a route to follow, e.g. around two markers in the water. Practice this until you are confident you can stop the craft smoothly and where you want to. Remember to anticipate your turns and start turning the craft early. ■ WARNING ■ The wind has a marked effect on the operation of your craft. It takes much longer to turn or stop when traveling down wind or down slope. ■ NOTE ■ When turning a Hovercraft you are steering the rear of the craft, as with a boat, rather than the front end, as with a car. This causes the back end of the craft to swing out when you are making turns. ■ NOTE ■ When flying your craft, if the craft starts to sputter or stops, check for fuel and fuel line connection. If all is proper, try to restart the craft. If the craft will not start, spray the wiring at the back end of the craft with WD 40. Try to re-start the craft. More than likely, the wiring in the back or the kill switch is shorting or grounding out. The WD 40 will clear out the water and act as an insulator.

STOPPING

The standard stopping procedure is to sit back on the seat and slowly release the throttle. The SCAT will settle down on the ground or water. Like any object in motion, the craft will continue to travel for a distance, particularly on low friction surfaces like water and ice. Other conditions such as weight load, wind and slope will also affect stopping distance. Always be sure to allow yourself plenty of stopping distance. At intermediate speeds, an effective method of normal stopping is to "twizzle turn". It means to swing the craft through 180 degrees

and sustain full power all during the turn. This is achieved by opening the throttle wide and swinging the rudders hard one way. When the craft has turned approximately 120 degrees, quickly apply full opposite rudder. The result will be that you are facing the opposite direction and at a momentary standstill. You can then release the throttle slowly and stop the craft with minimum glide. ■ **WARNING** ■ Do not attempt this maneuver until you are fully proficient and comfortable flying your craft. ■ **WARNING** ■ Never release the throttle quickly when traveling sideways over land. Remember that one of the most dangerous conditions for any hovercraft is to be traveling down wind over land while executing a tight turn. If at that moment the craft is hit by an unseen object or you close down the throttle suddenly you may very likely be thrown out of the craft. **DON'T PUT YOURSELF IN THAT POSITION.** Caution is the solution.

ANCHORING

Anchoring occurs in water and snow only and is a condition in which the pocket of air displaces the underlying terrain and the skirts become locked to the surrounding water or snow. It takes some experience in order to release the craft from this condition. New flyers need to be patient leaning forward as far as possible and gently rocking back and forth or from side to side, increasing and decreasing the throttle until you are back on the bubble and moving normally. Immediately return to the proper flight position.

IV. MAINTENANCE AND REPAIR

This section of your Owners Manual provides directions for the general up keep and care of your SCAT Hovercraft. Like any machine, preventive maintenance will extend the service ability of your SCAT. Please consult the following list of regular maintenance procedures to keep your craft looking and performing as it should.

PREVENTIVE MAINTENANCE

- | | <u>INTERVAL</u> |
|--|---------------------|
| 1. Cleaning your SCAT | After each use |
| 2. Check each skirt segment for tears or holes and that each segment is properly secured | After each use |
| 3. Steering cable, linkage lubricated | After every 5th use |
| 4. Check fan blades for chipping or cracks. | Before each flight |
| 5. Spray exposed metal and engine with some type of rust inhibitor or lubricant (WD 40, LPS3 etc.) | After each use |

CLEANING YOUR SCAT

Your craft should be washed after each use. This is especially important if you operate your craft in salt water. A mild soap and lots of fresh water will help maintain the life and luster of your SCAT. After washing, a thorough spraying with WD 40 will help protect the engine and moving parts. To add to the shine of the fiberglass, you can use a protective car or boat wax on a regular basis. A cover is recommended if your SCAT is kept outdoors. Your SCAT dealer stocks a heavy duty canvas cover made specifically for the SCAT.

CLEANING PROCEDURE

1. Remove engine cover
2. Remove drain plug
3. Close breather valve on gas tank
4. Spray craft with water
5. Wash with mild soap
6. Rinse with fresh water
7. Wipe dry with soft cloth
8. Spray all moving and metal parts liberally with WD 40 including throttle assembly, kill switch assembly, rudder assembly, engine, engine guard, engine frame, choke, etc.
9. Re-install engine cover.
10. Wax fiberglass areas on a regular basis to protect your craft's finish

SKIRT SEGMENTS

Neoprene skirt segments are sensitive to ultra violet radiation. Therefore the craft should not be stored in direct sunlight. Any type of covering will dramatically increase skirt life. It is very important to the overall performance of your SCAT that the skirting system is properly

maintained. This is easily achieved by physically inspecting each segment prior to operating the SCAT. Notice that each SCAT is constructed with sixty four (64) individual skirt segments. Not all skirts are identical. There are three (3) types: A, B, and C. The illustrations in the back of this manual shows the proper locations for each type. In total, your craft has 45 type "A" skirts, 12 type "B" skirts and 7 type "C" skirts. Although there are different types of skirt segments, they are all installed the same way. Occasionally upon inspection you may notice a tear or worn spot on an individual segment. If you feel that the segment should be replaced, use the following procedure. Each skirt segment (Type A, B, or C) is held in place by three (3) skirt clips and two (2) skirt ties. To change a skirt segment, first remove the trim-lock located on the upper section of the skirt. Remove the three (3) skirt clips and two (2) skirt ties as shown in the diagram. Reverse procedure to install new skirt. Please note that damaged skirt segments can usually be repaired and reused at a later date. Normally a small hole or tear will not substantially reduce the effectiveness of that skirt. Keep in mind that the skirt does not hold air like a balloon. It simply acts as a conduit, constantly passing fan-generated air through it. Also, all segment types are interchangeable in an emergency. When fitting the new plastic straps through the "p" clips ensure that you have inserted the strap in the right way. Gently tug the strap to make sure that the ratchets have held. The straps have been chosen for their strength but, in the event of any severe pull or snag, are designed to break before tearing the skirt segment. This helps to increase the service life expectancy of each skirt segment and reduce the cost of repair. When trailering your SCAT, be sure that the skirt segments are not touching the wheels of the trailer or covering the tail lights or license plate. If this occurs, it is advisable and convenient to tuck sideways the bottom of one segment up into the top of its neighbor, continuing so until sufficient segments are clear. Skirts should be cleaned regularly with fresh water and mild soap. This will prevent dirt or salt build up which could cause accelerated skirt wear.

THE HULL

The hull of your SCAT is constructed of glass reinforced polyester resin with the GEL KOTE color impregnate. After operation the craft should be left on the trailer with the bow raised. Remove the drain plug and hose down thoroughly, especially after operation in salt water (See Cleaning Procedure.) Minor scratches in the fiberglass can be removed by fine "wet and dry" sand paper, then polished with a fine cutting compound. Serious fiberglass damage can be repaired by any competent fiberglass technician. Any of the kits marketed for the repair of boats and car bodies is suitable. The surface of the repair area must be thoroughly clean to insure a satisfactory bond. The self colored GEL KOTE resin are blended-in using wet and dry emery paper. See your authorized SCAT dealer for tips on

small repair.

AIR FILTER

The air filter should be removed and cleaned periodically. Recommended cleaning time is after 10 hours of normal operation. Salt water or land use may require more frequent cleaning. Remove the air filter by loosening the wires first and then rotating the air filter counter-clockwise until it frees. Then run clean, soapy water through the filter to remove any dirt build-up. Make sure excess water drains completely before reinstallation. Reverse procedure to re-attach the filter. Be certain to install filter safety wire upon re-assembly.

FAN GUARD

Be certain that the fan guard is in good repair and is securely in place.

RUDDER/HANDLE-BAR CONTROLS

These controls are very simple, using a standard marine push/pull cable. Access to the forward linkage is via the dry storage hatch, located in front of the handle-bar and is visible when the front storage bag is removed. Light oil lubrication of rudder linkage is required periodically.

CRAFT BOTTOM

The craft bottom is constructed of high impact ABS plastic and should be inspected after each use for any fractures or damage. If the bottom is fractured, prior to your next flight the bottom should be repaired using SCAT FIX which comes with application instructions. Consult your SCAT dealer. ■ **WARNING** ■ Flying your SCAT with a fractured bottom is dangerous and could result in serious damage to your craft or injury to you.

