AIRCRAFT HANDLING, SERVICE AND MAINTENANCE

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INTRODUCTION

The field assembly procedures outlined in this section are accompanied by photographs generally depicting the assembly sequence. When assembling (or disassembling) your aircraft, use the photos for reference only since detailed components and sequencing may vary. Follow the written description of the procedures as outlined. If you are unsure of any portion of the procedure REFER to Section 7 Final Assembly for detailed instructions. Consult your Quicksilver Dealer or contact Quicksilver Enterprises for further assistance.

Additional details that will aid in the assembly procedures can be found in the aircraft's Assembly Instructions. Pay particular attention to such details as torque values to be used on attachment hardware. For example, over-torquing a nut could damage the nut, bolt, or structure that they are used on, thus causing that part of the structure to be unairworthy.

It is also possible to cause damage to the aircraft by using improper or careless assembly/disassembly techniques. Even though the aircraft can be assembled/disassembled by one person, it is highly recommended that at least three people are used to mount, dismount, and handle the Wings. If a Wing is dropped, it is possible that structural damage could occur. In such a case, it is MANDATORY that a thorough Wing inspection be performed (refer to SECTION 4 Normal Procedures, Preflight Inspection).

NEVER attempt to assemble the aircraft in winds that exceed 15 MPH(13KNH). If it is necessary to disassemble the aircraft in high winds, always have at least two people available to handle each wing. It is recommended that assembly/disassembly be accomplished with the aircraft positioned with the tail directly into the wind. When handling a Wing, always have the wing tip or trailing edge positioned directly into the wind.

STRUT BRACED
FIELD ASSEMBLY!

(1). Setup should be performed on a smooth, clean non-abrasive surface -- TAIL INTO THE WIND.

(2). Position Wings beside Fuselage.! Fig. 8-1S



Fig. 8-1S: Positioning Wings.

(3). Remove Nuts from wing attachment bolts in leading edge andtrailing edge channels.

(4). Elevate INBOARD end of each Wing and position leading edge and trailing edge Spars into appropriate channels.! Fig. 8-2S



Fig. 8-2S: Elevating Wings.

(5). Install 1/4" Bolts in the leading and trailing edge Spar Channels and Spars. Secure with Nuts and Cotter Pins or Locknuts. Note: Bolts face AFT.! Fig. 8-3S!

(6). Repeat STEP 5 on other Wing.!

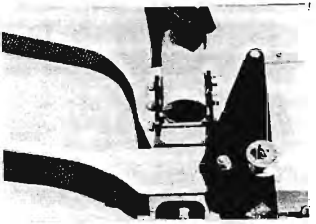


Fig. 8-3S: Installation of Wing Spar Bolts.

(7). Elevate Wing Tip high enough to allow Lift Struts to be attached.

! Fig. 8-4S



Fig. 8-4S: Elevating Wing Tips.

(8). Attach Fore and AFT Lift Strut with 3/8" Bolt, Locknut at the Lower Hinge point.

Fig. 8-5S

(9). Repeat STEPS 7 & 8 for the other Wing.!

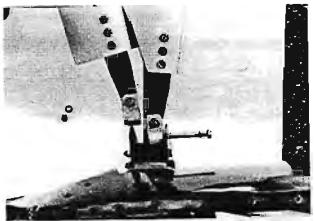


Fig. 8-5S: Attaching FORWARD & Aft Lift Strut.

(10) Connect Fore and Aft Wing Strut to Spar Fittings.

Fig. 8-6S



Fig. 8-6S: Attach Wing Struts

(11). Attach FORWARD Jury Strut to INBOARD leading edge Eyebolt with bolt and nut.

Fig. 8-7S



Fig. 8-7S: Attaching FORWARD Jury Strut.

(12). Position the AFT Jury Strut on the INBOARD trailing edge Eyebolt.

Fig. 8-8S



Fig. 8-8S: Attaching AFT Jury Strut.

(13). Repeat STEPS 11 & 12 for other Wing.!

(14). Connect Left & Right Flap Tension Rods to Flap Horns with a 3/16" Bolt, Nut.

Fig. 8-9S



Fig. 8-9S: Installation of Flap Tension Rods.

