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VIVA

EN-A

Discover the Sky



Manual

MHK LOT FAR 3D BBP

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APCO AVIATION

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WARNING

This is not a training manual. It is extremely dangerous to yourself and others to attempt

to use this product without first completing a course given by a qualified instructor.

Apco Aviation's products are carefully manufactured and inspected by the factory.

Please use the product only as described in this manual. Do not make any changes to the product.

AS WITH ANY SPORT – WITHOUT TAKING THE APPROPRIATE PRECAUTIONS, PARAGLIDING CAN BE DANGEROUS.

1. DISCLAIMER OF LIABILITY

Taking into consideration the inherent risk in paragliding or hang gliding, (free flying and motorized), it must be expressly understood that the manufacturer and seller do not assume any responsibility for accidents, losses and direct or indirect damage following the use or misuse of this product.

APCO Aviation Ltd. is engaged in the manufacture and sale of hang gliding, paragliding, motorized Para/hang gliding and emergency parachute equipment. This equipment should be used under proper conditions and after proper instruction from a qualified instructor. APCO Aviation Ltd. has no control over the use of this equipment and a person using this equipment assumes all risks of damage or injury.

APCO Aviation Ltd. disclaims any liability or responsibility for injuries or damages resulting from the use of this equipment. The glider is designed to perform in the frame of the required class as certified.

2. INTRODUCTION

The VIVA is APCO's next-generation EN-A certified paraglider, designed from the ground up to deliver an exceptional flying experience for beginner to intermediate pilots. Building on APCO's legendary tradition of durability and safety, the VIVA brings together modern construction techniques, optimised aerodynamic profiles and easy-to-handle flight characteristics in a package that excites and reassures from the very first inflation.

Available in three sizes – S, M and L – the VIVA covers a broad range of pilot weights while maintaining the same outstanding character across the range. Its clean three-riser architecture (A, A5, B & C) simplifies ground handling: reverse or forward launch is always straightforward, and the wing rises predictably overhead whether in calm or windy conditions.

TAKE OFF

Effortless and intuitive. The modern leading-edge profile ensures the wing rises slowly and controllably overhead, giving the pilot time to assess the inflation before committing to the run.

LANDING

Remarkably stall-resistant and forgiving. A generous flare window slows the glider almost to a standstill, making it the ideal teaching and progression tool.

THERMALLING

The VIVA banks smoothly into coordinated turns and tracks the core with confidence. Excellent climb performance and responsive feedback make this one of APCO's finest EN-A thermalling wings.

PERFORMANCE

Glide at trim speed is among the best in the EN-A class. The VIVA retains efficiency throughout its speed range: pushing the speed system produces a meaningful additional speed margin with minimal penalty in sink rate.

PILOT FEEDBACK

Simple, honest and reassuring. The VIVA communicates clearly through the brakes and weight shift, yet remains benign when inputs are excessive.

CONSTRUCTION

Built to APCO's demanding standards for durability. Lightweight, zero-porosity ripstop nylon cloth is paired with a nylon-rod reinforced leading edge and a modern rib construction designed to withstand the rigours of school and training use over many seasons.

3. PARAMOTOR VERSION

The VIVA is available in a paramotor version, designed and thoroughly tested under power. Its high internal pressure and stable pitch behaviour deliver excellent handling even at full thrust.

The VIVA paramotor version offers an ideal solution for paramotor schools and pilots seeking EN-A certification combined with effortless handling. Short ground runs – even in nil-wind conditions – and high fuel efficiency make it particularly suited to training and recreational powered flying.

The paramotor version is delivered with dedicated paramotor risers equipped with trimmers (see Section 12). Paramotor risers can be ordered separately – contact your dealer for details.

4. TECHNICAL DATA

Serial production data, June 2026. All performance figures measured at sea level at optimum wing loading.

SIZE	S	M	L
Code	TBD	TBD	TBD
Cells	36	38	40
Area [m²]	24.9	26.5	28.25
Area (projected) [m²]	20.9	22.3	23.7
Span (incl. Stabiliser) [m]	10.6	11.3	12.0
Span (projected) [m]	8.2	8.7	9.3
Aspect Ratio	4.8	4.8	4.8
Aspect Ratio (projected)	3.22	3.40	3.65
Weight Range (incl. Wing) [kg]	70–90	80–100	90–115
Canopy Weight [kg]	~4.2	~4.4	~4.7
Root Chord [m]	2.70	2.85	3.05
Length of Lines on B [m]	6.1	6.5	6.9
Total Length of Lines [m]	~290	~305	~325
Number of Risers	3+1 (A, A5, B & C)		
Speed Bar Travel	12 cm		
Trimmers	No (paramotor version available on request)		

GLIDER PERFORMANCE DATA	
V-min	~23 km/h
V-trim	~38 km/h
V-max	~50 km/h
Min Sink (at optimum wing loading)	~1.1 m/s
Speed System Travel	120 mm

LINES — Serial production specification (Cousin, APCO EN-A S/M/L, v1.3):