ENGINE FRAME

The engine frame on your SCAT is designed to handle all of the stress and vibration generated by the engine and revolving fan. The frame is specially treated with rust resistant paint to provide many years of trouble free service. It is mounted to the craft in six (6) locations, each with its own heavy duty engine mount. It is extremely important to carefully protect the engine frame from damage to its alignment and to inspect the engine mounts periodically for wear. This will ensure that the fan remains perfectly aligned within the cowling. ■ **WARNING** ■ Over torquing of engine mounts or engine mount bolts can result in engine mount failure. The recommended torque is five to six pounds.

ENGINE

The engine installed in your craft has been chosen for its strong construction and ability to produce more power at lower RPM than many other engines. Being a two cycle engine, it has very few moving parts and is self lubricating. Very little maintenance is

required. However, engine repair, fan blade replacement, and other repairs must be done by your authorized SCAT dealer. The following is a schedule of some of the maintenance/repair work which must be done by your SCAT Dealer. » CAUTION « Refer to owner's engine manual for operation and maintenance details. Be sure to read and understand this manual thoroughly and to follow all required maintenance items. » CAUTION « The carburetor and fan used on your craft are calibrated for standard day, sea level operation. The amount of air drawn into the cylinders and fan is influenced by such factors as the altitude, the temperature, humidity, etc. Adjustment of carburetor and fan should be done by your authorized SCAT dealer. If proper adjustments have not been made it could affect the performance of the craft and cause damage to the engine. Check with your dealer to make sure proper adjustments have been made.

<u>JOB DESCRIPTION</u>	<u>SERVICE INTERVAL</u>
1. Re-torque engine head bolts	See manual
2. Change gear box oil	See manual
3. Adjust Throttle cable	After every 30 hours of operation
4. Clean air filter	After every 10 service hours *
5. Adjust carburetor	After every 20 service hours & see manual
6. Replace fan blades	After every 100 service hours or one year whichever occurs first.
7. Drain and refill gear box	See manual

*Service interval may be shorter if craft is used mostly over land.

» CAUTION « BE SURE TO USE ONLY AUTHORIZED SCAT HOVERCRAFT PARTS ON YOUR CRAFT. Using other parts could result in damage to your craft, engine failure and poor craft performance. In addition, you may cause your warranty to be voided.

V. CRAFT SPECIFICATIONS

▣ NOTE ▣ These specifications only apply to the standard SCAT II. See your supplementary manual for details on other models.

BODY

Hull.....Foam injected high impact plastic ABS

Deck.....Glass reinforced polyester resin with GEL COTE color impregnated

Length.....9 FT. 6 in.

Width.....6 ft.

Height (off cushion).....48 in.

Weight (empty).....330 lbs.

Maximum carrying capacity (on land).....350 lbs.

Maximum speed.....35 mph.

Maximum payload (persons).....2

FUEL

Tank capacity.....6 gallons

Fuel type.....high test premium 91 plus octane

Oil type.....Air cooled two cycle oil

Mixing ratio (gas/oil).....See engine manual

ENGINE - See engine manual

FAN

Drive ration.....2:1

Maximum fan rpm.....3250 - 3500

Blade type.....glass filed nylon
Blade pitch (angle).....varies with engine
type

MISCELLANEOUS

Skirt material.....Neoprene nylon
Hoverheight.....6 to 8 inches
Colors.....Red, White, Blue,
Yellow, Camouflage,
Black.
Wave capabilities.....2' chop maximum

VI. TROUBLESHOOTING GUIDE

PROBLEM: Engine won't start

POSSIBLE CAUSE

1. No fuel in fuel tank
2. Kill switch plug
3. Bad spark plug
4. Choke in wrong position
5. Check air filter
6. Check fuel
7. Obstructed fuel line or filter
8. Fuel tank vent obstructed
9. Inoperative or improperly installed fuel pump
10. Ignition switch in "OFF" position or faulty wiring
11. Spark plugs improperly gapped, fouled or malfunctioning
12. Water in fuel
13. Engine flooded
14. Enrichment valve not "ON"
15. Throttle valve open
16. Improper adjustment of pilot air screw or pilot mixture screw
17. Head gasket blown or leaking
18. Air leak in crankcase or in-let system
19. No spark fuel

POSSIBLE SOLUTION

1. Fill tank with fresh fuel/oil mix
2. Make sure plug is completely together
3. Plug should be brown & dry; if not, then replace
4. Make sure choke locks in full up position
5. Make sure air filter is not clogged
6. Remove fuel bowl and check for bubbles in bottom of bowl. Empty fuel tank & lines
7. Check fuel lines and in-line filter for obstructions.
8. Check fuel tank vent for obstruction. Clear vent.
9. Check for proper operation and installation.
10. Turn ignition switch "ON" or check for faulty wiring and repair as needed.
11. Remove spark plugs, adjust, clean or install new spark plugs.
12. Drain and flush fuel tank and lines. Refill
13. See "Starting Procedures"
14. Turn enrichment valve ON
15. Close throttle valve
16. See your authorized SCAT dealer
17. Replace gasket
18. Check crankcase pressure
19. Check ignition switch position. If found to be

20. No compression (secondary)

"ON", check all ignition wire connections for being clean and tight.

20. Remove cylinder head and inspect pistons, rings and cylinder bore condition.

PROBLEM: Engine loses power and stops

POSSIBLE CAUSE

1. Check breather valve
2. Check fuel
3. Check choke assembly
4. Carburetor is icing over
5. Piston seizure

POSSIBLE SOLUTION

1. Make sure breather valve is open 1/4 turn
2. Make sure fuel/oil mixture is correct and water free
3. Make sure the choke closes completely.
4. Avoid using in known icing conditions.
5. Inspect piston through intake and exhaust ports. If damaged, replace parts as required.

PROBLEM: Engine will not idle or is missing at low speeds

POSSIBLE CAUSE

1. Loss of compression or low compression.
2. Carburetor improperly adjusted - (a) idle speed too low, (b) low speed system out of adjustment
3. Dirty carburetor passages or plugged jets
4. Spark plugs improperly gapped, fouled or malfunctioning
5. Improper fuel/oil mixture (a) too much oil, (b) too little oil
6. Head gaskets blown or leaking
7. Air leak in crankcase or air inlet

POSSIBLE SOLUTION

1. Worn piston, rings or cylinder
2. See your authorized SCAT dealer
3. Check carburetor
4. Remove spark plugs, adjust, clean or install new spark plugs.
5. Refuel using proper fuel/oil mixture
6. Replace gasket
7. Check crankcase pressure

PROBLEM: No acceleration - idles well but will not take throttle

POSSIBLE CAUSE

1. Pilot air screw or pilot mixture screw set to lean
2. Fuel level set too low
3. Fuel pump not supplying enough fuel due to (a) punctured diaphragm, (b) non-functioning check valve, (c) impulse line clogged or leaking
4. Fuel line obstructed
5. Improper ignition timing
6. Air leak in crankcase inlet system.
7. Spark plugs improperly gapped, fouled or malfunctioning

POSSIBLE SOLUTION

1. See your authorized SCAT dealer
2. See your authorized SCAT dealer
3. Replace fuel pump, clear or replace impulse line.
4. Clear obstruction or replace.
5. See your authorized SCAT dealer
6. See your authorized SCAT dealer
7. Remove spark plugs, adjust, clean or install new spark plugs.