(15). Connect Aileron Cables to Root Tube Bellcrank. Secure with Bolts, Washers , nuts and cotter pins.! Fig. 8-10S!

NOTE: Install Bolts UP thru the Bellcrank with the Washer and nut on TOP.!



Fig. 8-10S: Connecting Aileron Cables.!

(16). Connect Wing Buckle halves and pull taught. Tie off excess straps.! Fig. 8-11S



Fig. 8-11S: Connecting Wing Buckles.!

(17). Lower the Stabilizer/ Elevator and Stabilizer Struts from their stowed position.! Fig. 8-12S

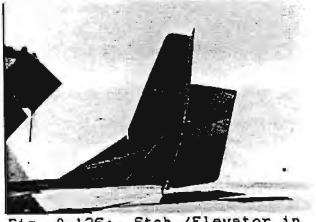


Fig. 8-12S: Stab./Elevator in stowed position.

(18). Attach Stabilizer Struts to Eyebolt on OUTBOARD Compression Strut. Secure with bolt Nut, & cotter pin.! Fig. 8-13S!

(19). Repeat STEPS 17 & 18 for other side.!



Fig. 8-13S: Attachment of Stabilizer Strut.

(20). Tighten Jam Nut on Stabilizer Drag Strut Forkbolt (Both Sides).! Fig. 8-14S!

(21).! PREFLIGHT AIRCRAFT!

Refer to SECTION 4 - Normal Procedures, for Preflight Inspection Checklist and Amplified Procedures.!



Fig. 8-14S: Securing Drag Strut.

(22). Position Gap Cover around Flap Handle and Flap Handle Stop Bracket.! Fig. 8-15S



Fig. 8-15S: Positioning Gap Cover.

(23). Position Gap Cover over top surface of Wing.| Fig. 8-16S



Fig. 8-16S: Final Position of Gap Cover.

(24). Position Bottom Gap Cover. Fig. 8-17S

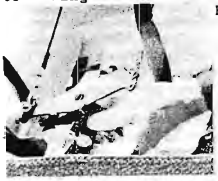


Fig. 8-17S: Positioning of Gap Lower Gap cover.

(25). Disassemble Aircraft in the reverse order of assembly.

During disassembly:

(26). Secure Aileron Cables to Wing Buckle Straps. Fig. 8-17S



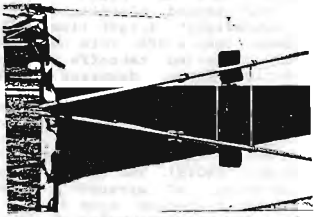


Fig. 8-18S: Stowed Position of Aileron Cables.

SAFETY HINTS

INTRODUCTION

This section describes operating practices associated with safe and courteous flying. It must be remembered that the ultralight pilot is the pilot-in-command of an aircraft and is therefore solely responsible for the performance and outcome of each and every flight. This section is intended to aid the pilot in making some of the decisions required to ensure the successful performance and conclusion of an ultralight flight. This information, together with the other sections of this manual, must be used as basic flight operations procedures. To this, one must add: Authorized Quicksilver ground and flight training, experience, and good pilot judgement.

AIRWORTHINESS

NEVER fly your aircraft unless YOU and the AIRCRAFT are in an airworthy condition. Follow the maintenance schedule. The key to preventive maintenance is thorough preflight inspections performed prior to each flight according to the preflight checklist. Preflight inspections are as much a part of flying as takeoffs and landings. If you are the one who is going to do the flying, you are the one who must do the preflight. NEVER allow anyone to do the preflight for you.

Make sure you, the pilot-in-command, are also in an airworthy condition. Good health, adequate sleep, and an alert mind are essential to flight safety. NEVER attempt to fly if you have consumed alcohol or drugs of any kind within eight hours of the intended flight.

WINDS

Experience has shown that wind is one of the major factors involved in causing or contributing to accidents. There are three main considerations in determining wind safety values. The first is velocity, the second is gust differential, and the third is pilot experience and compentency. The inexperienced ultralight pilot (less than 15 hours of "ultralight" flight time) should confine flying to winds of less than 8 MPH. This helps reduce the associated problems of crosswind takeoffs and landings, misjudging wind drift during turns, downwind stalls, wind gradients on approach, etc.