Line Group	Material	Specification	Ø (mm)	Strength	Colour
Top (a1–a9, b1–b7)	Dyneema	CTL910130	1.1	95 kg	Yellow
Mid-A (MA1–MA2)	Aramid	CTL900230	1.8	230 kg	Red
Mid-A (MA3)	Aramid	CTL900160	1.5	160 kg	Green
Mid-A (MA4, ST)	Aramid	CTL900120	1.2	120 kg	Green
Lower A (AI)	Aramid	CTL900360	2.1	360 kg	Red
Lower A (AII)	Aramid	CTL900320	1.9	320 kg	Red
Mid-B (MB1–MB2)	Aramid	CTL900230	1.8	230 kg	Yellow
Mid-B (MB3)	Aramid	CTL900160	1.5	160 kg	Green
Mid-B (MB4)	Aramid	CTL900120	1.2	120 kg	Green
Lower B (BI)	Aramid	CTL900360	2.1	360 kg	Yellow
Lower B (BII)	Aramid	CTL900320	1.9	320 kg	Yellow
C lines (c1–c15/16)	Aramid	CTL900120	1.2	120 kg	Green
Mid-C (MC1–MC2)	Aramid	CTL900160	1.5	160 kg	Green
Lower C (CI)	Aramid	CTL900320	1.9	320 kg	Green
Lower C (CII)	Aramid	CTL900160	1.5	160 kg	Green
D lines (d1–d7)	Aramid	CTL900120	1.2	120 kg	Green
Brake top (br1–br9)	Aramid	CTL900120	1.2	120 kg	Green
Brake mid (MBR1–MBR3)	Aramid	CTL900120	1.2	120 kg	Green
Brake main	Dyneema	CTL910190B003	2.0	190 kg	—
Stabiliser (ST)	Aramid	CTL900120	1.2	120 kg	Green

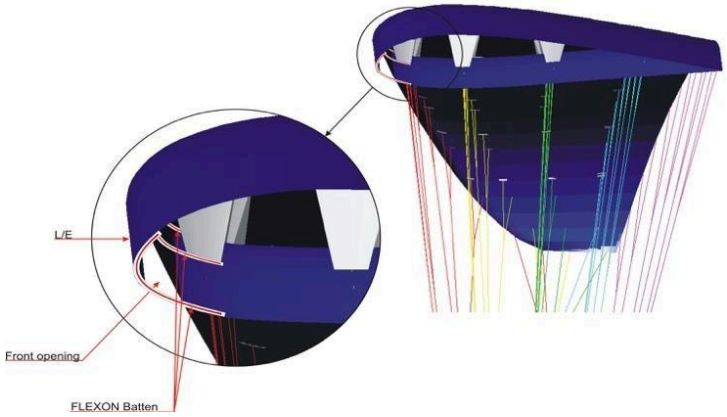
FABRIC	
Sail Cloth	"Zero Porosity" Ripstop Nylon (P.U. coated + siliconised)
Warranty	3 Years / 250 hours

5. CONSTRUCTION

The glider is constructed with a top and bottom surface, connected by ribs. One top and bottom panel, together with the connecting ribs is called a cell. Each cell has an opening on the front lower part. The cells fill with air, forcing the panels to take the shape dictated by the air-foil (rib) section.

On either side the wing ends in a stabiliser or wing tip, which provides straight-line (Yaw) stability and produces some outward lift to keep the span-wise tension.

The front part of the ribs use APCO's FLEXON batten system to keep the leading edge shaped at high speeds and in turbulent air. They also improve the performance and the launch characteristics of the glider.



The line hook-up points are made of Dyneema and embedded in the bottom surface of the wing for minimal drag and maximum performance.

6. MATERIALS

The glider is made from tear-resistant Ripstop Nylon cloth, which is P.U. coated to zero porosity and then siliconised to give the fabric high resistance to the elements. Different cloth is used for the top surface, bottom surface and ribs due to their different functions.

The lines are made of superaramid covered with a polyester sheath for protection against UV, wear and abrasion. The bottom section of the brake lines is made of Dyneema because of its superior mechanical properties.

The maillon quick links that attach the lines to the risers are made of stainless steel.

COLOURS

The VIVA is supplied in three standard colour schemes — Winter #9, Forest #18 and Zest #12 (see cover). Custom colour combinations are available on request; contact your dealer or APCO Aviation.

7. FLEXON® BATTEN SYSTEM

New generation FLEXON® batten system is incorporated in the leading edge of the ribs, ensuring perfect profile shape (instead of traditional Mylar reinforcement). FLEXON® battens reduce the weight of the glider by an additional 500 g and, unlike Mylar reinforcement, will guarantee no deterioration in performance or launch characteristics over the life of the glider.

An additional advantage of the FLEXON batten is that it is practically indestructible, safeguarding the performance and launch over the lifespan of the glider.

8. TRIMMING

All APCO gliders are trimmed for optimum performance combined with unsurpassed safety. It is very important not to re-trim or tamper with any of the lines or risers as this may alter the performance and safety. Trimming of the brake line should be done in accordance with this manual and carefully checked before flying.

9. HARNESS

All of APCO's gliders are developed with the use of ABS (Automatic Bracing System) type harnesses without cross bracing. We recommend the use of an ABS harness with all our gliders. Most certified harnesses may be used with our gliders. For best safety and performance we recommend an APCO harness equipped with a Mayday emergency parachute.

CAUTION:

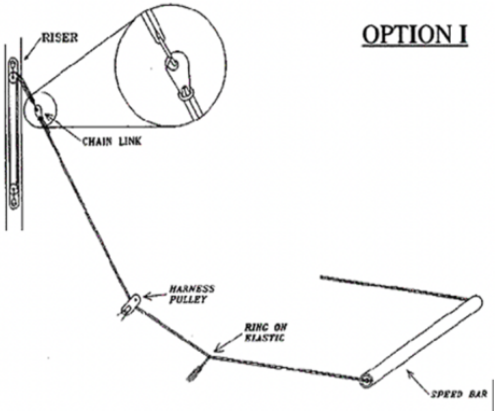
WE RECOMMEND NOT TO USE CROSS BRACING STRAPS.