PROBLEM: Slow acceleration - low top RPM - hard to start

POSSIBLE CAUSE

1. Spark plug improperly gapped, fouled or malfunctioning
2. Blown or leaking head gasket
3. Piston and cylinder scored
4. Float adjustment too high
5. Main Jet too rich

POSSIBLE SOLUTION

1. Remove spark plugs, adjust, clean or install new spark plugs.
2. Replace head gasket
3. See your authorized SCAT dealer
4. See your authorized SCAT dealer
5. See your authorized SCAT dealer

PROBLEM: Runs lean at all speeds - coughs, spits, slows down, surges

POSSIBLE CAUSE

1. Air leak in fuel lines
2. Fuel line obstructed
3. In-line fuel filter plugged or dirty
4. Fuel pump not supplying enough fuel due to (a) obstructed impulse line, (b) punctured diaphragm (c) inoperative check valve
5. Carburetor inlet needle and seat obstructed
6. Float level too low
7. Carburetor is dirty
8. Pilot Jet or Main Jet too lean
9. Carburetor loose on flange
10. Rubber flange leaks
11. Air leak in crankcase or inlet system

POSSIBLE SOLUTION

1. Check fuel lines and fittings, correct as required.
2. Clear or replace fuel line
3. Replace filter
4. Clear or replace impulse line, replace fuel pump.
5. See your authorized SCAT dealer
6. See your authorized SCAT dealer
7. Clean carburetor
8. See your authorized SCAT dealer
9. Tighten rubber flange screw
10. Replace rubber flange
11. See your authorized SCAT dealer

PROBLEM: Engine missing under load

POSSIBLE CAUSE

1. Spark plug improperly gapped, fouled or malfunctioning
2. Heat range of spark plug too cold
3. Engine improperly timed
4. Broken spark plug connector
5. Improper carburetor adjustment

POSSIBLE SOLUTION

1. Remove spark plugs, adjust, clean or install new spark plugs.
2. See your engine manual
3. See your authorized SCAT dealer
4. Replace connector
5. See your authorized SCAT dealer

PROBLEM: Engine overheats

POSSIBLE CAUSE

1. Fuel line or filter obstructed
2. Improper carburetor adjustment
3. Improper (too lean) fuel mixture
4. Fuel octane rating too low
5. Air leak in crankcase or inlet system
6. Engine improperly timed
7. Loose fan drive belt
8. Cooling fan clogged, engine dirty
9. Carbon buildup

POSSIBLE SOLUTION

1. Clear or replace fuel line, replace fuel filter.
2. See your authorized SCAT dealer
3. See engine manual
4. Use higher octane fuel
5. See your authorized SCAT dealer
6. See your authorized SCAT dealer
7. See your engine manual
8. Clean engine
9. De-carbonize combustion chamber, exhaust port, piston dome.

PROBLEM: Weak or no spark

POSSIBLE CAUSE

1. Ignition switch "OFF"
2. Spark plugs incorrectly gapped, fouled or malfunctioning
3. Faulty wiring
4. Faulty ignition components

POSSIBLE SOLUTION

1. Turn ignition "ON"
2. Remove spark plug and adjust, clean or install new spark plugs.
3. Check wiring for opens, loose connections, etc. See your authorized SCAT dealer.
4. See your authorized SCAT dealer.

PROBLEM: Engine runs on after switch is shut "OFF"

POSSIBLE CAUSE

1. Faulty wiring
2. Spark plug heat range too high
3. Carbon build-up

POSSIBLE SOLUTION

1. Check for shorts to ground.
2. See your engine manual
3. De-carbonized combustion chamber, exhaust port and piston dome.

PROBLEM: Cranks over extremely easy on one or both cylinders-
loss of compression

POSSIBLE CAUSE

1. Loose spark plug
2. Head bolts not tight
3. Blown head gasket
4. Excessive ring end gap
5. Scored piston

POSSIBLE SOLUTION

1. Re-torque spark plug
2. Re-torque head bolts
3. Replace gasket
4. Check ring end gap and replace as required
5. Inspect piston through intake and exhaust port. Replace faulty piston.

PROBLEM: Engine won't crank over - unable to rotate flywheel

POSSIBLE CAUSE

1. Piston rings rusted to cylinder wall
2. Crankshaft seized to bearing (Main or Rod)
3. Connecting rod broken
4. Flywheel seized to stator plate
5. Engine improperly reassembled after repair
6. Seized piston
7. Foreign material in crankcase

POSSIBLE SOLUTION

1. Remove cylinder and piston and replace defective parts.
2. Replace crankshaft assembly.
3. Replace crankshaft assembly.
4. Remove flywheel and replace defective parts.
5. Recheck assembly procedure.
6. Remove cylinder and repair.
7. Disassemble crankcase and clean.

PROBLEM: Engine vibrates excessively or runs rough and smokes

POSSIBLE CAUSE

1. Pilot or Main system too rich
2. Enriching valve not fully closing
3. Float level too high
4. Carburetor air passages plugged
5. Exhaust system obstructed
6. Water in fuel
7. Engine mount bolts not secure

POSSIBLE SOLUTION

1. See your authorized SCAT dealer
2. Check operation. See your authorized SCAT dealer.
3. See your authorized SCAT dealer.
4. See your authorized SCAT dealer.
5. Check and clear exhaust system.
6. Drain fuel cells, fuel lines and carburetor. Dry spark plug firing end. Fill fuel cell with fresh fuel mixture. See your engine manual.
7. Check and re-torque engine mount bolts.

PROBLEM: Engine won't start - kicks back and back fires

POSSIBLE CAUSE

POSSIBLE SOLUTION

- 1. Flywheel key missing or sheared
- 2. Improper ignition timing

- 1. Replace key
- 2. See your authorized SCAT dealer.

» CAUTION « For additional engine information, refer to your engine owner's manual.

VII. LIMITED WARRANTY

SCAT HOVERCRAFT, INC. extends a limited warranty to the original retail purchaser of this product against defects and workmanship with respect to the items and for the periods specified below.

ENGINE LIMITED WARRANTY

The engine is warranted for 6 months from the date of purchase. This warranty covers manufacturer's defects & workmanship only. It does not cover engine failures due to: accidents, improper operation, blade RPM set higher than factory recommended limits, lack of proper oil/gas mixture, submersion in water, or any other type of misuse or neglect. All engine and blade parts must be dealer installed in order to maintain factory warranties. Parts are available from your authorized SCAT dealer.

The following are NOT covered by the limited warranty:

1. Piston Burning or piston seizure.
2. Spark Plugs, ignition points or condensers or recoil ropes.

CRAFT LIMITED WARRANTY

The SCAT Hovercraft carries a conditional 90 day limited warranty covering workmanship and defects. This warranty does not cover any damage due to misuse, accidents, neglect or submersion in water.

The following are expressly excluded by the limited warranty:

1. skirt segments and skirt ties
2. fan blades
3. GEL KOTE cracks
4. Ruptured bottoms
5. Damage to the craft due to accidents

FAILURE BY THE PURCHASER TO COMPLETE AND MAIL THE WARRANTY REGISTRATION CARD(S), WITH THE PURCHASE INVOICE ATTACHED, TO SCAT HOVERCRAFT INC. WITHIN THIRTY DAYS OF PURCHASE VOIDS THE LIMITED WARRANTIES.

DESCRIPTION OF LIMITED WARRANTY RIGHTS

From the date of purchase through the applicable warranty period, SCAT Hovercraft will replace, without charge to the original retail purchaser for labor and/or replacement parts, any part of any warranted item which is found to be defective. During the applicable warranty period wherein SCAT Hovercraft will replace defective parts without charge for labor or replacement parts, the craft shall have been regularly maintained and serviced in accordance with the manufacturer's service manual and all warranty inspections and repairs must be performed by a SCAT Hovercraft authorized service dealer or by a SCAT Hovercraft service center. During the applicable warranty, period wherein SCAT Hovercraft will replace defective parts without charge for

labor or replacement parts, this vehicle shall not have been used for racing and shall have been subjected only to proper use normal for this type vehicle. Further, this vehicle shall not have been operated in any way which, in the sole judgement of SCAT Hovercraft, affects the performance, stability or capability of the craft to meet its normal design function. Rental operations are strictly and explicitly excluded from warranty coverage. Any craft which has had any of its serial numbers altered, defaced or removed will not be covered under this warranty.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. IN NO EVENT SHALL SCAT HOVERCRAFT, INC. BE LIABLE FOR ANY LOSS, INCONVENIENCE OR DAMAGE WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE RESULTING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE LIMITED IN DURATION TO THE DURATION OF THE APPLICABLE EXPRESS WARRANTY SET FORTH ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

VIII. GLOSSARY OF TERMS

AIR BUBBLE

Correctly described as the air cushion beneath the hovercraft created by ducting fan generated air beneath the craft.

GEL KOTE (Trade Mark) - The coloring substance which is chemically impregnated into the fiberglass parts of each SCAT. SCAT Hovercraft uses only top quality Glidden Gel Kote.

HOVERHEIGHT - The distance between the surface being traverse and the hull bottom of the hovercraft. Also described as the difference in height between the craft at rest and the craft on hover.

HUMP When traveling over water, the ducted air passing through the skirts creates a depression in the water. This depression will move along with the craft seemingly causing the craft to drag slightly. As the craft picks up speed, at approximately 6mph this depression disappears. This is called getting over the "hump".

INTEGRATED SYSTEM - In hovercraft technology, a propulsion and lift system which utilizes one engine and one fan to provide lift and thrust.