Gust differential is the wind speed difference between the lulls and the peak gusts. For example, assume that you are flying at an airspeed of 37 MPH(32 KNOTS) into a 15 MPH(13KNOTS) wind. Suddenly the wind velocity reduces to 5 MPH(4 KNOTS). The immediate result will be a 10(9 KNOTS) MPH reduction of airspeed. In other words, the airspeed will suddenly reduce from 37 MPH(32 KNOTS) to 27 MPH(23 KNOTS). If the stalling speed of the aircraft is 27 MPH(23 KNOTS) or higher, a stall will result. This creates obvious dangers when flying close to the ground and/or obstacles.

Vertical wind gusts from the side will cause the aircraft to bank away from the gust. The amount of bank displacement will be determined by the gust velocity. For these reasons, wind speed; wind direction; and gust differential must be checked for several minutes prior to flight.
Pilot experience and competency, along with aircraft capability, must be considered prior to attempting any flight. Experience and competence is gained through meaningful and carefully planned practice. Always practice in areas and conditions that allow for gross errors in judgement and emergency situations. Above all, NEVER attempt flight if the capability of either YOU or the AIRCRAFT is in question.

WIND ASSOCIATED TURBULENCE
Turbulence near the ground is usally associated with the flow of wind over trees, buildings, hills, and other obstructions. This localized turbulence becomes increasingly dangerous as the wind velocity exceeds 10 MPH(9 KNOTS). Just as the disturbance by obstructions of water in a moving stream can be seen, visualize ind flow over various obstructions in a similar manner and void flight in areas that appear to be hazardous. Stay upwind of wind blocking sources. If you must fly in the downwind area of an obstruction, pass as far downwind of the obstruction as possible. Rotors and turbulence can continue downwind for miles if the obstruction is large enough and the wind velocity is sufficiently high.

GROUND HANDLING
Taxiing in winds over 10 MPH(9 KNOTS) can present probleme, particularly for lighter pilots. As wind speed increases, the aircraft must be taxied more directly into the wind. If you must turn crosswind in winds over 10 MPH(9 KNOTS), have a bystander hold down the upwind wing. NEVER place your feet on the ground while the aircraft is moving -for any reason.
Never leave the aircraft unattended if the wind is expected to exceed 6 or 7 MPH(5 OR 6 KNOTS). If the wind is expected to be between 8 and 15 MPH(7 AND 13 KNOTS), the nose should be pointed directly into the wind with the aircraft securely tied down. NEVER leave the aircraft set-up outdoors if the wind exceeds, or is expected to exceed 25 MPH(22 KNOTS).

CROSS-COUNTRY FLIGHT
Before attempting any cross-country flight, you must be completely familiar with FAR (Federal Aviation Regulation) Part 103 - Ultralight Vehicles, and FAR Part 91B - General Flight Rules. You should also have sectional charts covering the area of intended flight and familiarize yourself with the various symbols and other information on them. Copies of the FAR's and sectional charts are available at any airport facility that offers flight instruction.

If at all possible, it is advisable to take a private pilot ground school course. The course will aid you in understanding established methods and procedures in planning and executing a cross-country flight. Additionally, it will inform you of the many FAA flight services available to all pilots. These services include flight briefing information, such as airport weather and surface winds, in-flight weather and winds aloft, Notices to Airmen, etc. The first step in any cross-country flight is preflight planning. SECTION 5 of this manual will be particularly helpful. Plan a flight route that will allow for ample emergency landing sites. Avoid mountainous or remote areas that would be difficult to walk out of in the event of an unplanned landing. A good rule-of-thumb is: NEVER fly over anything you do not want to land on! If you must fly alone, carry plenty of drinking water and signalling devices such as a mirror, flashlight, flares, etc. It is also advisable to carry a spare spark plug(s), spark plug wrench and a small tool kit containing items used for assembly/disassembly of the aircraft. Ensure that all equipment is secured in a manner that will not endanger the aircraft, or persons or property on theground.
Before leaving on any cross-country flight, ALWAYS notify at least one person of your intended flight. Include such information as your intended route of flight, estimated time of departure, and estimated time of arrival.