APCO GLIDERS ARE DEVELOPED AND TESTED WITHOUT THE USE OF CROSS BRACING. USING AN ABS HARNESS WITH CHEST STRAP SET AT THE SPECIFIED WIDTH (CHECK THE CERTIFICATION STICKER ON YOUR GLIDER) WILL RESULT IN THE HIGHEST PASSIVE SAFETY ON YOUR GLIDER.

10. SPEED SYSTEM

ASSEMBLY & ADJUSTMENT

APCO gliders can be ordered with the Wonder-Bar, which makes reaching the speed bar effortless. First attach the harness to the glider. Remove the Brummel hooks from the end of the accelerator line attached to the speed bar, then thread it through the elasticised ring on the harness, through the harness pulley and then re-attach it to the Chain link with a larks-head knot.



Sit in the harness and have someone hold the riser up in a flying position for you. Adjust the speed bar line by pulling the end through the speed bar tube and moving the knot. The bar should be about 10 cm away from the front of the harness seat. Do not adjust the speed system too short, as this will cause it to be activated permanently while flying, which can be dangerous.

COMPATIBILITY

APCO gliders are supplied with a speed system compatible with most harnesses on the market today. Follow your harness manual for connecting your speed system. Do a hang test to ensure that the adjustment is correct.

SPEED BAR & TRIMS (Paramotor Version)

On the VIVA Paramotor Version, the Speed Bar should NOT be used with Trims open. Use one or the other, not both together.

WARNING

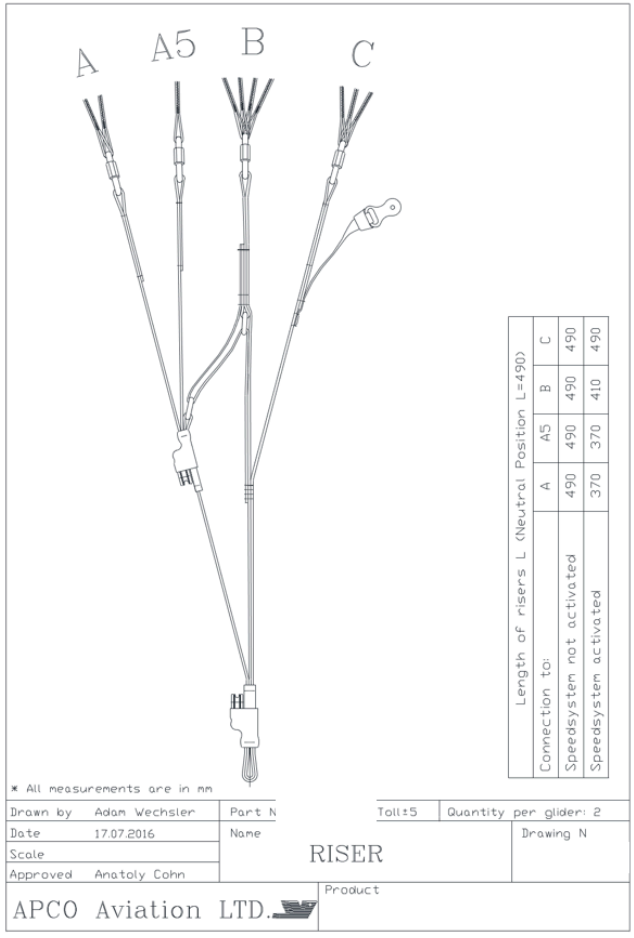
The use of the speed system in turbulent conditions or close to the ground is dangerous.

While flying with the accelerator, the glider has a reduced angle of attack and is therefore more susceptible to turbulence and may

collapse or partially deflate.

The accelerator should immediately be released in this case.

