



**OWNERS
MANUAL**

--- FOLD ALONG DOTTED LINE, STAPLE OR TAPE TOGETHER. ---



Airwave Gliders Ltd
Elm Lane
Shalfleet
Isle of Wight PO30 4JY
Great Britain

Airwave Gliders

Owners Manual

Congratulations on your purchase of an Airwave Gliders *K2*

We hope to provide you with many hours of enjoyable flying.

If you ever need any spare parts or advice do not hesitate to contact your nearest Airwave Gliders dealer, or contact us direct.

DIMENSIONS

Wing area is 144 Ft².....13.47m²

Wing Span is 32.6 Ft 9.93 m

Aspect Ratio 7.37

Nose Angle 130°

Luffline heights, trimmer loose

Inner.....57 mm ± 5mm

Outer.....82 mm ± 5mm

Luffline heights, trimmer tight

Inner.....38 mm ± 5mm

Outer.....57 mm ± 5mm

Anhedral.....130 mm ± 10 mm

Keel bend10 mm ± 5 mm

OPERATING LIMITS

Certified weight limits 110 - 165 lbs 50-80 kgs

Optimum pilot weight range 110 - 154 lbs..... 50-75 kgs

Indicated stall speed 14 m.p.h. with max. pilot weight.

Indicated maximum speed 55 m.p.h. with minimum pilot weight.

Flight operations must be limited to non-aerobatic manoeuvres.

It is recommended that this glider be flown by a pilot who is trained to a B.H.G.A. C P C or equivalent.

Load should only be applied to the glider through the pilot's hang point.

Towing devices which load the glider elsewhere can be dangerous.

This glider must not:

a) exceed 30 degrees nose up or down to the horizon.

b) exceed 60 degrees bank angle left or right to the horizon.

c) be flown inverted or backwards.

d) be flown with auxiliary power unless designed, installed and tested by the factory.

This Glider Was Test Flown By

Date Place

SECTION 1: RIGGING INSTRUCTIONS

Your **K2** has been designed to be rigged simply and efficiently. The instructions given below provide you with the step-by-step procedure for rigging your glider. By closely following these instructions, you can ensure that your glider will rig easily and that you will not cause damage to the structure.

The hang point of your new **K2** will be in the space directly behind the A frame and in front of the keel pocket. The exact position for your own weight and personal preference should be found by trial and error, but a good first guess for your hang point is 10 cm behind the A frame bolt position, just in front of the keel pocket.

The **K2** may be set up in either of two ways. The first procedure is preferable, in which the glider is left on the ground, nose into the wind until ready to launch. In this procedure, the control frame is set into position last and it reduces possible damage to the glider in the event of a sudden gust of wind. The second technique is with the control frame set into position at the beginning of the procedure. This allows the glider to be set up off the ground. Which is better in lower wind conditions or on rough terrain and it is effective in keeping the sail clean.

- 1) Place the glider in its bag on the ground with the nose into the wind and the zip facing upward. Unzip the cover bag, remove the battens from the nose area, undo the glider ties and assemble the control frame. NOTE: Check that all the rigging is outside of the control frame triangle and check that the bolt, wingnut and safety split-ring are fully assembled, and that the base bar is the right way up. (the trimmer cleat should line up with the trimmer rope and the front of the base bar should angle up slightly towards the nose plates)
- 2) Roll the glider over so that it is the right way up and flat on the ground. Ensure that the control frame is central and that the rigging is unsnagged. Thread the trimmer rope into the cleat and tie a stop knot.
- 3) At this stage you must decide to rig the glider standing on its 'A' frame or flat on the ground. If you decide on the former, then stand the glider on its 'A' frame, but do not fasten the nose catch. Both rigging procedures now continue in the same way.
- 4) Remove the cover and all the ties. Carefully walk each wing half way out to its approximate flying position before walking them all the way out. Clear the side wires through the top surface of the sail to ensure that they do not catch. **AT THIS STAGE IT IS ESSENTIAL TO ENSURE THAT THE KEEL AND LEADING EDGES ARE ALWAYS IN THE SAME PLANE OR DAMAGE WILL RESULT.**
- 5) Raise the kingpost, but do not yet attach the luff lines.
- 6) Check the battens against template and for symmetry. Place all green tipped battens in the right wing. Working from the centre to the tip, insert all the top battens, including half battens, with gentle pressure until they meet resistance. Lift the sail at the trailing edge and gently shake, this enables the batten to slide into place over the cross tube. **DO NOT USE FORCE!** Do the same with the red battens in the left wing. All battens are secured in position with a "double purchase" method. To secure, place the bottom loop onto the batten end fitting and pull the top loop over and into the fitting notch.

7) Insert the nose batten "tail end first" from the nose of the glider, seating the front end of the batten tube onto the rivet fitting on the keel tube just in front of the nose plate.

8) Rotate the tip struts into position, ensuring that they are seated properly into their leading edge fittings.

9) You should now find the cross tube tension webbing appearing immediately at the rear of the keel pocket. It is automatically pulled into this position by the elastic cord which runs down into the rear of the keel tube. Pull on the webbing loop handle. Keep about 50 cm to the rear of the glider for max leverage with your knees against the base bar. Pull the cross boom tensioner cables back until the shackle can be inserted into the alloy catch on the keel tube. The spring pin will lock the shackle in its proper position.

10) Secure the luff lines and top rear rigging snap hook onto the shackle located at the top of the kingpost.

11) To install the tip batten, look through the leading edge pocket at the wing tip and guide the tip batten over the tip strut and onto the tip batten hook. Secure it with all three elastics. The wing tip fairings are fixed with simple velcro patches, put them in place at this stage.

12) If it is not already standing, lift the glider onto the control frame (be careful of snagging the tip battens), ensure that all the lower rigging is untangled. Slip the ring fastener into the nose catch below the nose plate.

13) Install the glider's nose fairing, starting with the two top velcro tabs and gently pulling the fairing down and around the nose plate to connect the two bottom velcro tabs on the shroud to its corresponding tab sewn on the double surface.

14) Insert the four lower surface battens carefully, as there is the possibility of missing the batten pocket as battens enter the sail. When the batten reaches the leading edge pocket, push up on the double surface near the leading edge, finish inserting the batten and put on the single retaining elastic.

NOTE: When the batten is inserted properly, the tip should be resting against the bottom of the leading edge.

Never fly your K2 with the double surface zip undone or without its nose fairing as this adversely affects the glider's pitch stability characteristics.

Your K2 is now ready for a pre-flight inspection. It is important that this is carried out every time you rig the glider and before you fly.

SECTION 2: PREFLIGHT INSPECTION

The nature of the *K2* is such that many of the pre-flight checkpoints common to other flex wings are hidden to eliminate parasitic drag. A thorough pre-flight procedure is mandatory with all aircraft, and the best technique is a circular walk around the glider.

Start at one location, the nose plate is ideal, and check each assembly point available for inspection. Keep in mind the **THREE MOST CRITICAL** set-up factors. These are the nose catch, the control frame base tube bolts and the cross tube tensioner. As stated in the set-up procedure, **ENSURE THAT ALL SECURING PINS ARE PROPERLY POSITIONED AND CANNOT PULL THROUGH.**

Starting at the nose, a suitable pre-flight checklist would be:

- 1) Sight along both leading edges checking for similar curves.
- 2) Walk towards the port wing tip feeling for dents in the tube.
- 3) Pause at the wing bolts and look into the sail through the zipper inspection access, re-fasten the zipper.
- 4) Continue to the tip and check the TRIM TIPS for security and symmetry.
- 5) Sight the leading edges and cross tube down the inside of the sail at the tip.
- 6) Check the tip struts. Make sure the tip batten is OVER the tip strut.
- 7) Walk to the keel checking the battens to ensure that they are properly secured.
- 8) Check the luff line attachment points, both at kingpost and trailing edge grommets.
Ensure that the luff lines are not wrapped around the batten ends.
- 9) Check the cross tube wire to keel catch connection.
- 10) Check the rear top rigging.
- 11) Continue with items 2 to 7 in reverse order on starboard wing.
- 12) Check the nose catch.
- 13) Check all the lower rigging.
- 14) Check that the control frame uprights are straight and that the bolts are correctly assembled with their wing nuts and rings.
- 15) Check cross tube plates and related assemblies.
- 16) Ensure double surface zip is done up and the nose fairing is on.
- 17) Ensure that the trimmer operates freely.
- 18) **HOOK IN AND HANG CHECK.**