EMERGENCY LANDINGS

During flight training the pilot should practice simulated emergency landings. The practice should be performed in a large, open, unobstruted area. The advisable procedure for practice is to reduce the power to idle to simulate an engine-out condition rather than actually turning the engine off. The pilot should strive to perfect his or her ability to safely and accurately land the aircraft from any point around a suitable landing site in an engine out condition.
Emergency landings normally present little or no problem in an ultralight since they can be landed in a relatively small area. However, it is imperative that you remain within gliding distance of a suitable landing site at all times. This is particularly true while flying over tree covered terrain or other obstacle riddled areas. Land directly into the wind whenever possible. Learn to determine wind direction and velocity from the air by using your flight crab angle, blowing smoke, ripples on water, leaves on trees, etc. Select a landing site with the largest area, smoothest surface, and clearest approach path. Be extremely careful to recognize the existence of power lines, telephone wires, and other low visibility obstructions that might exist in and around a possible approach and landing area. Avoid such areas.

The best procedure to be followed for inflight emergencies is to prevent them before they happen. Preventive measures such as: preflight planning that allows for the prescribed 30 minute fuel reserve; checking for water in the fuel system and draining impurities as necessary; monitoring engine instruments in-flight for signs of overheating or over-reving; following the procedures as outlined in the aircraft's owners manual; and always fly in a manner that would commonly be considered as safe and sensible.
As far as the possibility of engine failure is concerned, always fly by these basic rules:!
(1) THE ENGINE CAN STOP RUNNING AT ANY TIME.
(2) NEVER FLY OUTSIDE OF GLIDING DISTANCE OF A SAFE LANDING AREA.
(3) NEVER FLY OVER ANYTHING YOU DO NOT WANT TO LAND ON.

AEROBATIC FLIGHT!

Aerobatic flight is not recommended or approved in the GT.! The FAA defines aerobatic flight as "intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight." Do not exceed 60 degrees of bank angle or 30 degrees of pitch attitude. Additionally, spins are not recmmended or approved in the GT. Avoid flight conditions or control inputs that may result in a spin or spin entry.

NIGHT FLYING

With proper aircraft lighting, you are allowed by law to operate an ultralight during the twilight periods as stated in FAR 103.11. It is illegal to fly an ultralight vehicle at night. Due to the nature of two-cycle engines, their reliability is not as great as the dual ignition, detuned, four stroke certificated aircraft engines used on modern light planes. A forced landing in darkness contains obvious dangers. It is also important to recognize that a pilot's depth perception and ability to recognize obstructions is reduced while flying during the twilight period and proper caution should be exercised.

SAFETY EQUIPMENT

For safety and comfort while flying, you should wear the following items: a lightweight helmet; ear plugs; eye protection in the form of a face shield, goggles, or glasses suitable for sport activities; footwear with low heels; and gloves. Consider the outside air temperature before each flight and dress accordingly. Remember, the temperature will usually decrease with an increase in altitude.

Another optional piece of safety equipment is an Aircraft Recovery System (parachute). Even if you and your aircraft perform properly, the possiblity of a mishap, such as a mid-air collision, still exists. Be sure you receive proper instructions from your dealer on the following points: (1) When to deploy the parachute; (2) How to properly deploy the parachute; (3) How to ensure the parachute is secured properly to the aircraft and/or you; (4) How and when to have a professional rigger repack your parachute; (5) How to handle and store your parachute. If you are unsure of any of these points, contact your dealer or Quicksilver Enterprises, before flying.
If your parachute ever gets wet or damp, IT MUST BE REPACKED immediately or damage to the parachute pack contents may result. If you choose to wear a hand-deployed type parachute that is strapped to you, it is necessary to remove the parachute pack PRIOR to touchdown in an emergency ditching in deep water. In water, the weight of the parachute pack could be sufficient enough to prevent you from reaching the surface.