LIFT AIR - The fan generated air that is ducted beneath the SCAT. This air circulates through the chamber between deck hull and exits the hull through strategically placed holes in the hull. The skirt segments capture the existing air, and redirect it downward. This causes the craft to "lift" above the surface.

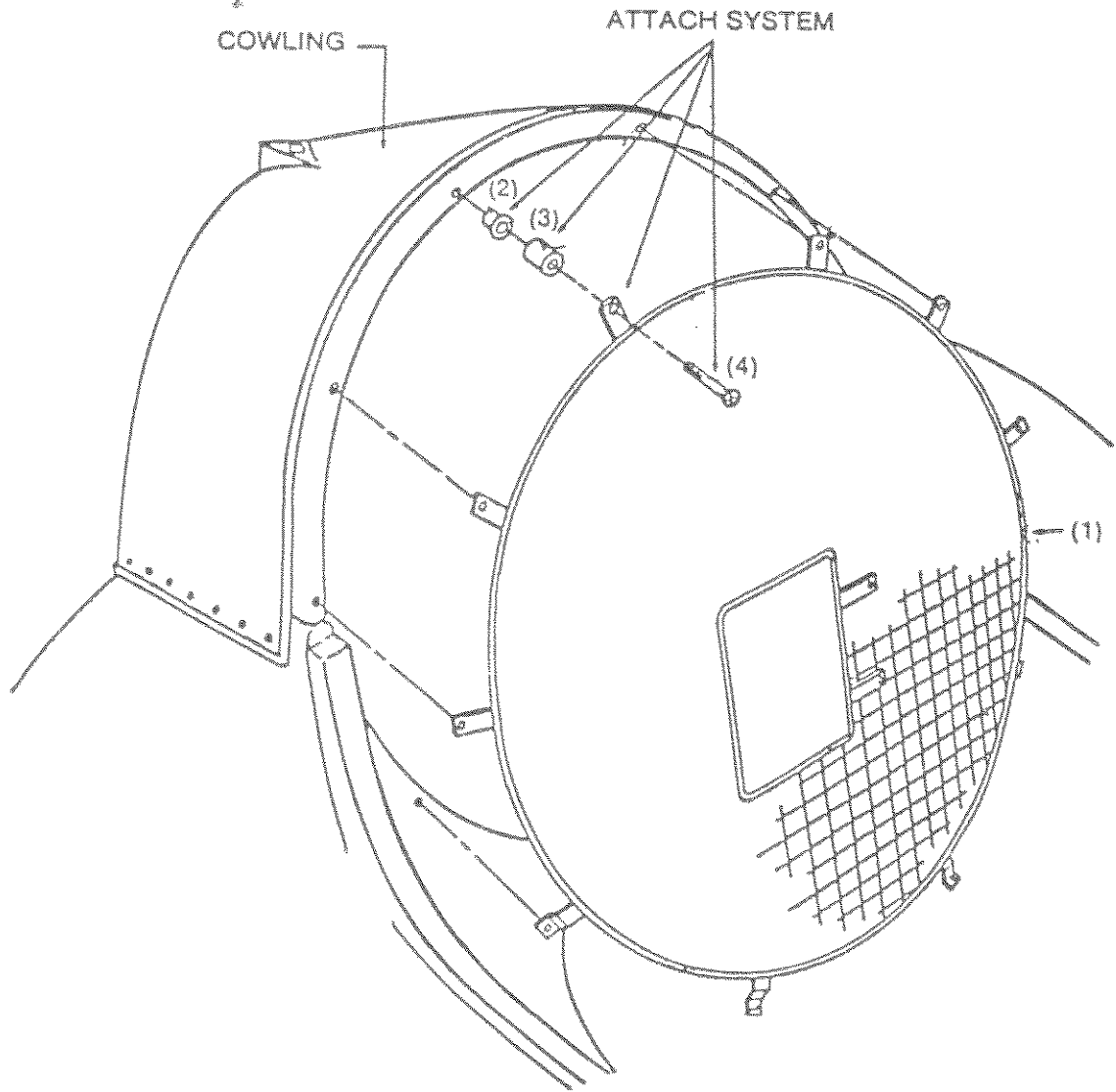
SKIRT - Normally constructed of neoprene nylon, the flexible material surrounding the hovercraft through which lift air is ducted. On the SCAT, the skirt system is the extended segment type, and is constructed of 64 individual skirt segments.

TRIM - Position on attitude of the hovercraft when at hoverheight. Trim position may be bow-up, bow-down, or leaning left or right. The ideal trim position is level or slightly bow-up.

TWIZZLE TURN - A method of maneuvering or stopping a hovercraft, accomplished by swinging the craft through 180 degree turns while sustaining full power.

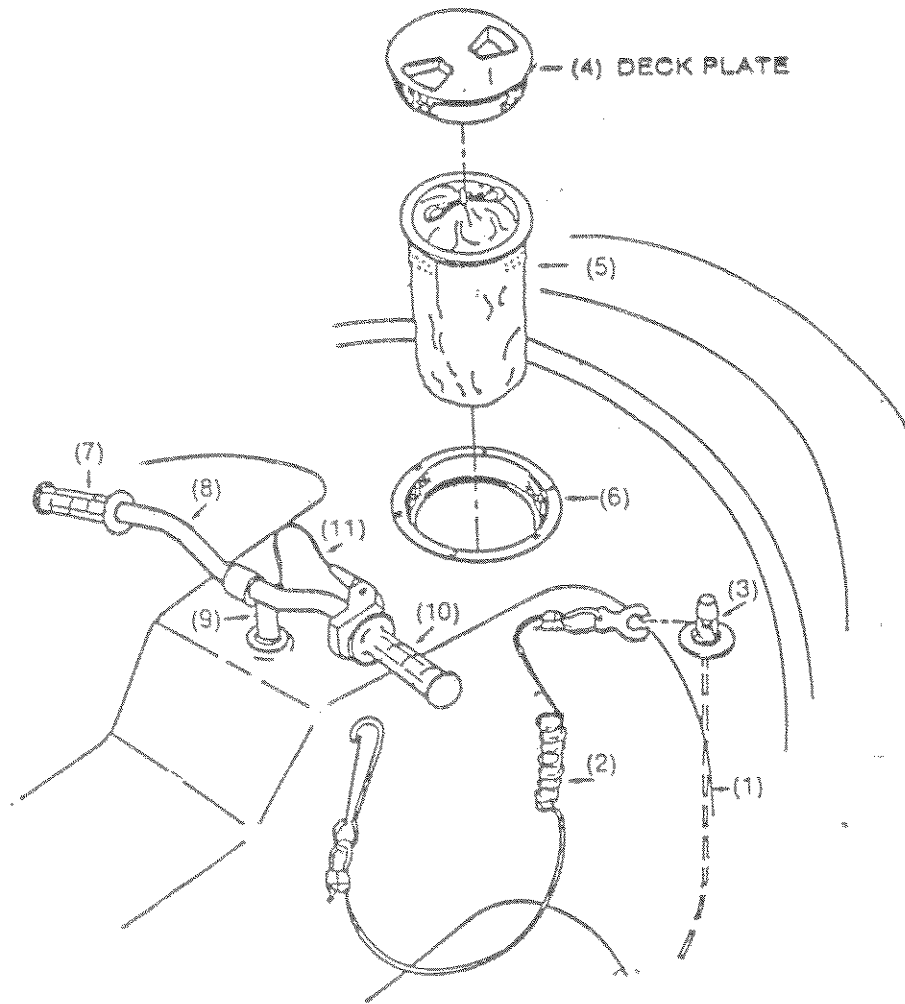
IX. SUB-ASSEMBLY SCHEMATIC DIAGRAMS

THE FAN GUARD ASSEMBLY



Item #:	Part #:	
1	9034-1P	Fan Guard Assembly
2	4602	Wellnut 10-S
3	6219-2	Fan Guard Spacer
4	4115	Screw M 10/32 x 1 1/4 PHP