SECTION 3: FOLD DOWN PROCEDURE

To fold down your **K2**, just reverse the set-up procedure steps as described. Included here are a few guidelines to follow which will save you time and prevent wear areas on your sail:

- 1) Always let off the Magic trimmer before de-rigging the glider.
- 2) While tensioning or slackening the **K2**'s cross tubes, **ensure the keel and leading edges are all in the same plane.**
- 3) Always try to fold the wings in symmetrically, bringing both leading edges back together at the same time.
- 4) If you are de-rigging the glider on the A frame, before you fold the wing undo the nose catch.
- 5) The first glider tie should hold the keel in the same plane as the leading edges. To do this fasten the two leading edges together, but position the keel underneath the bottom strap.
- 6) Generally, if anything offers you resistance during any phase of the **K2** set-up or fold-down procedure, be sure to **stop and investigate.**
- 7) Make sure that the cross-tube tension cable is free to run forward.
- 8) Roll or fold the sail from the outer luff line into the Mylar reinforced leading edge pocket.
- 9) Put one glider tie just behind where the top laterals emerge from the sail, a second one half way between the A-frame apex and the nose plate holding the leading edge pockets overlapped and the third sail tie provided with your glider about 60 cm inboard from the leading edge tip. **Do not over-tighten your sail ties.** This keeps the mylar pockets and the rest of your sail free of wrinkles and creases.
- 10) Pads are provided to eliminate wear. The control frame bottom pad should include the keel, and the main span cables (side cables) must point to the rear of the glider. The control frame top padding should be pushed down to the sides of the kingpost this eliminates wear on the double surface but it is easier to push this pad into place before the glider ties are tightened.

REMEMBER NEATNESS COUNTS!

SECTION 4: TRANSPORTATION AND STORAGE

The **K2** should always be laid **zipper facing up** especially during transportation. Avoid hard spots pressing on the glider at any time and have as many supports as possible. During transportation use rope or webbing rather than elastic to secure the glider and tie both ends of the glider to a support or down to the ends of the vehicle in order to stop the glider flexing. If the glider bag is loose and the glider is travelling at high speed on a car roof, it will chafe the glider's sail. This 'glider flog' can be easily prevented by tying up the bag. It is preferable to keep the glider dry and **ensure that the glider is dry before storing.**

SECTION 5: FLYING TECHNIQUES

Take Off

The **K2** is slightly tail heavy and is very easy to launch in both calm and windy conditions. When you hold the glider prior to your take off run, you should have the nose slightly elevated and the wings level. **AGAIN MAKE SURE THAT YOU ARE HOOKED IN!** Run hard and ease the bar out for lift-off.

Turns

The **K2** has straight-forward flight characteristics, typical for a defined aerofoil flex-wing. The glider can be easily directed into a turn, even at very low flying speed. However, to obtain the best handling characteristics and fast roll rate, it is advisable to pull in for a little extra flying speed. To enter the turn, move to one side and push out slightly. The **K2** will maintain in a turn of a required bank angle and radius until the turn is removed. It is possible to trim the neutral bank angle of the glider by adjusting the TRIM TIPS, see the section Handling/Speed & Glide.

Give yourself an extra margin of safety and **DON'T** fly your glider at the slowest possible airspeed when searching for lift close to the terrain.

Straight Flight

The **K2** requires relatively light pitch inputs. This means that it is quite easy to increase airspeed rapidly and the useable speed range of the glider is quite wide. Until fully familiar with the flight characteristics of the glider, care should be taken when accelerating to higher speeds since it is possible to set up a pilot induced yaw oscillation. Over correction can cause increased oscillation. If this occurs, slow down to normal flying speeds and all will return to normal. Practise accelerating your glider in smooth conditions until, after several hours on the glider, you will learn to compensate correctly and any initial oscillation problem will evaporate. For max glide performance pull the trimmer on all the way. In this configuration the **K2** will track more steadily. It is possible to tune the glider for stability (see section 6 Tuning)

Thermalling

This is best done with the trimmer slack and is also very straight-forward. The optimum speed for thermalling is a little above the min sink flying speed, but it may be necessary to fly faster than this in rough conditions to maintain good control. Once a turn is initiated a bank angle of anywhere between 10 and 50 degrees can be used, depending on the nature and diameter of the thermal. The **K2** is a precise glider to fly. It can accelerate quickly from small pilot inputs and will turn fast. It requires more precise pilot input than the *Calypso* and should be treated with respect whilst learning to fly it.

Stalls

When practising stalls always make sure that you have sufficient altitude. The stall characteristics of the **K2** are very straight forward. If you push out slowly it is hardly possible to stall the glider at all and the **K2** will mush without a tendency to drop a wing. The sink rate is more than doubled, if you 'fly' the glider in this mode. If you push out harder, the nose of the glider will come up a little higher. This is followed by a gentle pitch down and the glider will regain flying speed. There is not a lot of altitude lost in this type of manoeuvre. Never stall your glider completely with the nose pitched-up very high. This is one of the most uncontrollable and dangerous manoeuvres for any tailless aircraft and can result in a tail slide and severe tumble. Stalls in a coordinated turn are difficult to do by mistake. If you push out too much in a turn the glider will turn tighter, unless you are flying very very slowly in which case you may enter a spin (see Spins).

Spins

The **K2** will strongly resist spinning. However should you stall one wing in a turn, move your weight forward and the glider will recover quickly from a spin (half a turn) without entering extreme attitudes and without extreme loss of height. This is due to the **K2's** positive roll-yaw coupling and a neutrally balanced roll characteristic.

Landing

This is a simple matter. Your final approach should be a straight glide into the wind at faster than best glide airspeed. Bleed your speed off slowly, wings level and ground skim onto your chosen landing spot. In light or no wind conditions a full flare is required. When it is time to flare, flare aggressively and abruptly and hold the 'A' frame out. It is possible to make steep approaches to a landing area or target utilizing the mush mode, this should only be done in steady, smooth winds. It is not recommended to mush the **K2** all the way to the ground.

IMPORTANT NOTICE

As with any high performance aircraft, special care should be taken to note the operating limitations which have been ascertained by careful testing.

Flight operations should not exceed those laid down in the operating limits at the front of this manual.

No aircraft is totally safe; there are inherent risks involved in flying a hang glider. It is quite possible to fly the **K2** beyond its operating limits, **DO NOT DO IT**. The responsibility for safety rests ultimately with the pilot who must decide whether the aircraft he/she is about to fly has been properly maintained, preflight checked and is in an airworthy condition.

SECTION 6: TUNING

The **K2** has undergone a rigorous test-flying programme in a wide range of conditions. As a result, it is precisely tuned to achieve maximum flying performance. Therefore, it should not be necessary to make any changes in your glider's tuning or configuration. If, however, you have any questions, please contact your authorised **AIRWAVE** dealer.

If any adjustments are made on your glider, we recommend that they be noted in your Maintenance Log which you will find at the end of this Manual. It is then easy to go back and trace occasional problems.

Turns

If your **K2** develops a slight tendency to want to turn. Check the following :-

Check your battens against the batten plan. Check that the batten bungee tensions are the same on both sides. Check that the keel is straight. Check that the leading edges are straight. Check that a leech line has not been accidentally pulled. When you have checked that everything is correct and if your glider still has a turn, then it may be necessary to adopt the following technique.

Your **K2** is fitted with adjustable lockable **MAGIC TRIM TIPS**. These fittings allow you to tune turns out of the glider.

To adjust the **TRIM TIPS**: partially unscrew the stainless steel locking screws and push them in (this releases the locking wedge) the fitting is then free to turn. To lock the tips do up the stainless steel locking screws. The **TIPS** should be locked for flight.