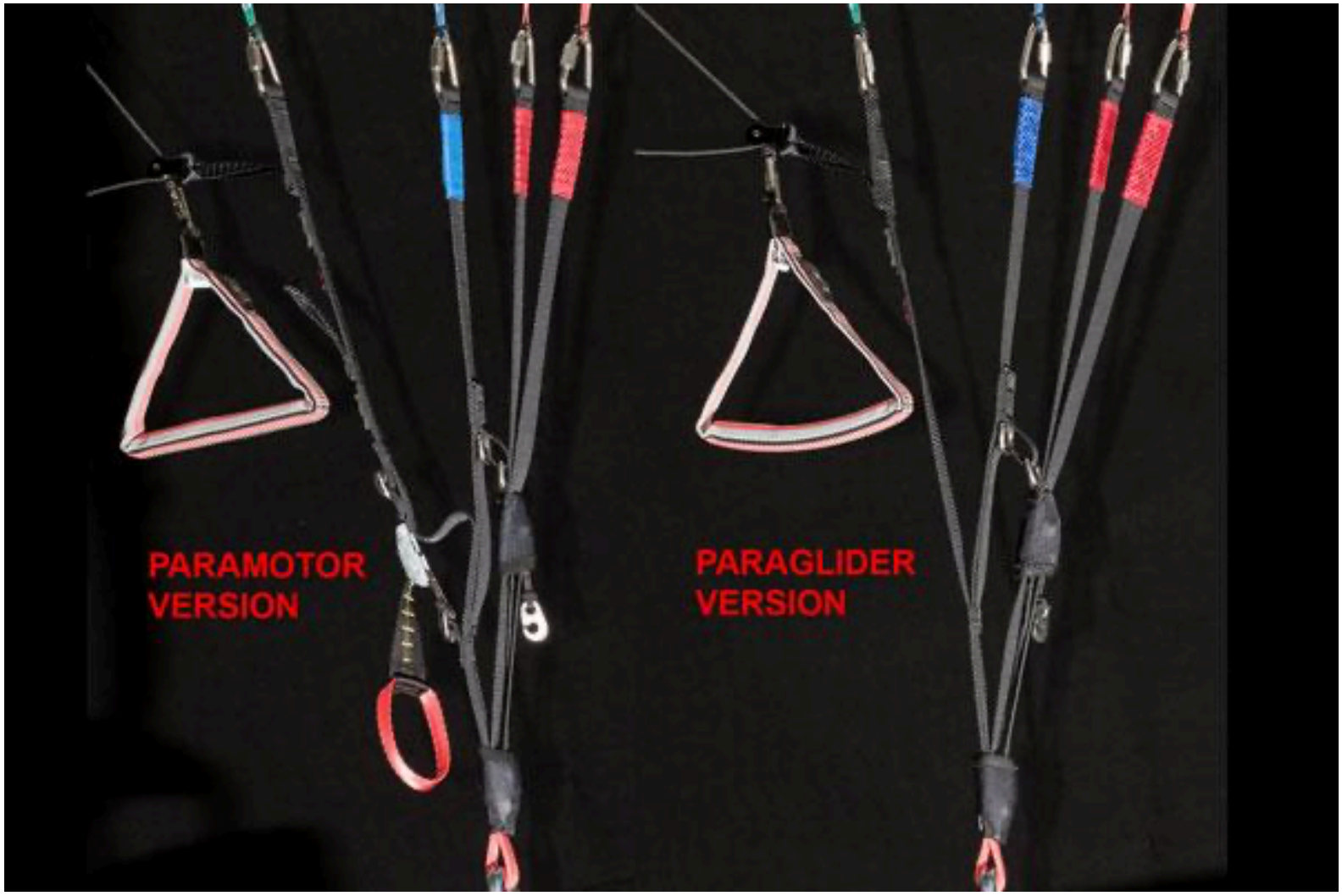
11. RISERS



The VIVA risers feature a split A riser. The primary A-riser attaches to the central A lines (A1 & A3). The second A-riser (A5) is attached to the outermost A line. This arrangement facilitates Big Ears and Tip Tucks while maintaining clean riser architecture.

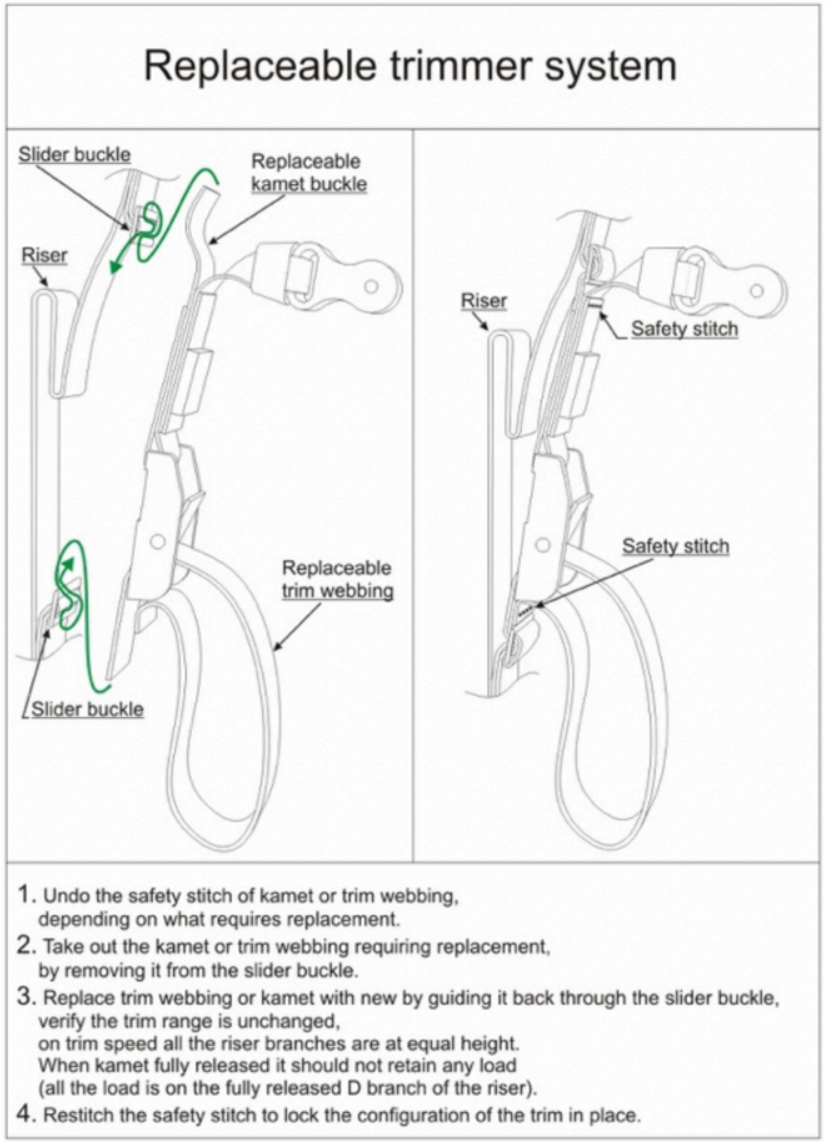
At no time should the pilot change the risers or use risers not intended for this specific glider, as this will affect the performance, safety and void the certification of the glider. The fully activated travel is 120 mm.