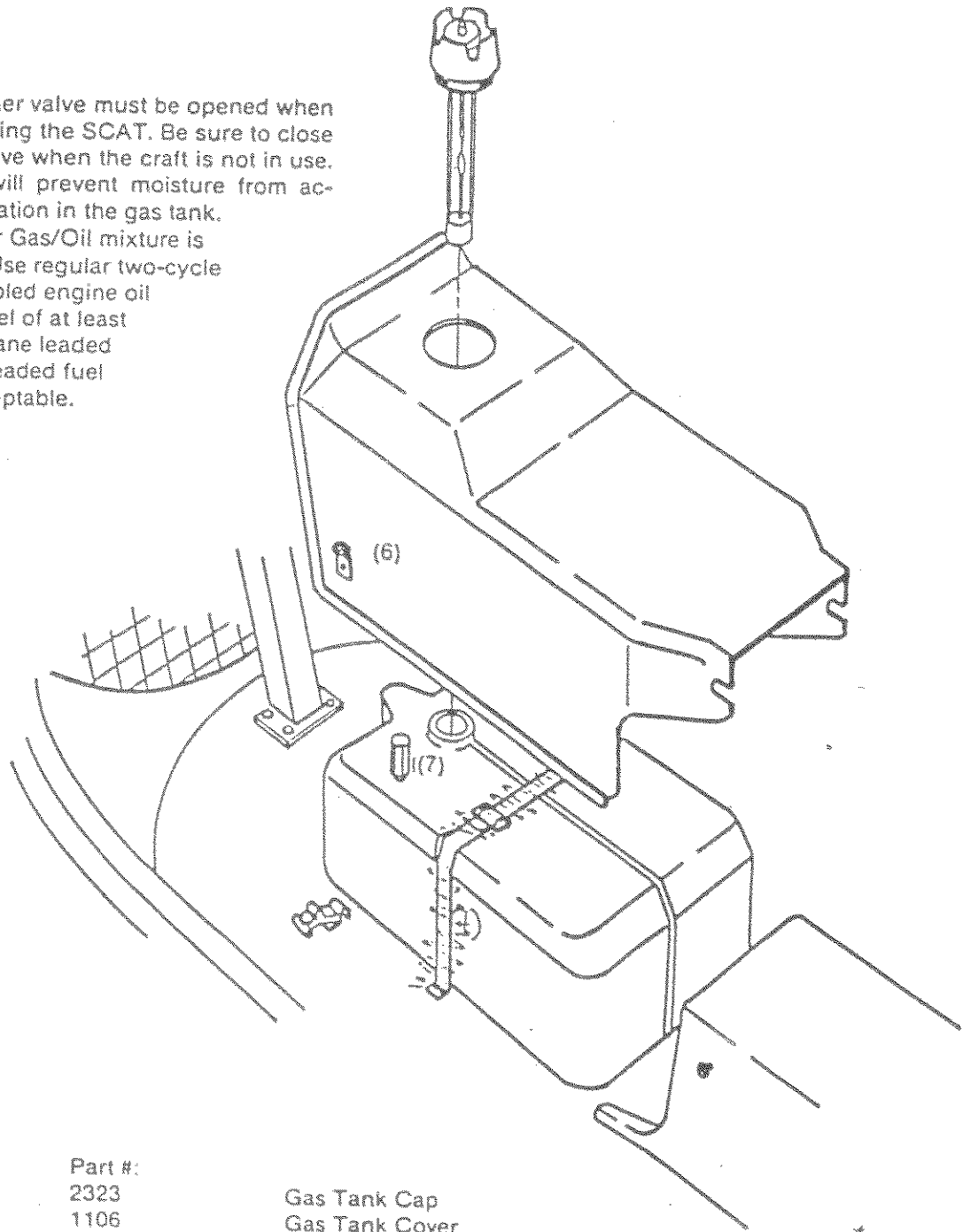
CONSOLE DECK ASSEMBLY



Item #:	Part #:	
1	5502	Killswitch Wire
2	2319	Lanyard
3	2317	Kill Switch
4 & 5	1429	Deck Plate Storage Bag
6	1406	Deck Plate, Large
7	3104	Handbar Grip Left
8	3101	Handlebar
9	3103	Handlebar Stem
10	2326	Throttle Grip
11	9036	Throttle Cable Assy.

FUEL TANK ASSEMBLY

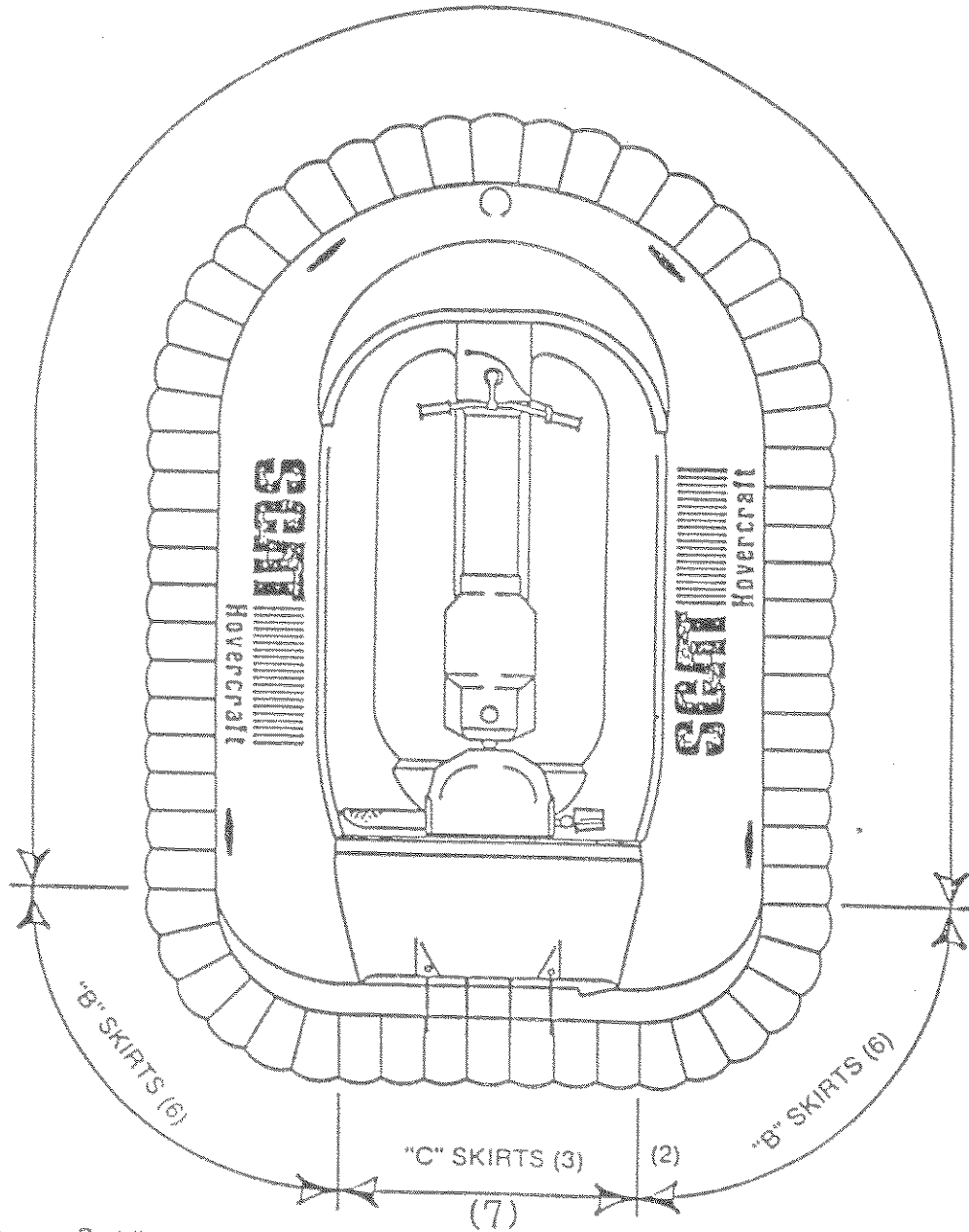
Breather valve must be opened when operating the SCAT. Be sure to close the valve when the craft is not in use. This will prevent moisture from accumulation in the gas tank. Proper Gas/Oil mixture is 50:1. Use regular two-cycle air-cooled engine oil and fuel of at least 87 octane leaded or unleaded fuel is acceptable.