COURTESY

Common courtesy dictates that you fly well away from populated areas, and stay well clear of structures, vehicles, etc. People on the ground have a right to peace and quiet, and this should be respected by all pilots (see Noise Abatement, SECTION 4). Any violation of these guidelines can result in complaints to the FAA, which in time could bring about strict restraints on ultralight flying as well as legal action against the pilot. Parts of the FAR's listed below are an excellent example, as well as a legal guide, to safe and courteous flight:

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:
(a) ANYWHERE . An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
(b) Operations over congested areas. No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open area assembly of persons.
(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In that case, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Safe, proper, and courteous flying habits will help to ensure the continued growth of ultralight flying and will add to your personal enjoyment of the sport. Strive to be the best pilot that you can be and enjoy the sky.!

MAINTENANCE

INTRODUCTION

This section is provided to assist the aircraft owner/operator in the application of a "preventive" maintenance program. As with any aircraft, it is extremely important that periodic maintenance be performed at regular intervals as specified by the manufacturer. Such a program must be strictly adhered to.
The maintenance schedules provided for the powerplant and the airframe are based on normal field use of the aircraft in accordance with all sections of this manual. It might be necessary to perform maintenance on specific components prior to the suggested time in the appropriate schedule. The need for such maintenance can be identified by following the preflight checklist and procedures as outlined in SECTION 4.

POWERPLANT

INTRODUCTION

The powerplant requires a minimum of maintenance. Included are some helpful procedures for maintenance of the powerplant system. Your Quicksilver Dealer is available to assist you or answer questions regarding service of your aircraft. For additional powerplant maintenance information, refer to the Rotax Operator's Manual and the aircraft Assembly Instructions.

ENGINE

Be sure to read through the entire Rotax Operator's Manual, and appropriate sections of the Assembly Instructions and this manual prior to operating your engine. Refer to the above manuals for: Engine Specifications, Break-In Procedure, Mixing Fuel, Starting Procedures, Spark Plug Replacement, Trouble Shooting, and Service for All Engine Componenets.
Use your Dealer as a source of current maintenance information. Be aware of 'Service Bulletins regarding powerplant components.

CAUTION: DO NOT exceed a WATER temperature of 180 degrees F or the Maximum Recommended RPM.

The fuel mixture is 50 parts Gasoline to 1 part Oil. Use only BIA-TCW approved two-cycle oil and a good brand of regular or premium grade gasoline of at least 83 octane rating.

REDUCTION DRIVE SYSTEM

The GT500 engine is equipped with a Gear Reduction Drive utilizing Helical Gears lubricated with gear oil. During every preflight inspection, inspect the Gearbox for any signs of excess oil leakage. Check for the correct oil level every 10 hours as follows: Remove the safety wire from the two oil level screws on the Left side of the Gearbox; Remove the lowest oil level screw; Fill the Gearbox with SAE 85W90 Gear Oil until the oil begins to flow out of the lower hole; Replace the oil level screw and safety wire the two screws together. Change the Gear Oil every 100 hours.

PROPELLER

When installing the propeller on the Hub, tighten the bolts in the sequence shown in Figure 10-1. Lightly snug the bolts the first time around the sequence. Use the sequence a second time for final tightening. Ensure that you do not distort the wood when tightening. When inspecting the propeller, look for cracks and abrasions. All cuts must be removed by sanding or filing until smooth. The surface should be refinished and balanced. If you are not thoroughly familiar with the proper techiniques of balancing a propeller, consult your Quciksilver Dealer.

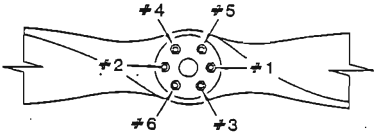


Figure 10-1 : Propeller Bolt Tightening Sequence.

CARBURETOR CALIBRATIONS

Identify the carburetor type, mount type, main jet, needle jet, needle, throttle valve, pilot jet, and air screw. Obtain current information from your Dealer or Quicksilver Aircraft or Rotax service center. The calibration may be periodically updated.
The air filter type furnished by Quicksilver must be used on the carburetor at all time, and kept clean and dry. Clean the filter by soaking in gasoline.
Carburetor jetting can be affected by changes in altitude, temperature, and humidity. The fuel mixture will richen in the following conditions: a gain of altitude, an increase in temperature, and high humidity. The fuel mixture will become leaner in the following conditions: a loss of altitude, a decrease in temperature, and low humidity.
Incorrect carburetor adjustment can cause engine failure and severe engine damage. DO NOT make any carburetor adjustments unless you are totally familiar with the correct procedure (see Rotax Operators Manual). Consult your Quicksilver Dealer for answers to any questions.