The paramotor version of the VIVA is equipped with trimmers – see Section 12 for full details.



VIVA risers — paramotor version (left) and paraglider version (right).

12. TRIMMERS *



The neutral setting is when the A/B/C riser legs are of equal length in flight (blue mark on the trim webbing).

For take-off and landing, the trimmers should be in the closed (minimum trim speed) position. They can be set asymmetrically to compensate for torque effect.

The VIVA Speed Bar should NOT be used with Trims open – use one or the other, not both together.

REPLACEABLE TRIM SYSTEM

The Trim Tabs should be replaced if they begin to show signs of wear or start slipping. Replacement should be done by a qualified person – consult your dealer.

* Paramotor Version only

The VIVA conforms to EN certification with the trimmers in the closed position.

13. EMERGENCY PARACHUTE ATTACHMENT

It is recommended to use a certified rescue parachute when flying. Attaching the rescue parachute should be done in accordance with the recommendation of the harness and reserve parachute manufacturer.

14. GENERAL INSPECTION

Pilots, please ensure that your glider has been test flown and fully checked by your dealer before taking it into your possession. Verify that the dealer checked and confirms that the glider is airworthy.

TRIKE ATTACHMENT & INSPECTION

Due to the very wide assortment of trikes on the market, it is necessary to verify that the specific trike can be successfully coupled with the wing. Please make sure your dealer performs the following procedures before first flight:

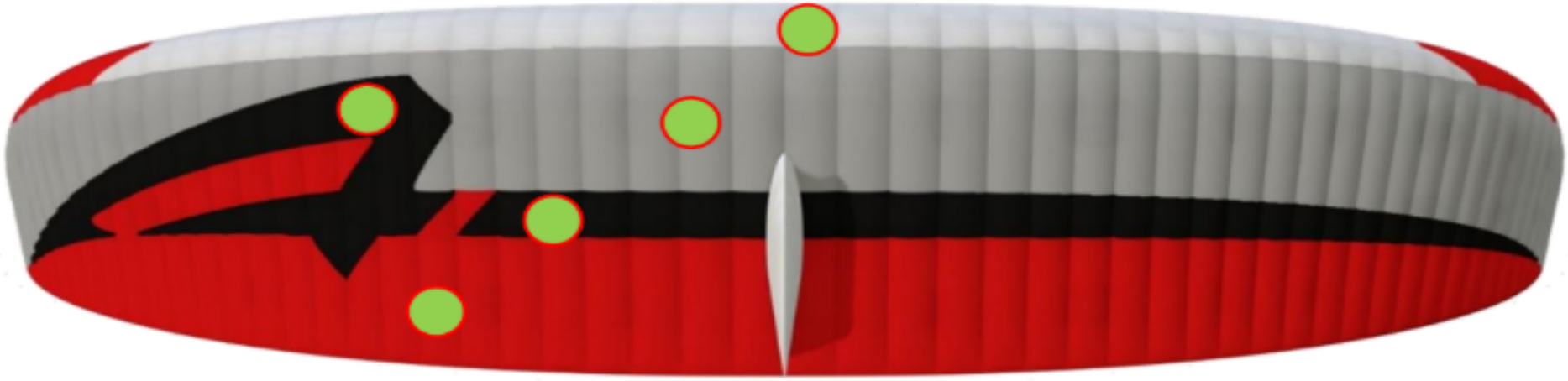
- A. It was checked with APCO that the specific trike can be flown with your new wing.
- B. Wing to be fully inspected by the dealer.
- C. Wing to be ground handled and visually checked while inflated.
- D. Connection method to a Trike in line with the Trike manufacturer's recommendation.
- E. Before first take-off perform a “taxiing” test checking all aspects of the set-up without taking off (roll/yaw stability, pitch stability, stall tendency, brake response etc.).
- F. Only once the wing passes the taxiing test – make the actual test flight.
- G. Take the wing into your possession only after your dealer confirms airworthiness coupled with your trike.

15. ANNUAL / PERIODICAL AIRWORTHINESS INSPECTION

It is highly recommended that your glider (and other equipment) undergo a Periodical Airworthiness Inspection by APCO, or an APCO approved / appointed service centre. This is recommended every 24 months or every 100 hours, whichever comes first.

POROSITY

Porosity is measured with a calibrated Porosimeter. It should be measured in at least 5 different places on the upper surface. The upper surface at 20–35% chord (from L/E) is most prone to becoming porous, and is thus the most important section to test. It is also important to test the different cloth types and different colours used.



LINE MAINTENANCE

Superaramid lines are known to be sensitive to the influence of the elements. They must be carefully inspected periodically.

- Avoid sharp bending and squeezing of lines.
- Take care that people do not step on the lines.
- Do not pull on the lines if they are caught on rocks or vegetation.
- Avoid getting the lines wet. If they do get wet, dry them as soon as possible at room temperature and never store them wet.

IT IS STRONGLY RECOMMENDED TO CHECK THE LINES ON EVERY PARAGLIDER EVERY 24 MONTHS OR EVERY 100 HOURS.
ONE OF EACH A, B AND C LINE MUST BE TESTED FOR MINIMUM 50% OF THE RATED STRENGTH.
IF THE LINE FAILS UNDER THE LOAD TEST OR DOES NOT RETURN TO ITS SPECIFIED LENGTH, ALL CORRESPONDING LINES MUST BE REPLACED.
NEVER REPLACE THE LINES WITH DIFFERENT DIAMETER OR TYPE OF LINES.
CHANGING LINE DIAMETER/STRENGTHS CAN HAVE FATAL CONSEQUENCES.