Turn adjustment

If your glider has a right hand turn

Turn the right hand **TRIM TIP** anti clockwise approx 3mm (viewed from end)

OR

Turn the left hand **TRIM TIP** 3mm anti clockwise.

If your glider has a left hand turn

Turn the left hand **TRIM TIP** 3mm clockwise

OR

Turn the right hand **TRIM TIP** 3mm clockwise

To gradually tune out a turn, use increments of 3mm only, use the reference line on the leading edge as a guide.

After tuning both tips should visually look the same. Large asymmetrical differences should be avoided. Consult your **AIRWAVE** dealer if in doubt.

Pitch Trim

This is accomplished by simply moving the hang loop on the griptape within the space in front of the keel pocket. To make the glider fly faster, simply move the hang loop forward. The difference in trim speed between having the hang loop all the way forward to all the way back should be about 5 mph.

NOTE: The main hang loop is always the shortest of the two and always located directly behind the back-up.

Handling / Speed & Glide

The only adjustable settings on the **K2** are batten tensions, leading edge tension and TRIM TIP adjustment. Tighten the battens for more performance, and sharper handling

Add a 5mm shim to the leading edge to enhance performance, but expect a deterioration in handling. Remove the standard shim to improve handling especially if you want your battens really tight.

By adjusting both TRIM TIPS to give more washout at the tips, the stability of the glider will be improved

By 'flattening' the tips the performance of the glider will be improved.

These adjustments will affect :

Trim speed (flattening the tips will speed up the glider)

Co- ordination (flattening the tips will steepen the bank)

Roll inputs (flattening the tips will stiffen the roll)

SECTION 7: MAINTENANCE SCHEDULE

Your new **K2** will require very little in the way of maintenance if you care for it properly in your day to day use. Here are some general points to follow in maintaining your new **K2** which will help ensure the safety of your flying and the performance retention of your glider. We suggest you follow this maintenance schedule faithfully. Your care will always pay off in the future.

Every 10 Hours

— Check all ribs against the batten pattern.

Every 50 Hours

—Inspect all cross tube support cable components (tangs, pins, nuts, bolts, cross tube plates, and cable itself).

—Inspect all batten elastics.

—Check all tubing for possible wear damage which could occur during set-up, fold-down, or transportation.

—Inspect sail mounting grommets and webbing at tips.

Every 100 Hours

—A complete inspection of your glider is recommended, including all rigging and components, replacement of any worn or bent bolts or locknuts connecting 2 moving parts together (i.e., cross tube plate junction bolt, cross tube / leading edge bolt, etc.)

—If any tube is badly scratched, dented, or damaged, it should be replaced.

—Check the critical airframe measurements. (See Airframe Maintenance)

—Critical sail tears should be mended by a professional sailmaker. (See also Sail Maintenance below.)

—Check trimmer ropes and compensator lines for abrasions and wear.

—Please contact your AIRWAVE dealer for a complete and professional inspection of your glider.

Sail

- 1) If you must wash the sail, wash it with a light detergent only. Better still, wipe the sail down frequently with a soft, damp cloth and that will keep detergent washing to a minimum.
- 2) Acetone or alcohol can be used to remove stubborn stains without harming the sail. (Do not use any solvents on a mylar sail).
- 3) Rinse very thoroughly after cleaning with any detergent or solvent.
- 4) To renew the lustre of Dacron, you can use a product called 'Sail Bright' available from marine hardware stores.
- 5) Apply sail repair tape to any rips or tears in your sail. This will prevent fraying on the edges where the tear is located. However, do not worry about small tears continuing unless they are located at stress points around the tip panel, nose or trailing edge panel.
- 6) Keep an eye on all the grommets and all areas of the sail that take extra abuse.
- 7) The best thing you can do for your sail is to always use the glider bag. Do not carry your glider on top of a car, even for short distances, without one. Sun and weather cause more deterioration than hours of flying. Keep your *K2* covered when not in use.
- 8) Be careful and precise when you re-pack your glider after each flight. Keep all the padding that arrived with the glider when it was new, pack everything the same way. A few extra moments when you de-rig the glider will give you many extra hours of noiseless and anxiety-free flight.

Cables

- 1) Naturally any frays or kinks in your cables should be examined with great care and any frayed cables should be replaced immediately.
- 2) AIRWAVE recommend that the flying wires are replaced every 150 hours or yearly, whichever comes first. Each cable has a breaking strength in excess of 400 Kg. Actual non-aerobatic in-flight loads seldom exceed 200 kg. Inspect the thimbles; if elongation is evident that cable should be replaced. If you must constantly set your glider up and break it down in rough, rocky areas, you will need to replace your cables more frequently than someone who flies the grasslands. Most damage is done to cables by 'heavy landings' or crashes. Use your best judgement - those cables hold the frame together.

Lufflines and Compensator

Check that the compensator string is attached to the front top rigging wire at right angles. Then to check that the string has not stretched, the luff line heights should be checked with the Magic Trimmer both on and off. To measure the luff line heights fully rig the glider and stretch a fine string across each of the three pairs of luff lines. The string should be attached to the batten adjacent to each luff line, so that it is at the same height as the sail at that luff line. With the string tight, measure the distance between the string and the top of the keel. The measurements are at the front of this manual.

Airframe

Examine your tubes for dents, wear spots, corrosion and bends.

The critical dimensions for the airframe are listed at the front of this manual and should be checked. These are the luffline heights as described above, the anhedral, and the keel bend. With the glider lifted to make sure that the mainsails are tight, the anhedral is the distance between the bottom of the keel and a tight string held between the two wing bolts. The bend in the keel is measured with a tight string between the aft lower exit hole and the bottom of the keel behind the nose plate. The measurement is taken at the heart bracket.

Hardware and Bolts

1) For all practical purposes, AIRWAVE hardware exceeds all required and maximum load tests in hang gliding (flight) applications. "AN" bolts, however, are not indestructible and bending them even in light crashes is common. Check them periodically to be safe. Discard and replace any bent bolts.

2) All bolts, of course, should show an exposed thread above the locknut during pre-flight.

Battens

When inserting battens, place them in their pockets smoothly and gently to avoid wear on the sail and on the batten ends. Pushing them rapidly into the pockets at an angle will wear out the stitching on the edge of the pockets. The friction will wear the batten ends rapidly, and will damage the sail itself.

Annual Inspection

Even if yours is the best kept *K2*, you should have the glider stripped down for a full inspection at least once a year. This can be done by yourself or preferably by one of our professional AIRWAVE DEALERS.

SECTION 8: TAKING APART AND REBUILDING YOUR GLIDER

Preparation

In order to best perform this operation, you must first place your glider "right side up" on two saw horses located 1 m from both ends, with all ties removed and with the leading edge spread approx. 30 cm apart. (You can actually perform the same operation on a clean floor or lawn.) Next, you need to flip the sail on the outside and the top of the airframe in a manner to expose the under-surface facing upwards. Your glider is equipped with X-tube to Leading Edge junction inspection zippers, open the zippers and move the sail around to allow you to work on the X-tube to L.E. junction. You may want to dismount the sail at the L.E. Tips and slip the sail slightly forward to provide better working access to the X-Tubes junction.

Stripdown

- 1) Remove the lock nuts that are retaining both side cable tangs onto X-Tube bolt. Slip the top side and mainspan cables off the sail and replace nuts.
- 2) Disconnect all four line ball terminals from the cable loops and slip the lines through the grommets.
- 3) Remove the screws securing the sail at the nose plate junction, slip the sail back a bit and remove the top front cable tang off the top nose plate. Slip the cable off its sail slot running along side the nose rib pocket. At this point, we would recommend that you "coil" all the free top rigging into rolls in order to keep the procedure organized.
- 4) You can now remove the entire kingpost tube off the glider with the top rigging attached. Do not remove the kingpost base block.
- 5) Now you must detach the lower rear rigging from the keel tube. The wire is fastened to the keel with a short clevis pin located directly below the machined slot.
- 6) Remove the side wires from the base of the a frame.
- 7) You can now proceed to slip the sail off the rear of the airframe, taking great care not to catch the sail on any parts of it. Be especially careful when nearing the washout tubes, the cross tubes centre junction, the control bar apex and the wingbolt area.