Item #:	Part #:	
1	2323	Gas Tank Cap
2	1106	Gas Tank Cover
3	2322	Gas Tank
4	K117-1	Rubber Fastener
5	1417-2	Metal Clip
6	2214	Gas Tank & Fitting

SKIRT ARRANGEMENT

(1) "A" SKIRTS (45)

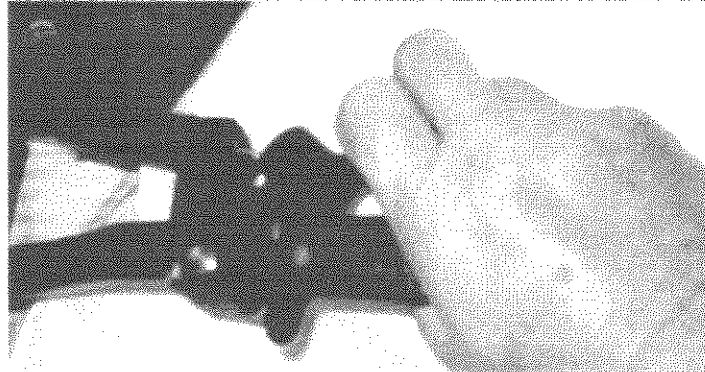
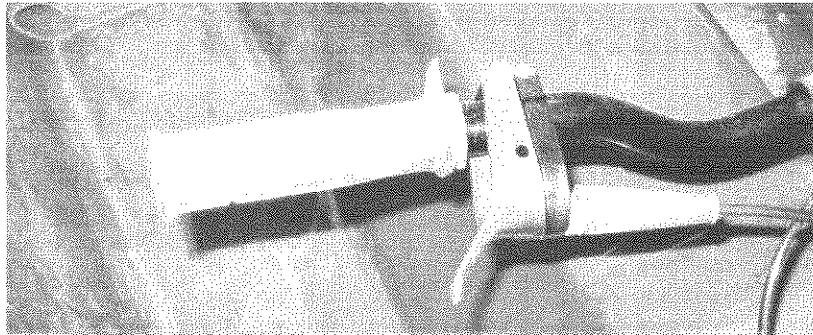


Item #:	Part #:	
1	1502	A Skirts
2	1504	B Skirts
3	1506	C Skirts

There are 64 individual skirt segments on each SCAT 277 Hovercraft. For best operating performance make sure all skirts are attached properly.

Hovercraft Depot

is pleased to announce our new finger throttle kit. It operates easily with 2 fingers. No more twisting! Less Fatigue!



Kit includes;

- New Magura Grip
- New 2 Finger Throttle with cable adjuster
- Rubber cable boot
- New stainless steel throttle cable (specify craft)
- Instructions

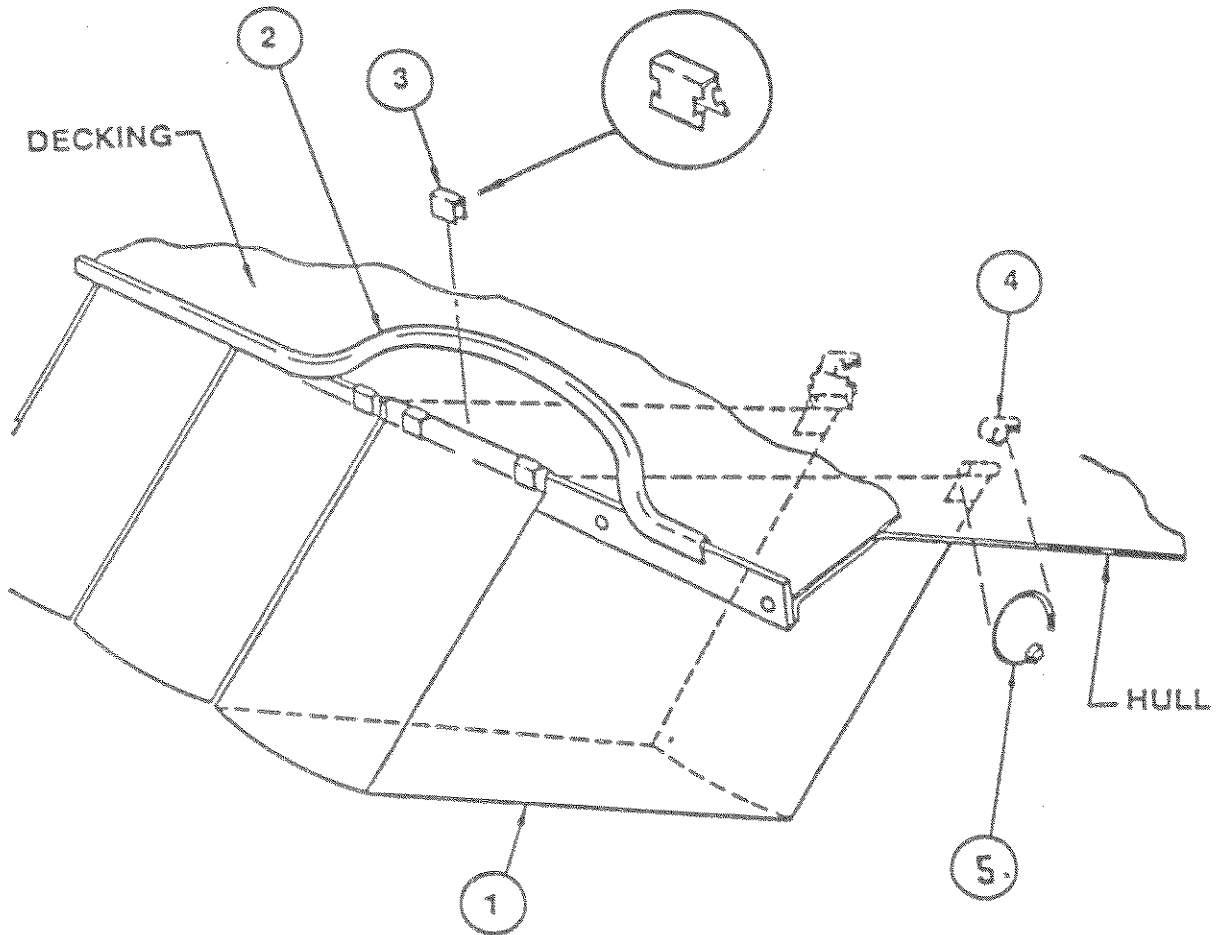
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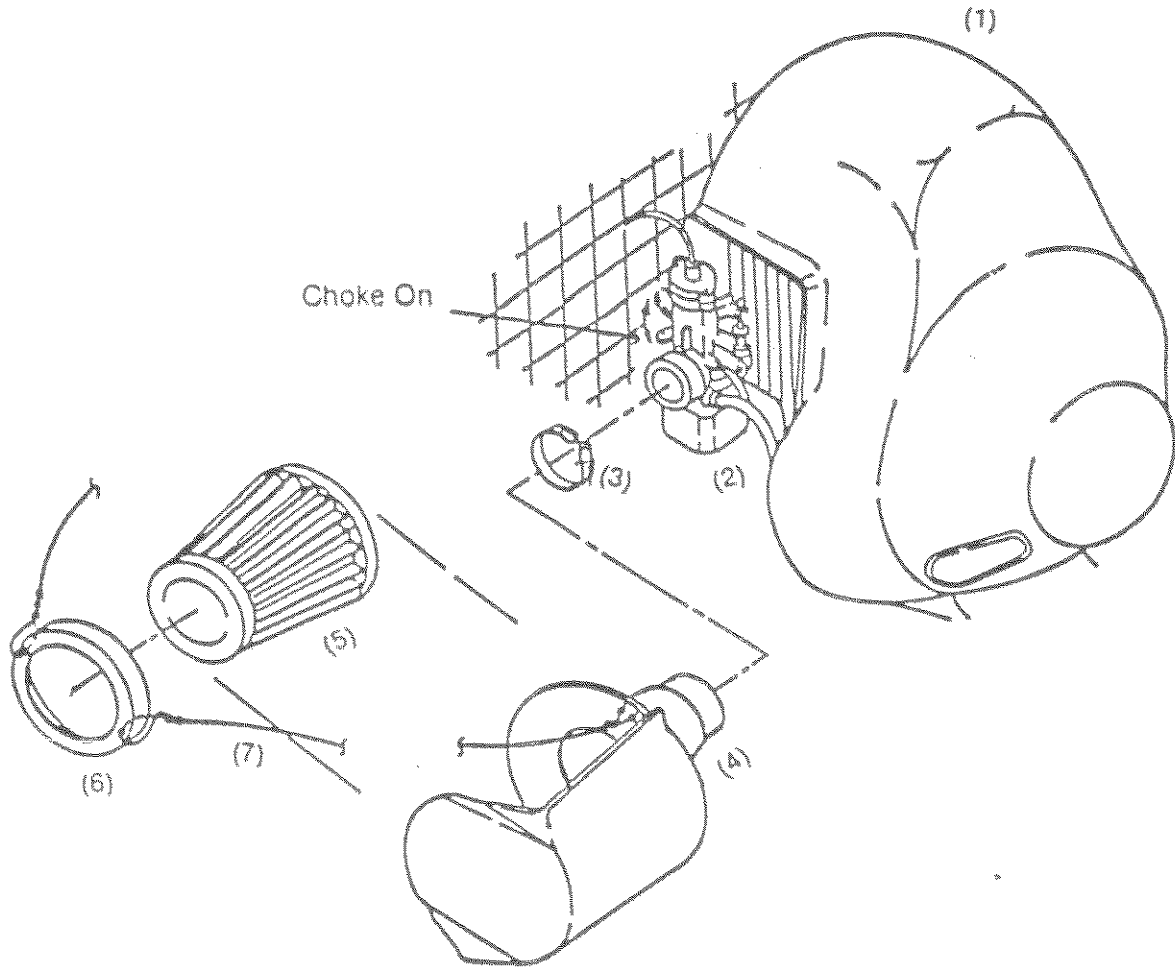
SKIRT ATTACHMENT