BRAKE ADJUSTMENT



Before the first flight, the pilot/dealer has to inflate the glider to check brake length and if needed adjust the brake setting. It is important that the brakes are not set too short. If the glider is above your head the brakes should not be pulling the trailing edge down. A good setting is to have about 10 cm of slack in the brake from the brake guide (pulley) on the riser to the activation point of the brakes.

FIRST CHECK AND PREFLIGHT INSPECTION

- Connection points between the glider and the harness.
- Check that there are no lines twisted, tangled or knotted.
- Check that the risers and speed system are hooked up to the harness correctly.

REGULAR INSPECTION CHECKS

- Damage to lines, webbing and thread on the stitching of the harness and risers.
- The stainless-steel connection links on the risers are not damaged and are fully closed.
- The pulleys of the speed system are free to move and the lines are not twisted.
- The condition of the brake lines, stainless steel rings and the security of knots.
- The sewing and connection of the lines.
- Damage to hook-up points on the glider, internal damage to ribs and diagonal ribs.
- Damage to the top and bottom panels and seams between panels.

16 . TAKE OFF

As this is not a training manual, we will only briefly go through the different launch techniques to help you get the most out of your glider.

LAYOUT

Pre-flight check should be done before every flight. Spread the glider on the ground. Spread the lines, dividing them into groups: A, A5, B, C and brake lines left and right. Make sure the lines are free and not twisted or knotted. Lay out the glider in a horseshoe shape to ensure all lines are equally tensioned on launch, resulting in an even inflation.

- The FLEXON rib reinforcements will keep the leading edge open for easy inflation.
- The most common reason for a bad launch is a bad layout!

ALPINE LAUNCH OR FORWARD LAUNCH

The VIVA has very good launch behaviour in no-wind conditions. For best results, lay out the glider and position yourself in the centre of the wing with the lines almost tight. With a positive and constant force, inflate the wing holding only the A-risers and smoothly increase your running speed. The wing will quickly inflate and settle above your head without the tendency to stick behind. After you leave the A-risers, apply about 15% brakes and the VIVA will gently lift you off the ground.

STRONG WIND AND REVERSE LAUNCH

The VIVA has a lot of lifting power and care should be taken in strong wind. It is advisable to have an assistant hold you when attempting a strong wind launch. It also helps if you walk towards the canopy and leave the A-riser just before the glider gets above your head. Then pull a little brake to stop the wing from overshooting, but not too much as the glider might pull you off your feet too early.

TOW OR WINCH LAUNCHING

All APCO gliders are well suited for winching and have no bad tendencies on the winch. Very little brake need be applied on launch and during the tow. Directional changes can be made with weight shift rather than brakes. While on tow, the brake pressure will be higher and more force may be needed to make corrections than in normal flight.

17. FLIGHT TECHNIQUES

The VIVA is a pleasant glider to fly with excellent performance, designed for recreational and cross-country flying.

FLYING SPEED

- With 0% brake the VIVA will fly at approximately 38 km/h with a sink rate of about 1.3 m/s.
- At 25% brake the glider will fly at approximately 32 km/h with minimum sink rate ~1.1 m/s.
- The best glide angle is achieved with 0% brakes and approximately 10% speed system.
- With 80% brake the glider will fly at about 25 km/h and will be close to the stall point (~23 km/h).

WARNING:
The use of the speed system in turbulent conditions or close to the ground is dangerous. While flying with the accelerator, the glider has a reduced angle of attack and is therefore more susceptible to turbulence and may collapse or partially deflate. The accelerator should immediately be released in this case.

CAUTION:
APART FROM WHEN FLARING AT LANDING THERE SHOULD BE NO REASON TO FLY WITH 70% TO 100% BRAKE.
THE SINK RATE OF THE GLIDER WILL BE EXCESSIVE AND THERE WILL BE A POSSIBILITY OF ENTERING A DEEP STALL OR FULL STALL SITUATION.
THERE IS ALSO THE RISK OF GOING NEGATIVE OR ENTERING A SPIN WHEN ATTEMPTING TO TURN NEAR THE STALL SPEED.

THERMAL FLYING

The VIVA has excellent thermalling capacity. In light lift it is advised to make flat turns to keep the glider from banking too much. In strong lift conditions it is most effective to make small turns in the core with relatively high bank. For the best climb rate in ridge lift we recommend using about 15% to 20% brake.

ASYMMETRIC COLLAPSE

If one side of the glider partially folds or collapses it is important to keep your flying direction by applying weight shift and some brake on the opposite side. The wing should re-inflate on its own. To help re-inflation it is possible to pull some brake on the collapsed side and release immediately. In the event of a big deflation (i.e. 70%), it is important to apply brake on the inflated side, but care must be taken not to pull too much as you could stall the flying side.

CRAVAT

In case a cravat should occur, keep your flying direction by applying some brake on the opposite side and then it can usually be opened by pulling down on the stabilo line of the affected side while countering the turn with the opposite brake and weight shift. It also helps sometimes to pull Big Ears to release the tension on the affected lines.

FRONT STALL OR SYMMETRIC COLLAPSE

In the event of a front stall the glider will normally re-inflate on its own immediately. To speed up re-inflation briefly apply 30%–40% brake. Do not hold the brakes down permanently to avoid an unwanted stall.