Rebuilding the glider

The re-assembly procedure of your *K2* is best achieved by simply reversing the steps described above. When the glider is complete, rig it as if to go flying. Inspect all joints and connections. Check the anhdral, keel bend and luff line heights. Please remember that the disassembly and re-assembly of your glider provides the best opportunity to give it an extensive and thorough inspection to each and every component. **Take advantage of it !**

SECTION 8: GLIDER BREAKDOWN

It is possible to short pack your *K2* to 3.8m, for transportation or storage purposes.

Procedure

To break the glider down:

1. Slide the end fitting off the TRIM TIP.
2. Remove the leading edge outer section, by pulling it out of the inner section (taking care to guide the tip strut out of the sail)
3. Cover the end of the inner section to avoid chaffing the inside of the sail
4. Fold the sail leading edge back on itself, around a large radius (to avoid creasing) and continue to pack as usual.

When packing the (tubular) leading edges into the glider, any unprotected edges may chafe the sail during subsequent transportation.

To reassemble the glider:

1. Slide the leading edge outer back into the inner, locate the outer section by pushing and rotating until the clevis pin locates in the index slot. (with the leading edge located correctly correctly the tip strut faces aft)
2. Slide the end fitting back onto the TRIM TIP.
3. Proceed to rig the glider as usual.
4. Carry out a full pre-flight check before flying the glider.

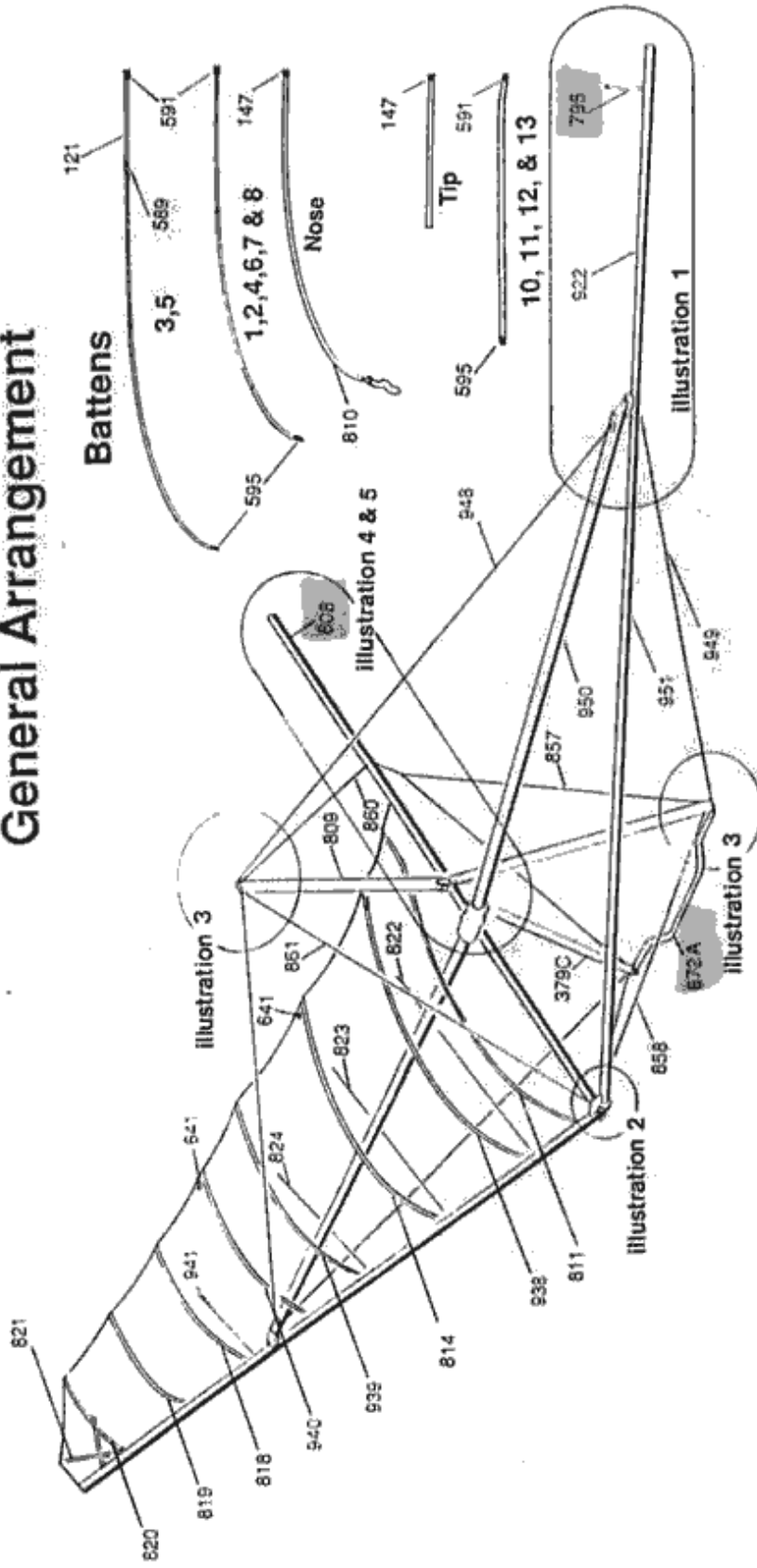
When breaking your *K2* down, the TRIM TIPS are not undone or adjusted in any way, thus ensuring the glider is always rebuilt in the same state of tune as the last time it was flown.

SECTION 9: PARTS AND DRAWINGS

Use the following pages to identify part numbers for any spares you may require.

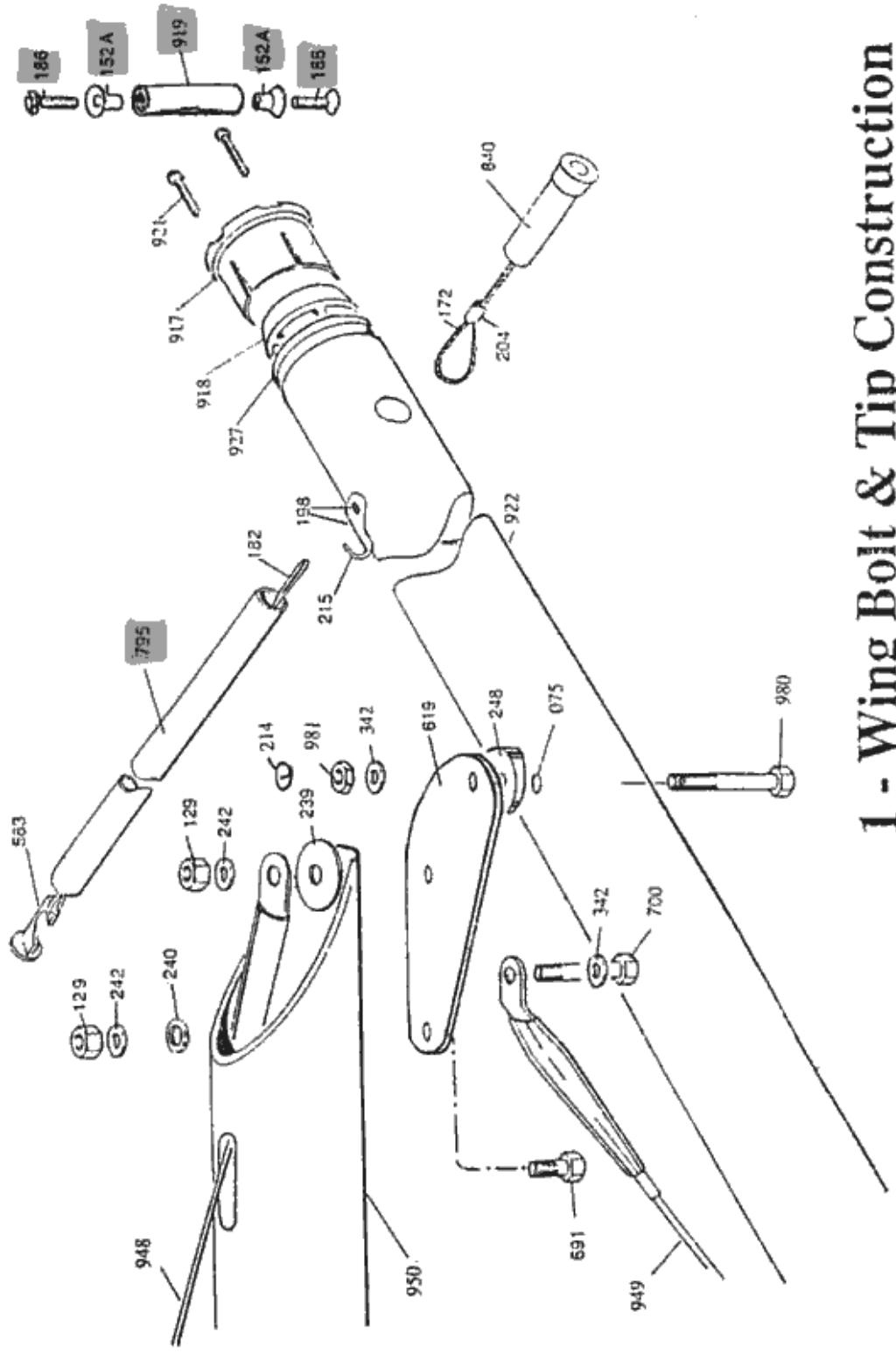
Always quote as much information about your glider as possible when ordering spares, particularly if your glider is a variant, ie small A frame or competition sail.