TRANSPORT/STORAGE

When you transport the aircraft, exercise care as not to damage vulnerable engine components. The propeller should be padded and the fuselage must be ridigly secured to the trailer platform to avoid stress from bouncing.
If the aircraft remains in storage for any length of time, run the engine periodically. A two-cycle engine must not be allowed to sit for months wihout use as damage can result, unless the interior of the engine is thoroughly coated with two-cycle oil.

ENGINE LOGBOOK

Always keep the engine's logbook entries up to date. As the suggested maintenance schedule is followed, fill in the Ultralight Aircraft & Engine Log to ensure that an organized maintenance performed on the powerplant components, is current and available.

MAINTENANCE

Review the Powerplant Maintenance Schedule, Figure 10-2, and become familiar with all other powerplant components. Pay particular attention to the type of maintenance prescribed and how long you may operate between service checks.

POWERPLANT MAINTENANCE SCHEDULE — 503 & 582 ROTAX ENGINE

Component	Hours	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
Engine Overhaul											3						
Engine Rubber Mountings					2				3				2				3
*Spark Plugs			3		3		3		3		3		3		3		3
Throttle Cable			1		2		1		2		1		2		1		3
Throttle Lever									2								2
Air Filter		1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	3
Fuel Filter		3		3		3		3		3		3		3		3	3
Fuel Pump																	3
All Fuel Lines		2		2		2		2		2		2		2		2	3
"V" Belts		1	2	1	2	1	1	1	3	1	1	1	2	1	1	1	3
Reduction Pulleys									2				3				3
+ Gearbox Oil					3				3				3				3
Muffler			2		2		2		3		2		2		2		3
Muffler Springs					3				3				3				3
All Engine Hardware		4		4		4		4	2		4		4		4		2
Propeller					2				2				2				2
Carburetor		1		1		1		1		1		1		1		1	1

Figure 10-2 : Poverplant Maintenance Schedule.

LEGEND

1. Oil, Lube, Clean or Service.
2. Remove, Inspect & Replace if necessary.
3. Replace or Overhaul.
4. Check Bolt or Nut Tension.
5. Replace all components every 1000 hours of operation.

- * Clean Spark Plugs every 10 hours.
- + GT500 Only. Check Gearbox Oil Level every 10 hours.

AIRFRAME

INTRODUCTION

The following suggested maintenance is provided to assist in maintaining the Quicksilver GT in an airworthy condition.

It recommended that the aircraft be stored in a protected, dry enclosure when not in use.
If the aircraft is subjected to salt water, it must be rinsed with fresh water and dried as soon as possible.
Your Quicksilver dealer is available to perform routine maintenance, replace parts, and provide advice on servicing Components

TUBING

Removal and Installation
When removing tubing, DO NOT bend or force tubes. When installing tubes, DO NOT distort the tubes from their original shape.

Inspection
Inspect tubing for scratches, cracks, damage from abrasion, elongated holes, and distortion. Never attempt to repair damaged tubing. Always replace damaged tubing with a new Quicksilver factory part. Inspect tubing for corrosion in and out. If corrosion is present, replace with a new Quicksilver factory part.

BOLTS:

Installation & Removal:

1) After proper tightening, all bolts must have at least 2 threads showing thru the nut.
2) All self-locking nuts must not be installed more than 2 times.
3) If grip length is too long, no more than 3 washers may be added.
4) A washer must always be installed under the nut.
5) Ensure not to over-torque bolts when installing.
6) Check Assembly Instructions for correct bolt tightening and placement.

When inspecting bolts, check bolts for worn threads, bad threads, crac
bends, and corrosion.

WING COVERING

Removal and Installation

When removing or installing flight surface coverings, ensure that there are no sharp edges or burrs that might tear the sail. See the Assembly Instructions for complete details.