B-STALL

The VIVA has a very clean, stable B-stall. To enter, pull the first 20 cm slowly until the glider loses forward speed and starts to descend vertically. Then pull more until a stable 7–9 m/s descent rate is attained. To exit, release slowly until the glider has regained its shape and then the last 15 cm fast to prevent deep stall. The B-stall is a safe, controlled way of losing altitude fast without any forward speed.

BIG EARS

Altitude can be lost in a controlled way by collapsing both tips. Take the outermost A-line (A5, on its own riser) on both sides and pull them down until the tips collapse. This should close about 30% of the wing in total. Steering is possible with weight shift. To increase the sink rate the pilot can push the speed system after the tips have collapsed – this can give up to about 7 m/s sink rate with about 40 km/h forward speed. To exit, release the speed system and then release the tip A-lines.

CAUTION:
DO NOT ATTEMPT ANY EXTREME MANOEUVRES WITH THE TIPS COLLAPSED AS THIS DOUBLES THE LOAD ON THE CENTRE LINES AND ATTACHMENT POINTS, WHICH COULD LEAD TO LINE FAILURE.

DEEP STALL / PARACHUTAL STALL

Signs: very little or no forward airspeed; cells bulging in on bottom surface; slow turning sensation; increased vertical descent.

Exit: Pull all the A-risers down to get the wing flying again. The moment the wing starts to fly the pilot should release the A-risers, or the wing might suffer a frontal collapse. Alternatively push the speed bar to lower the angle of attack. Pulling one or both brakes while in deep stall can accidentally enter a full stall or spin (not recommended).

SPIRAL DIVES

The VIVA has very good behaviour in spiral and has no tendency to stick. By progressively applying brake on one side the glider can be put into a spiral dive. The spiral has to be exited slowly by releasing the brake over one complete turn.

CAUTION:
SOME GLIDERS CAN BE NEUTRAL IN SPIRAL AND MAY NOT EXIT WITHOUT PILOT INPUT.
PILOTS CAN SUFFER BLACK-OUTS IN SPIRALS AND MUST EXIT AS SOON AS ANY ABNORMAL SYMPTOMS ARE FELT.
Sink rates in excess of 19 m/s can be obtained. Ensure enough height to exit safely.

STRONG TURBULENCE

NEVER FLY IN STRONG TURBULENCE! If you unexpectedly encounter strong turbulence, fly with about 20% brake applied to increase the internal pressure and the angle of attack of the canopy and land as soon as possible.

STEERING NOT FUNCTIONING

If the pilot cannot reach the brake or steering lines for any reason, the pilot can control the glider by pulling down on the rear risers. Care must be taken as much less input is needed to turn the wing.

IF YOU PULL TOO MUCH ON ONE OR BOTH RISERS THE GLIDER WILL SPIN OR STALL.

PARAMOTOR VERSION AND PARAMOTORING WITH YOUR VIVA

The paramotor version is equipped with trims on the risers. With the Trims in the closed position the paramotor version conforms to the EN certification. The trim position should be in the closed position for take-off, landing and flight close to the ground or in turbulent conditions. The trims are useful for cruising over longer distances, and for making minor direction adjustments to compensate for torque. It is not recommended to use the trims combined with the speed bar.

18. LANDING

• Always land into the wind.

• At a height of about 50 metres your landing setup should begin. Head into the wind and, depending on the wind strength, reach the landing point by making S-turns.

• At a height of about 15 metres make the final descent at trim speed into the wind.

• At a height between half a metre and one metre gently flare the glider by pulling gradually down on the brakes to the stall point. When top-landing it is sometimes not necessary to flare, or a much smaller flare may be required, especially in strong ridge conditions.

TREE LANDING

If it is not possible to land in an open area, steer into the wind towards an unobstructed tree and do a normal landing approach as if the tree is your landing spot. Flare as for a normal landing. On impact hold your legs together and protect your face with your arms. After any tree landing it is very important to check all lines, line measurements, and the canopy for damage.

WATER LANDING

Release all the buckles of the harness except for one leg. Just before landing, release the remaining buckle. Let the canopy rotate completely forward until it hits the water with the leading edge openings; the air inside will then be trapped, forming a big air mattress and giving the pilot more time to escape. Get away from the glider and lines as soon as possible, to avoid entanglement.

LANDING IN TURBULENCE

One of the safest ways to land a glider in turbulent conditions is to use Big Ears. This reduces the chances of getting a collapse while on final approach. Use weight shift to control your approach. Practice this in normal conditions before you need it in an emergency.

19. PACKING

Spread the canopy completely out on the ground. Separate the lines to the left and the right side of the glider. If the risers are removed from the harness, join the two risers together by passing one carabiner loop through the other. This keeps them neatly together and helps to stop line tangles.

Fold the canopy alternately from the right and left sides, working towards the centre; press out the air, working from the rear towards the front. Place the risers at the trailing edge of the folded canopy and use them to finally roll up the canopy.

20. MAINTENANCE & CLEANING

Cleaning should be carried out with water and if necessary, gentle soap. If the glider comes in contact with salt water, clean thoroughly with fresh water. Do not use solvents of any kind, as this may remove the protective coatings and destroy the fabric.

21. BUTT HOLE II (Auto Debris Release Valves)



Your VIVA is equipped with Butt-hole II, which automatically clears smaller particles such as sand, grass and stones from the wing.