General Arrangement



General Arrangement

<u>Key</u>	<u>Part No</u>	<u>Description</u>	<u>Units</u>	<u>Key</u>	<u>Part No</u>	<u>Description</u>	<u>Units</u>
121	FG 1/4*.7M	Rod Fibre Glass 70cm	-	820	MK B8 G	Batten 8 Kiss Green	-
147	PM AG 1/2T	Batten Tip 1/2"	-	821	MK B TIP G	Batten Tip Kiss Green	-
379C	M4 AF UP/M	Upright Acrofoil medium	-	822	MK B10 G	Batten 10 Kiss Green	-
589	PM BJS G	Batten Joint Sleeve Green	-	823	MK B11 G	Batten 11 Kiss Green	-
591	PM BTR G	Batten Tip Rear Green	-	824	MK B12 G	Batten 12 Kiss Green	-
595	PM BTF G	Batten Tip Front Green	-	941	K2 B13 G	Batten 13 K2 Green	-
641	PM LLLB	Luff Line Balls	-	857	RG54 ALA	Rigging K154 Aft. low Acro	pair
672A	M SBS	Speed Bar Small	-	858	RG54 FLA	Rigging K154 Fwd low Acro	pair
795	MK TS	Tip Strut - Kiss	-	949	RG K2 MS	Rigging Mainspans K2	-
808	MK54 K	Keel - Kiss	-	947	RG K2 TA	Rigging Top Aft K2	-
809	MK54 KP	King Post - Kiss	-	861	RG54 TF	Rigging K154 Top fwd	-
810	MK B NOSE	Batten Nose - Kiss	-	948	RG K2.TL	Rigging Top Lats K2	-
811	MK B1 G	Batten 1 Kiss Green	-	951	K2 LE I	Leading Edge Inner K2	-
938	K2 B2 G	Batten 2 K2 Green	-	922	MLE O TT	Leading Edge Outer Trim Tip	-
814	MK B3 G	Batten 3 Kiss Green	-	950	K2 XT	Cross Tube K2	-
939	K2 B4 G	Batten 4 K2 Green	-	Please note that battens with green in the description are for			
940	K2 B5 G	Batten 5 K2 Green	-	right hand parts. For left hand parts replace green with red			
818	MK B6 G	Batten 6 Kiss Green	-	and R for G in the part no.			
819	MK B7 G	Batten 7 Kiss Green	-				