Item #:	Part #:	
1	1502	"A" Skirt (45)
2	1528	Trim-Loc
3	K1300	Skirt Clips (3 per skirt)
4	K4610	P-Clips (2 per skirt)
5	K4606	Skirt Ties (2 per skirt)

Each skirt segment is held in place by three (3) skirt clips and two (2) skirt ties. To change a skirt segment, first remove the trim-loc located on the upper section of the skirt. Remove the three (3) skirt clips and two (2) skirt ties as shown in picture. Reverse procedure to install new skirt.

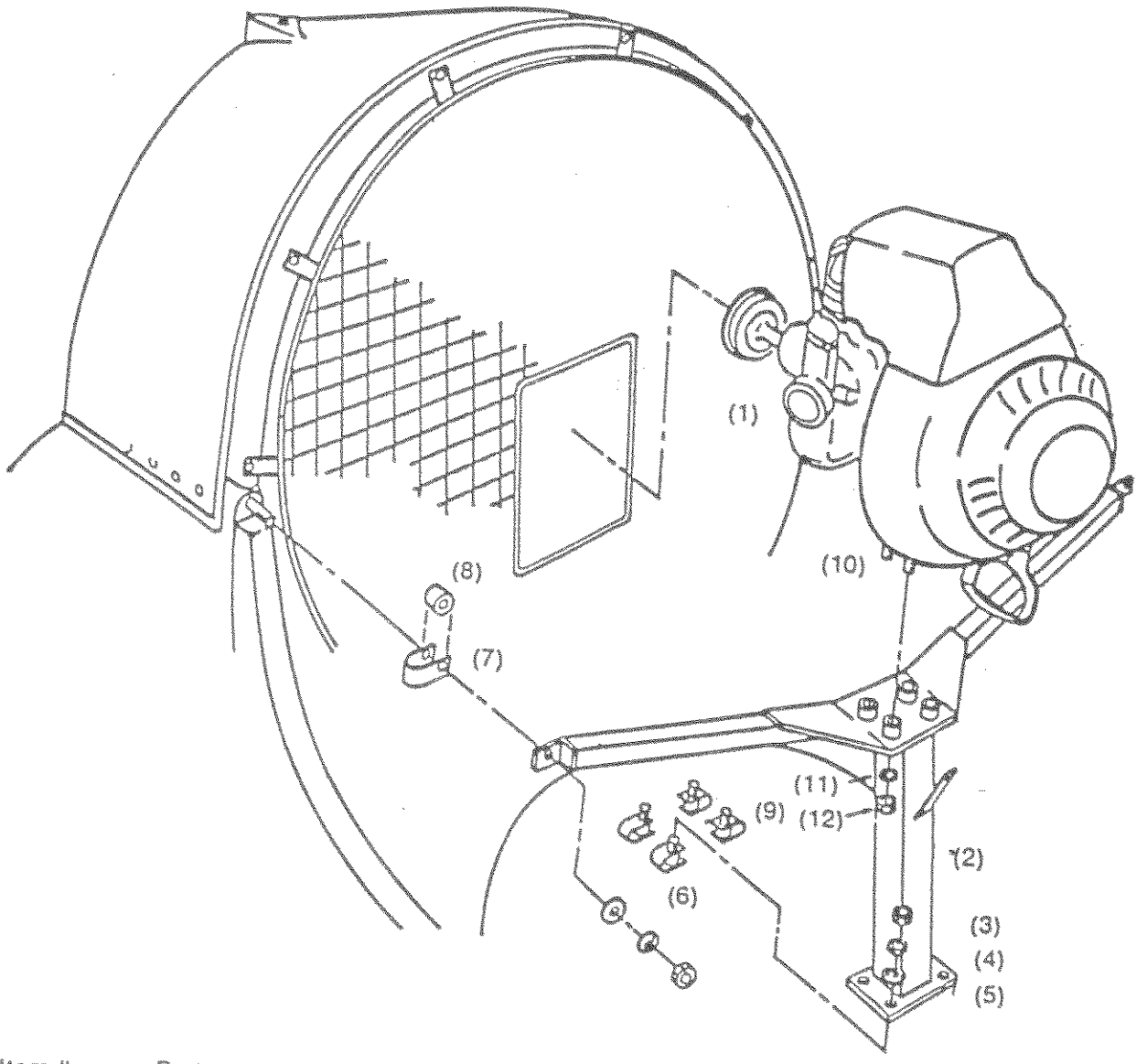
CARBURETOR & AIR FILTER ASSEMBLY



Cold engine start: Choke must be in "On" position before Engine Starts: Maintain choke in "On" position for a few minutes, or until the engine begins to "smooth" out. Then return the choke to "Off" position PRIOR to lifting off.

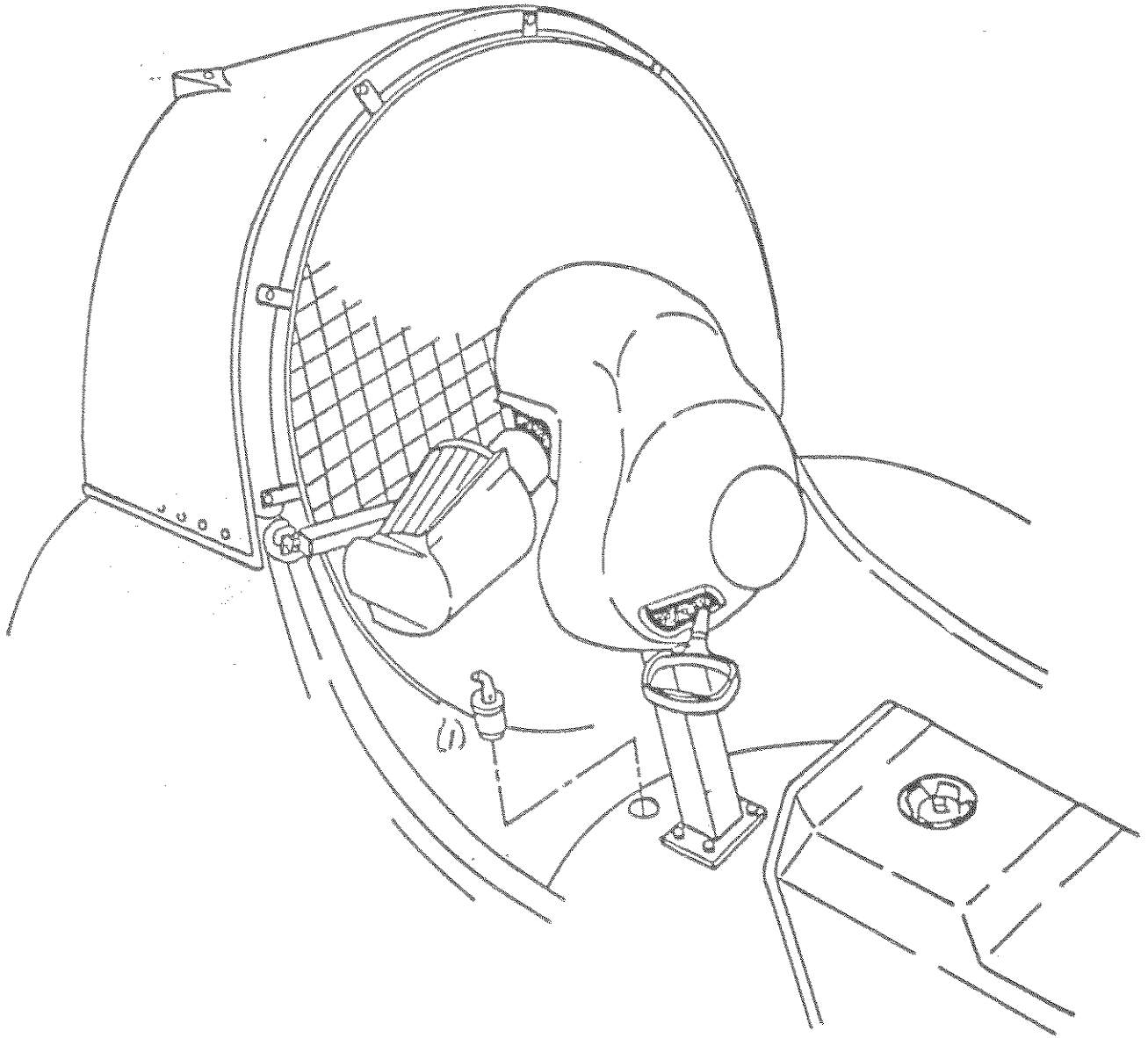
Item #:	Part #:	
1	1102	Engine Cover
2	2111	CARBURATOR
3	2108	Air Filter Clamp
4	1110	Air Filter Cover
5	2104	Air Filter
6	2106	Air Filter Cap
7	5503	Air Filter Wire