Inspection

Check for tears in the sail cloth, and for any loose or unravelled seams. Check all inspection port zippers to ensure that they function smoothly and close completely. Inspect the velcro strips on the inboard sections and trailing edge for wear or frayed edges.

The sail may be repaired with sewn-on patches. Tears of less than 1"(2.5cm) may be repaired with appropriate sail tape. Keep the sail clean of oil and dirt by washing the sail with a non-alkaline soap and water.

Keep the sail covered when not in use. Continued exposure to the sun dramatically shortens the serviceable life of the wing, tail and flight control surface covers. The sail must be puncture tested every 3 months with the Fabric Tension Tester included in the GT Kit. The coverings must be replaced if they fail the puncture test, or every 4 years, which ever comes first. (Refer to following pages for instructions on use of the Fabric Tension Tester.

QUICKSILVER FABRIC TESTER KIT

PURPOSE: To use an established standard as a minimum value for for evaluation of dacron sailcloth.

TESTING INTERVAL: Use every 2 months or if stored for an extended period before use of the aircraft.

TEST LOCATIONS: Any testing should be done in non-critical areas (i.e. away from the Leading Edges, Trailing Edges, Reinforcements and Rib locations). Testing on the FOURTH [4th] or FIFTH [5th] Wing Panel (refer to Figure 2 on page 2) from the Root Tube, or Gap Cover are suitable locations. DO NOT test the OUTBOARD Tip Panels on DOUBLE surface Wing Covers. ALL testing must be conducted on the TOP surface ONLY.

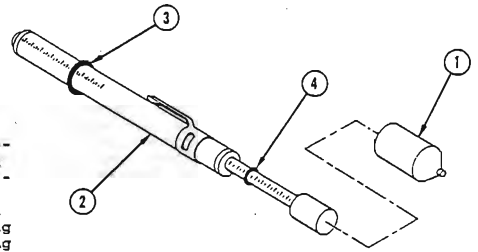
HOW TO USE THE TESTER: Refer to Figure 1 on page 2. Affix the tester adaptor (1) to the tester (2) with a small amount of silicone (if desired). Notice the small diameter shaft has graduations in lbs. and kgs. Determine the value required to test the particular aircraft or part of aircraft (refer to the chart on page 2). Set the small o-ring (4) over the determined value. The tester is now ready for use.

Position the adaptor end of the tester on the fabric or sail cloth and the large diameter shaft in the palm of your hand. In a continuous movement, at right angles to the fabric surface, push with significant force to telescope the SMALL shaft into the LARGE shaft to the pretermined value. If the Adaptor DOES NOT punch thru the fabric at the pre-determined value the fabric has passed the test at that particular location. A punch thru indicates the fabric strength is NOT adequate for safe flight. It is recommended that the aircraft be grounded until a replacement cover is installed.

Item	P/N	Qty	Description
	60100	1	Quicksilver Fabric Tester Kit

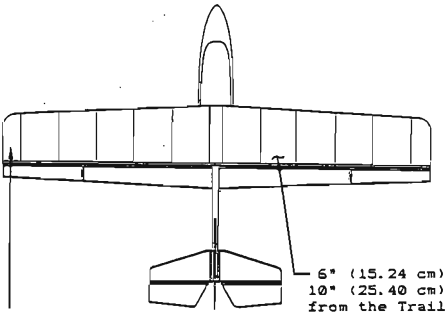
QUICKSILVER FABRIC TESTER KIT (CONT'D.)

Fig. 1



Item	Description
1...	Adaptor
2...	Large Shaft
3...	Large O-Ring
4...	Small O-Ring

Fig. 2



DO NOT test Tip Panels

MINIMUM TEST VALUE STANDARDS•

Single Surface Wing: 12 lbs. or 5.4 kgs.
Single Surface Tail: 10 lbs. or 4.5 kgs.
Double Surface Wing: 10 lbs. or 4.5 kgs.

• Values apply to the **QUICKSILVER** Fabric Tester only.

CABLES

Installation

When installing cables, insure that they are not twisted or kinked. Never install cables with the thimble "popped" out of place.