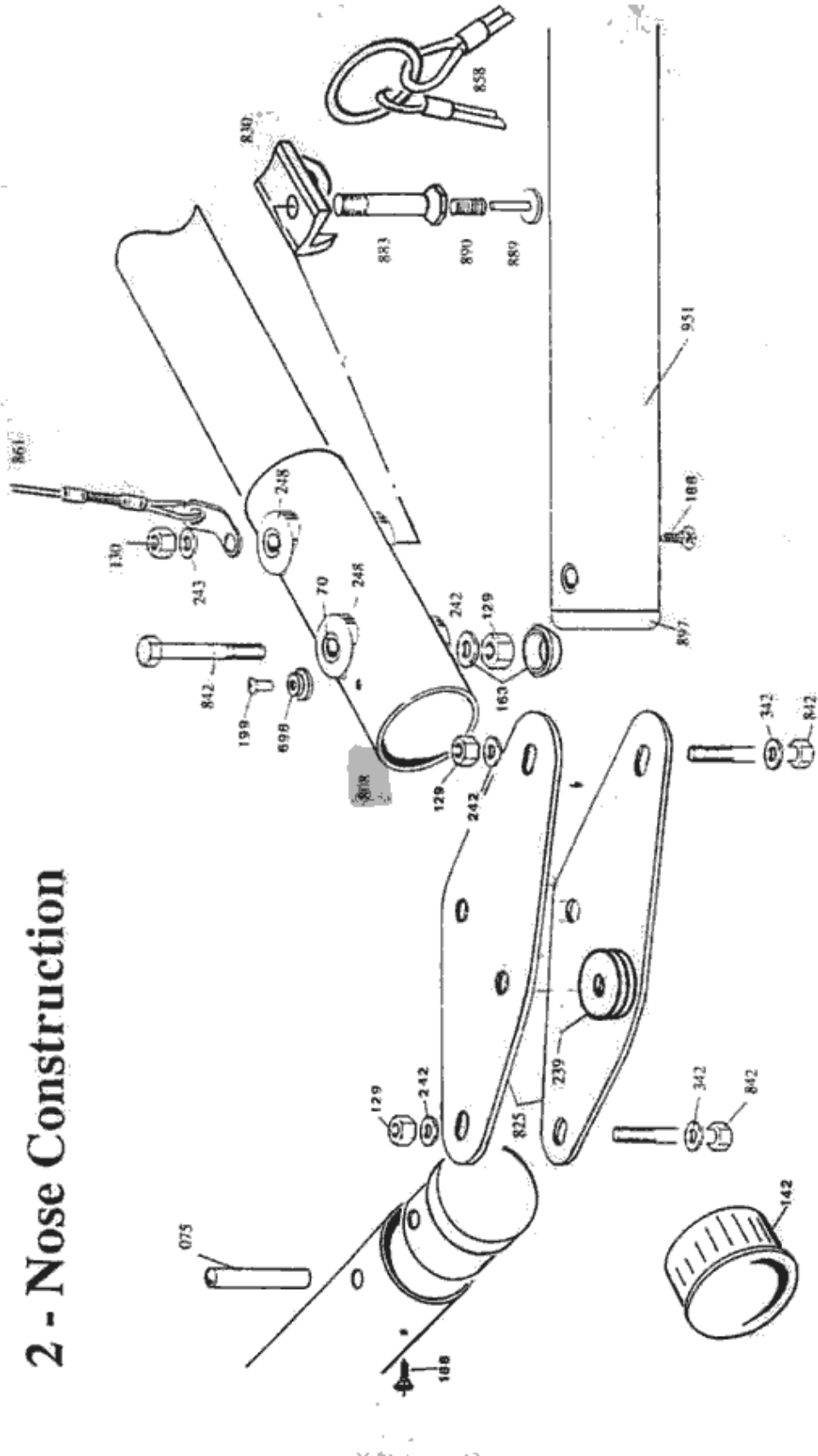


1 - Wing Bolt & Tip Construction

1 - Wing Bolt & Tip Construction

<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>	<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>
075	BU 5/16"	Bush LE,TS	-	691	BT 4 6A	Bolt AN4 6A	-
129	NT 1/4"	Nut 1/4" Acrotight	-	700	BT 4 10A	Bolt AN4 10A	-
152A	PM CSS	Ball Tip Spacer	-	795	MK TS	Tip Strut - Kiss	-
172	RG 2MM	Tip Strut Wire Loop	metres	840	AF TSB	Tip Strut Bullet	-
182	RP BE 4MM	Shockord 4mm	metres	917	PM EC	End Cap	-
186	SC 6*25MM	Screw Machine 6 x 25mm	-	918	PM WE	Wedge	-
198	SF D639BS	Pop Rivets 639	-	919	AF FS	End Spacer	-
204	SF N 31	Nicopress 2mm	-	921	SC 1 1/4 10	Screw Self Tapper	-
214	SF SR 1	Ring Split	-	922	MLE O TT	Leading Edge Outrt Trim Tip	-
215	SF TBH 15	Hook Tip Batten	-	948	RG K2 TL	Rigging Top Laterals	-
239	WA 1 1/4"	Washer 1 1/4" Plastic	-	949	RG K2 MS	Rigging Mainspans	-
240	WA 1/4"	Washer 1/4" Plastic	-	950	K2 XT	Cross Tube K2	-
242	WA M6	Washer 6mm	-	980	BT 4 26	Bolt AN4 26	-
248	WA SW 39	Washer Saddle Large	-	981	NT 1/4" NL	Nut 1/4" Nyloc Thin	-
927	AT LES 50	Leading Edge Shim	-	342	WA M6 B	Washer M6 Thin	-
583	PM TSH	Tip Strut Hook	-				
619	AF CXTP	Cross Tube Plate	-				

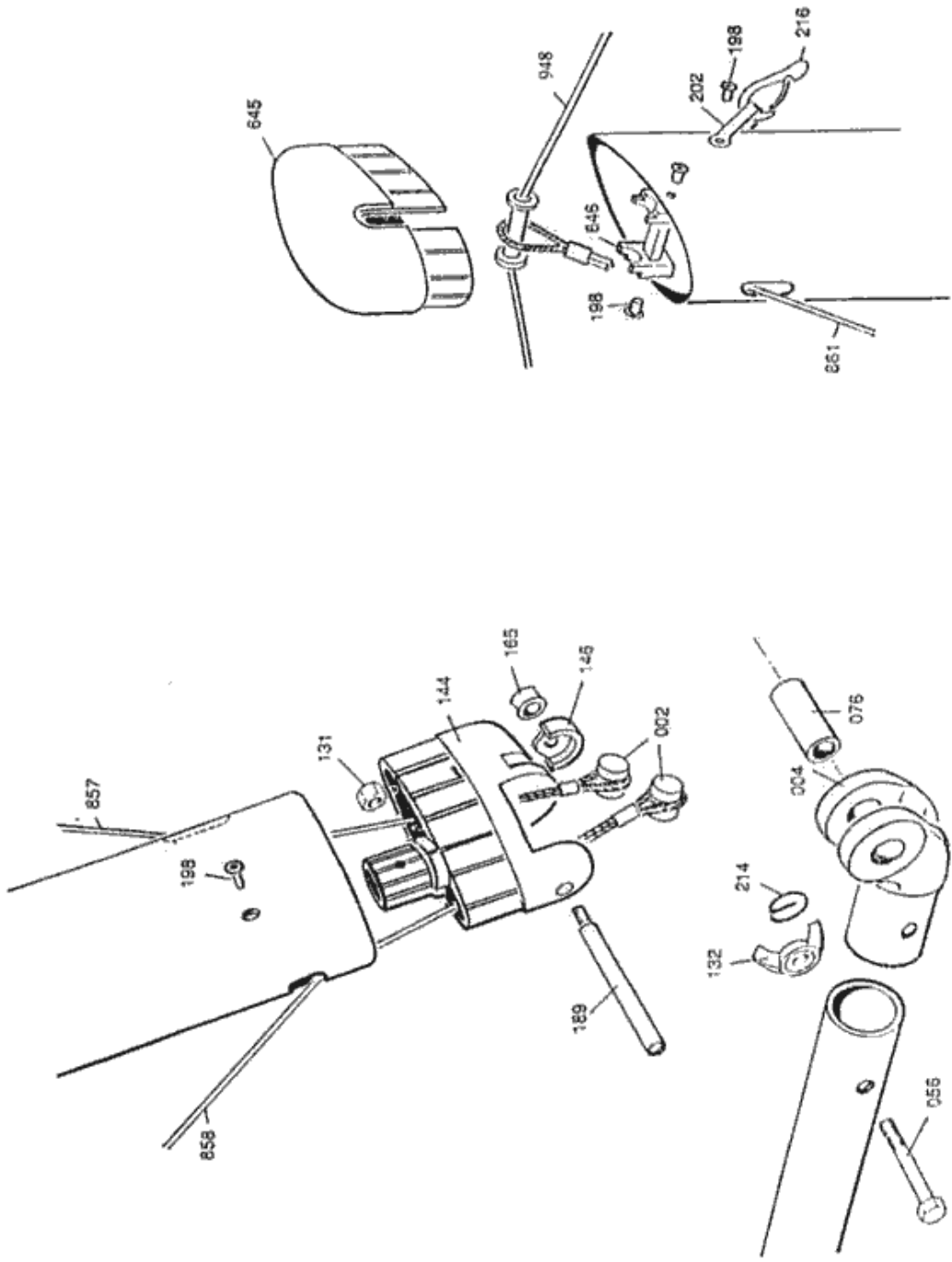
2 - Nose Construction



2 - Nose Construction

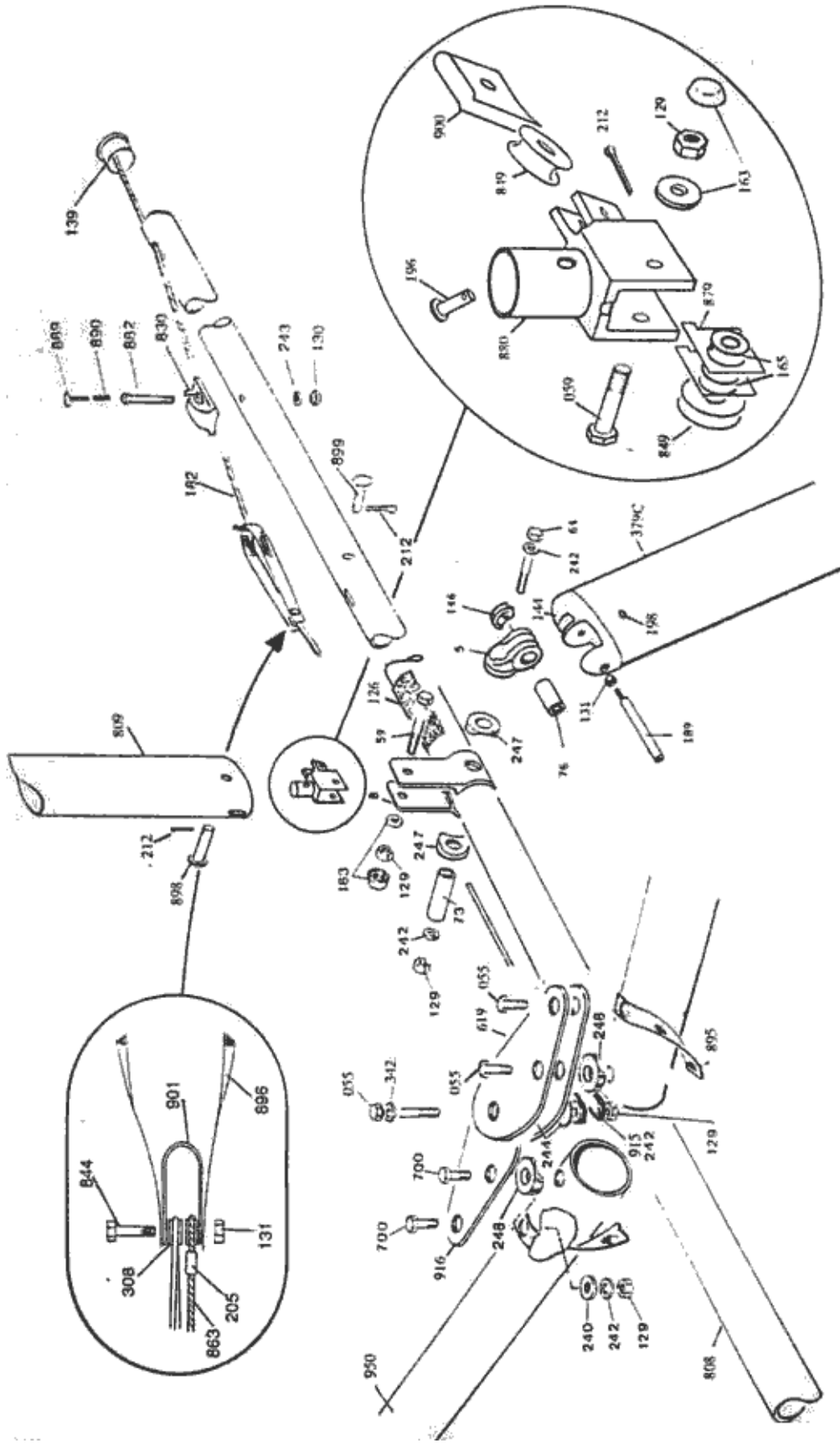
<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>	<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>
070	BU 1 15/16	Bush Keel-Nose	-	842	BT 4 26A	Bolt AN4 26A	-
075	BU 5/16"	Bush LE,TS	-	951	K2 LE 1	Leading Edge Inner K2	-
129	NT 1/4"	Nut 1/4" Aerotight	-	858	RG54 FLA	Rigging K154 Fwd low Aero	pair
130	NT 5/16"	Nut 5/16" Aerotight	-	861	RG54 TF	Rigging K154 Top fwd.	-
142	PM 1 5/8"	Keel end plug	-	883	BT CB30	Catchbolt AN 5 30A	-
188	SC SMF AB8	Screw S/Tappers 8x3/4 ss	-	889	SF CBB	Catchbolt Button	-
239	WA 1 1/4"	Washer 1 1/4" Plastic	-	890	SF CBS	Catchbolt Spring	-
242	WA M6	Washer 6mm	-	897	PM 50MM	End plug 50mm	-
243	WA M8	Washer 8mm	-				
248	WA SW 39	Washer Saddle Large	-				
342	WA M6 B	Washer M6 Thin	-				
808	MK54 K	Keel - Kiss	-				
825	AF KNP	Nose plates - Kiss	-				
830	AF HC	Hook Clamp	-				