ENGINE FRAME/MOUNTING ASSEMBLY



Item #:	Part #:	
1	2120	Engine
2	9043-1P	Engine Frame Assy.
3	4425	Hex Nut 22-5/16-18
4	4329	Lock Washer 5/16" SS
5	4314	Flat Washser 5/16" SS
6	1425	Engine Mount
7	6132-1	Engine Frame Clip
8	6205-1	Engine Frame Spacer
9	5302-1	Safety Straps
10	4251	Stud, 10mm x 2 1/4
11	4310	Flat Washer
12	4408	Locknut

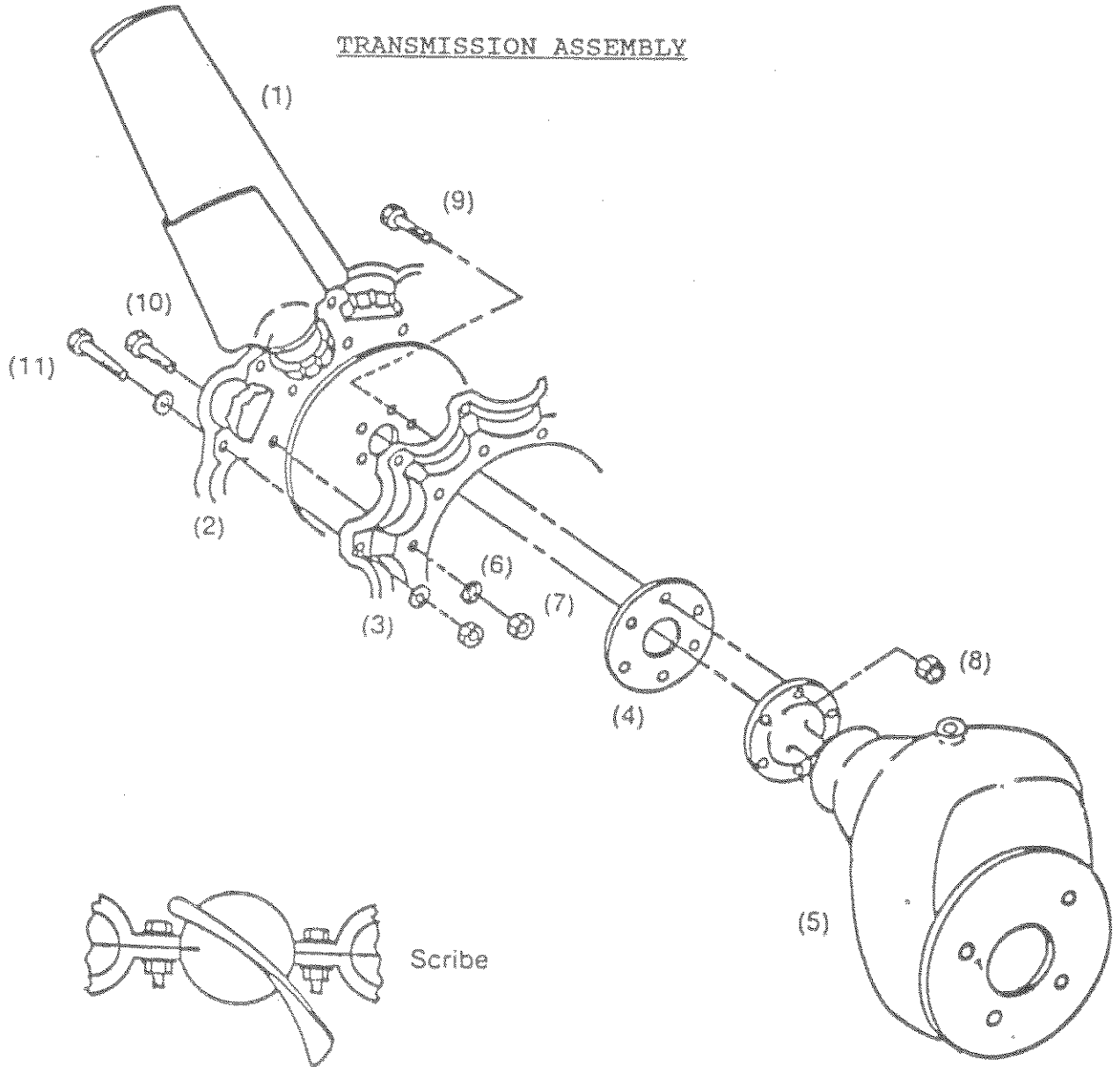
DRAIN PLUG ASSEMBLY



The drain plug should be in place while operating your SCAT. It should be removed only when on land, as a means of bailing water which may accumulate on the deck area. The drain is also handy for cleaning away water and dirt after cleaning.

Item #:	Part #:	
1	1425	Drain Plug

TRANSMISSION ASSEMBLY



Item #:	Part #:	
1	2607-2	Fan Blade
2	2612-4	Male Hub
3	2612-1	Female Hub
4-5		Transmission
6	4306	Flat Washer 1/4"
7	4404	Locknut 1/4-20
8	4409	Locknut 8mm
9	4117	Screw, 8mm x 30SS
10	4507	Screw, 1/4-20 x 1 1/4 SS
11	4506-1P	Screw 1/4-20 x 1

FAN BLADE REPLACEMENT PROCEDURE

* NOTE * Only an authorized SCAT dealer should replace the blades of a SCAT hovercraft. If the blades must be replaced in the field, you, the owner, must take the SCAT to your authorized dealer immediately afterwards in order to maintain your warranty.

1. Remove fan guard.
2. Remove engine cover.
3. Remove engine mount bolts.
4. Remove gas tank.
5. Lay engine back carefully (do not break bottom engine mounts).
6. Remove nine (9) inside cap screws and remove fan hub assembly from drive casting.
7. Loosen two (2) outside circles of cap screws on the fan hub.
8. Remove old blades when hub halves separate.
9. Position new blades.
10. Hand tighten cap screws.
11. Use blade jig to set blade pitch.
12. Tighten cap screws.
13. Replace fan hub assembly to drive casting.
14. Recheck blade pitch.
15. Place engine back on bolts and tighten.
16. Replace gas tank.
17. Replace engine cover.
18. Replace fan guard.

» CAUTION « It is extremely important to get the pitch of the blades accurate. The proper pitch is 31 degrees. This pitch acts to control or "govern" the RPM of the fan. An incorrect setting of the blade pitch could cause the engine to "over-rev", resulting in damage to the engine.