Inspection

Inspect cables for frays, nicks or cuts in the vinyl covering. If abrasions are found, remove the cover around the affected area, and inspect the cable for broken strands or kinked wires. Always replace a cable with a new Quicksilver factory part if damage is present.

Check all thimbles for correct shape. If a thimble does not have a teardrop shape or is flattened, replace wih a new Quicksilver factory part. Damage of this type could indicate that another part of the structure has been overloaded. A more thorough inpection should be performed.

HARDWARE

Plastic Hardware
Ensure that plastic saddles are seated correctly and inspect for cracks or wear.

Formed Channels
When installing a tube to a formed channel, ensure that a washer is placed between the nut and the channel. Never overtighten bolts, as that may cause the channel to distort. Never turn a channel while removing a tube from the channel. Inspect channels for cracks or distortion. NEVERreshape a bent or distorted hannel. Always replace any damaged part with a new Quicksilver factory part.

Shackles
Ensure that shackles are retained by the correct bolt size. Never spread or bend a shackle. Inspect shackles for cracks, elongated holes, and stretching.

Other Hardware
Check all other hardware for normal wear or damage. After hard landings, the airframe must be inspected carefully. The wing pylon structure, and landing gear fittings and tubes must be inpected for damage and replaced if necessary.
If the aircraft is ground looped (a wingtip contacts the ground), the wing covers must be removed and a thorough inspection of the total wing structure performed.

AIRFRAME LOGBOOK

Always keep the aircraft's logbook up to date by making current entries as the Airframe Maintenance Schedule is followed. The Ultralight Aircraft & Engine Log is designed to help organize proper servicing of the airframe while supplying written records of airworthiness.

MAINTENANCE

Review the Airframe Maintenance Schedule, Figure 10-3, and become familiar with all the airframe components. Pay particular attention to the type of airframe maintenance prescribed and when service must be performed.

AIRFRAME MAINTENANCE SCHEDULE — GT 500

Component	Hours	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
+ Root Tube									2								3
+ All Spars									2								2
Compression Struts									2								2
Diagonal Struts									2								2
@ King Post Tubes									2								3
@ King Post Fittings		1		1		1			1		1		1		1		3
Tail Boom									2								2
Aft Downtubes									2								5
Fwd Downtubes									2								5
Fwd Fuselage Down Strut									2								2
Tail Boom Down Strut									2								2
Rudder Frame					4				2&4				4				2&4
Elevator Frame					4				2&4				4				2&4
Tail Skid		2		2		2			2		2		2		2		2
Ribs		2		2		2			2		2		2		2		2
All Cables/Lift Struts					2				2				2				2
+ Wing & Tail Covers									2								2
+ All Landing Gear Parts		4		2		4			2		4		2		4		2
Elevator Push/Pull Tube		2		2		2			2		2		2		2		2
Control Yoke		1&4		2&4		1&4			2&4		1&4		2&4		1&4		2&4
Rudder Pedals									2								2
Side Struts					2				2				2				2
Strut Fittings									2								2
Teleflex Cable					2				2				2				3
All Control Cables					2				2				2				2
Wheel Bearings					1				2				1				2
All Formed Channels					2				2				2				2
All Other Bolts		4		4		4			2		4		4		4		2
Grade 5 Bolts		4		2		4			2		4		2		4		3
All Other Hardware		4		4		4			2		4		4		4		2
+ Wheel Parts		2							2				2				2
Seat																	2
All Hinge Assemblies		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2

Figure 10-3 : Airframe Maintenance Schedule.

LEGEND

1. Oil, Lube, Clean or Service.
2. Remove, Inspect & Replace if necessary.
3. Replace or Overhaul.
4. Check Bolt or Nut Tension.
5. Check Holes for Ovality - replace as necessary.
   - + Closely inspect after any hard landing.
   - * Check Fabric every 1000 hours of exposure to the Sun. (Approx. 85 days of 12 hour exposure each day). Replace the fabric every four years or in accordance with the procedures of the fabric test kit which ever comes first.
   - @ Cable Braced GT Only.
6. Replace all componets every 1600 hours of operation.