3 - 'A' Frame Corner & Kingpost Construction



3 - 'A' Frame Corner & Kingpost Construction

<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>
002	AF ARP	Rigging Pins Alloy	-
004	AF FPB	Fork Plug Base Aerofoil	-
056	BT 4 14	Bolt AN4 14	-
076	BU DB	Bush Delrin	-
131	NT A125 D66	Nut 3/16" Acrotight	-
132	NT WN	Nut - Wing	-
144	PM AEP	End Plug M4 Aerofoil Up	-
146	PM AEP SC	End Plug Aero - Small Cap	-
165	MTSBS	Trimmer sheave/brg small	-
189	SF AEP	Pin Aero End	-
198	SF D639BS	Pop Rivets 639	-
202	SF LS 23	Shackle Long	-
214	SF SR 1	Ring Split	-
216	SF YS 50MM	Hook Rigging - Drilled	-
645	PM AKPP	Plug Aerofoil King Post	-
646	PM AKPP I	Plug - Insert Aero KP	-
857	RG54 ALA	Rigging K154 Aft low Aero	pair
858	RG54 FLA	Rigging K154 Fwd low Aero	pair
861	RG54 TF	Rigging K154 Top fwd	-
948	RGK2 TL	Rigging K2 Top laterals	-

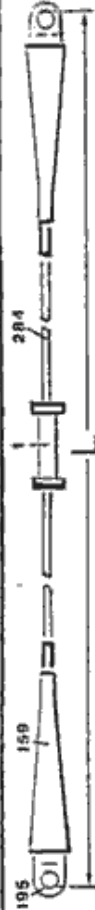








4 - Centre Line Construction

4 - Centre Line Construction

Key	Part No.	Description	Units	Key	Part No.	Description	Units
005	AF FPT	Fork Plug Top Aerofoil	-	248	WA SW 39	Washer Saddle Large	-
008	AF HB	Heart Bracket	-	308	AF TSS	Trimmer Sheave Small	-
059	BT 4 16A	Bolt AN4 16A	-	342	WA M6 B	Washer M6 Thin	-
055	BT 4 12A	Bolt AN4 12A	-	379C	M4 AF UP/M	Upright Aerofoil medium	-
064	BT 4 31A	Bolt AN4 31A	-	619	AF CXTP	Cross Tube Plates	-
073	BU 2 1/16	Bush Keel-Heart	-	700	BT 4 10A	Bolt AN4 10A	-
076	BU DB	Bush Delrin	-	808	MK54 K	Keel - Kiss	-
126	FM Z74531	Safety Walk	metres	809	MK54 KP	King Post - Kiss	-
129	NT 1/4"	Nut 1/4" Aerotight	-	830	AF HC	Hook Clamp	-
130	NT 5/16"	Nut 5/16" Aerotight	-	844	BT 3 12A	Bolt AN3 12A	-
131	NT A125 D66	Nut 3/16" Aerotight	-	849	MTSBL	Trimmer sheave/brg large	-
139	PM 1 1/2"	End Plug 1 1/2"	-	852	FM NEO	Neoprene XTT Cover	-
144	PM AEP	End Plug M4 Aerofoil Up	-	863	RG54 XTT	Rigging XT Tension	-
146	PM AEP SC	End Plug Aero - Small Cap	-	879	AF DP	Divider Plate	-
163	PM MV NCW	Nutcaps & Washers	-	880	AF KPBB	Kingpost Base Block Kiss	-
165	MTSBS	Trimmer sheave/brg small	-	882	BT CB21	Catchbolt AN 5 21A	-
182	RP BE 4MM	Shockord 4mm	metres	889	SF CBB	Catchbolt Button	-
189	SF AEP	Pin Aero End	-	890	SF CBS	Catchbolt Spring	-
196	SF CP 7/8"	Pin 1/4 Clevis 7/8"	-	895	SL XTWL	Webbing Loop Cross Tube	-
198	SF D639BS	Pop Rivets 639	-	896	SL WH	Webbing Handle XT Tension	-
205	SF N 32	Nicopress 2.5mm	-	898	SF CP 1 1/4	Pin - 3/16 Clevis 1 1/4"	-
212	SF SP	Pin - Split	-	899	SF CP 1 3/4"	Pin 1/4 Clevis 1 3/4"	-
240	WA 1/4"	Washer 1/4" Plastic	-	900	MK MS	Mylar spacer-pulley assy	-
242	WA M6	Washer 6mm	-	901	SF SH S	Shackle Forged Small	-
243	WA M8	Washer 8mm	-	915	BL HA 4250SA	Block and Shackle	-
244	WA MW	Washer Mylar	-	916	AF CXTPS	C/Tube Plate Thick	-
247	WA SW 36	Washer Saddle Medium	-	950	K2 XT	Cross Tube K2	-

5 - Rigging K2

Top Lateral 948		6275
Top Front 861		1710
Top Aft 947		1385
Main Span 949		2570
Aft Lowers 857		L1 = 310 L2 = 2040
Front Lowers 858		1936
Cross Tube Tension Wire 863		1380

All L lengths are in millimeters

5 - Rigging

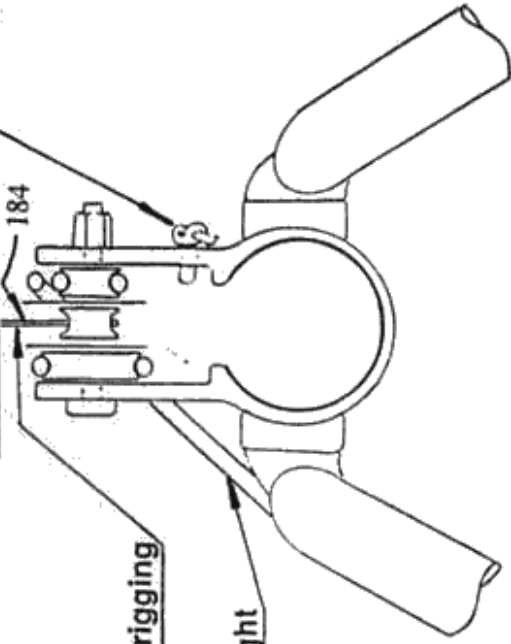
<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>
001	AF AFKPS	King Post Top Slug	-
003	AF AS	Dead Eye (Alloy Sheave)	-
159	PM DMD	Rigging Sheath	-
164	PM NK	Never Kinks	-
195	SF BT	Tang Bent	-
205	SF N 32	Nicopress 2.5mm	-
216	SF YS 50MM	Hook Rigging - Drilled	-
276	PM R XTT PT	Plastic Tube	metres
284	SF 2.5 WIRE	Rigging Wire Coated	metres
285	SF 2.5MM	Rigging Thimble	-
827	SF RR	Rigging Ring	-
857	RG54 ALA	Rigging K154 Aft low Acro	pair
858	RG54 FLA	Rigging K154 Fwd low Acro	pair
949	RGK2 MS	Rigging K2 Mainspan	-
947	RGK2 TA	Rigging K2 Top Aft	-
861	RG54 TF	Rigging K154 Top fwd	-
948	RG54 TL	Rigging K2 Top laterals	-
863	RG54 XTT	Rigging XT Tension	-

6 - Trimmer Layout (Over the page)

<u>Key</u>	<u>Part No.</u>	<u>Description</u>	<u>Units</u>
184	RP LLL205	Leech Line	metres
185	RP MT 4MM	Rope 4mm Prestretched	metres
851	BL HA 4450F	Block HA4450F	-
915	BL HA4250SA	Block and Shackle	-

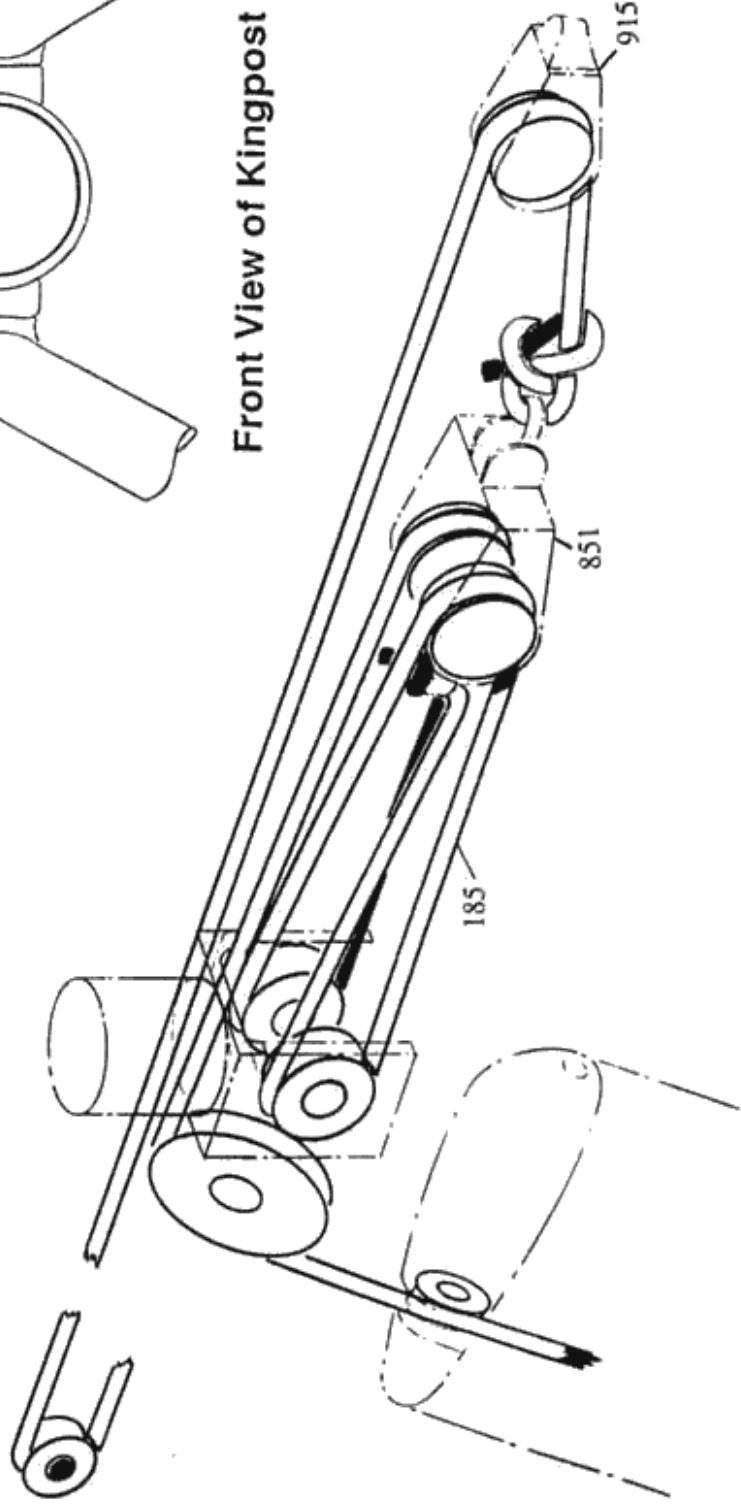
6 - Trimmer Layout

Trimmer tie-off from back of glider



Compensator rope to top rigging

Trimmer rope from upright



Front View of Kingpost base

A FEW LAST WORDS

Your **AIRWAVE K2** is a sophisticated high performance hang glider, that will give you years of safe and enjoyable soaring, provided that you treat it properly and always maintain a healthy respect for the demands and potential dangers of flying. Please remember that aviation is always potentially dangerous and that your safety depends on you.

With proper care and maintenance your **K2** will remain for some years at a high level of airworthiness. The **K2** has been tested internationally to beyond all current airworthiness standards, and these represent the best accumulated knowledge of what constitutes airworthiness in a hang glider. There is a lot that is still unknown, for example; what is the effective lifetime of a hang glider, and how much material degradation is acceptable without compromising airworthiness. We are sure, however, that there are forces in nature which can severely compromise your safety, regardless of the quality of design or condition of the aircraft you are flying. Your safety is ultimately your own responsibility. We strongly recommend that you fly conservatively, both in your choice of the conditions in which you fly, and in the safety margins you allow in your flying.

You are reminded that you fly a hang glider at your own risk.

We recommend that you only fly with a harness that has been tested for strength and that you always fly with an emergency parachute system.

Our magazine, **AIRWAVES**, exists to keep the owners of our gliders informed and up-to-date about what is happening in hang gliding, and especially what is happening at Airwave. Complete and send off the registration at the front of the manual to make sure that you get your copies.

At Airwave, our best source of feedback is from you, the pilot. If you have any comments or suggestions, please send them to us. We are always very pleased to listen to what you have to say.

SEE YOU IN THE SKY!

*AIRWAVE GLIDERS LTD.
ELM LANE, SHALFLEET
ISLE OF WIGHT PO30 4JY
ENGLAND*

CUSTOMER'S PURCHASE RECORD

Fill this section in for future reference

1st Owner Date

2nd Owner Date

3rd Owner Date

K2 Serial No..... Size

Main Body Colour Leading Edge Colour

Double Surface Colour

Tuning Notes and Maintenance Record

Date and
By whom

Conditions for the continuing validity of the BHGA Certificate of Airworthiness

1. The Glider shall be maintained in an airworthy condition.
2. All repairs must be to Airwave Gliders original standards.
3. Major repairs to the sail shall only be carried out by Airwave Gliders or an Airwave authorised sail loft.
4. Modifications must be approved by an airworthiness inspector nominated by the B.H.G.A.
5. Repairs and /or modifications must not impair standards of airworthiness or operational safety.
6. Change of ownership shall be notified to Airwave Gliders.