22. STORAGE

When the glider is not in use, it should be stored in a cool, dry place. A wet glider should first be dried (out of direct sunlight). Protect the glider against sunlight (UV radiation). When on the hill keep the glider covered or in the bag. Never store or transport the glider near paint, petrol or any other chemicals.

Do not leave your paraglider in the trunk of a car or exposed to the sun.

Temperatures on a hot summer's day in a closed environment (car, etc.) can easily reach over 60°C.
At these temperatures Nylon permanently changes its characteristics which may alter the behaviour and shape of the wing, rendering it non-airworthy. APCO's warranty will not be applicable.

23. DAMAGE

Using spinnaker repair tape (for non-siliconised cloth) can repair tears in the sail (up to 5 cm). A professional repairer should repair greater damage, or damage at structurally important points such as line attachment points, tension tapes etc.

24. GENERAL ADVICE

A qualified person or agent of the company should check the glider every year. Never make changes to the canopy or the lines. Changes can introduce dangerous flying characteristics and will not improve flying performance.

Paragliding and Paramotor flying should always be done in a way that has minimum impact on wildlife and the environment. Respect access regulations and the wishes and rights of landowners.

If you have any doubts about flying conditions – do not begin. If you have any questions, please contact your dealer or us.

Lastly, be equipped with a certified emergency parachute and helmet on every flight.

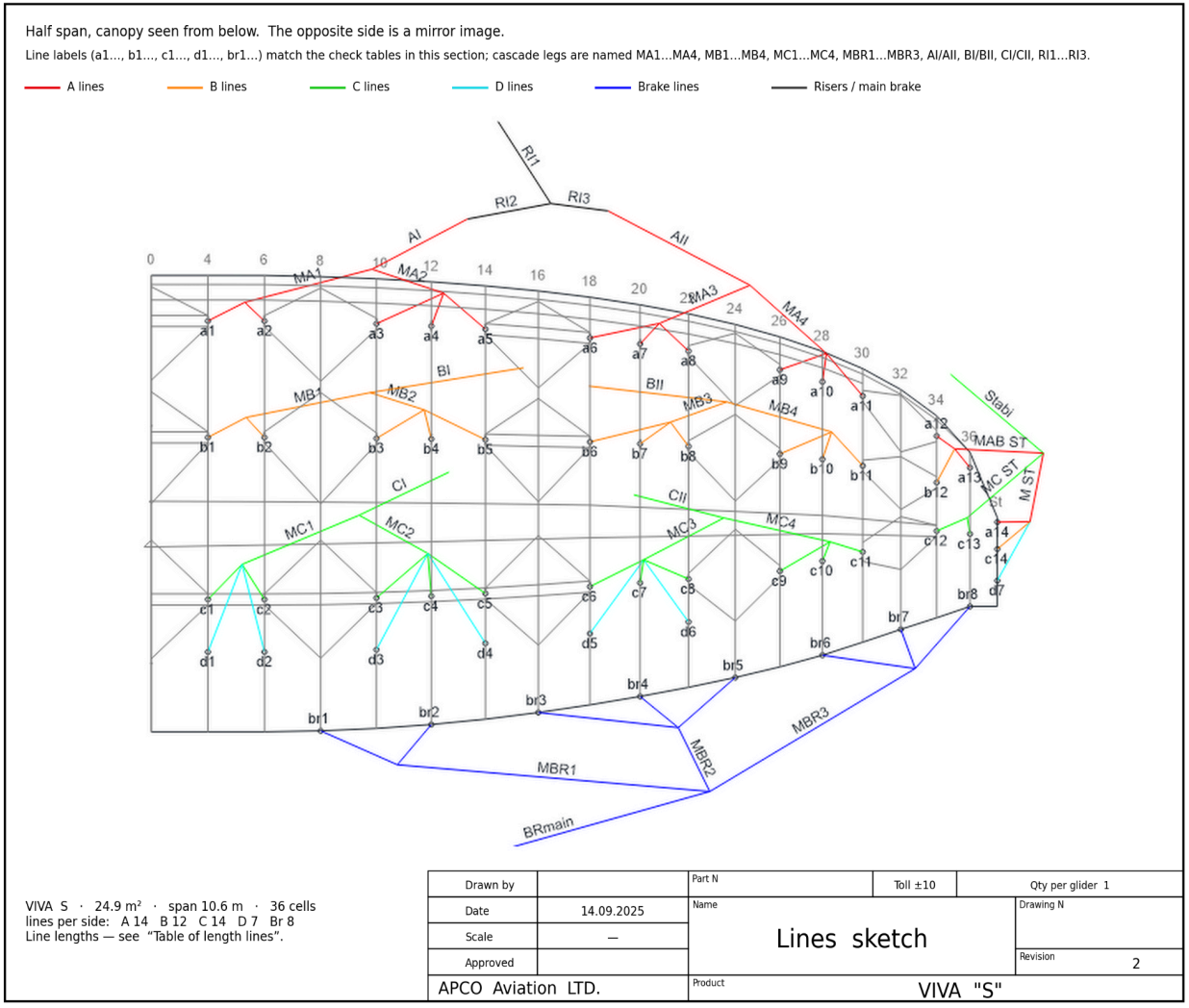
25. RECYCLING

If you need to dispose of the wing, do so in an environmentally responsible manner. Recycling of many parts of the wing is possible. There are some organisations that manufacture reusable shopping bags, windsocks, backpacks and more using old donated wings. Search the web, or contact The Cloudbase Foundation for more information. Do not dispose of a retired wing with normal household waste.

26. VIVA LINE SKETCHES

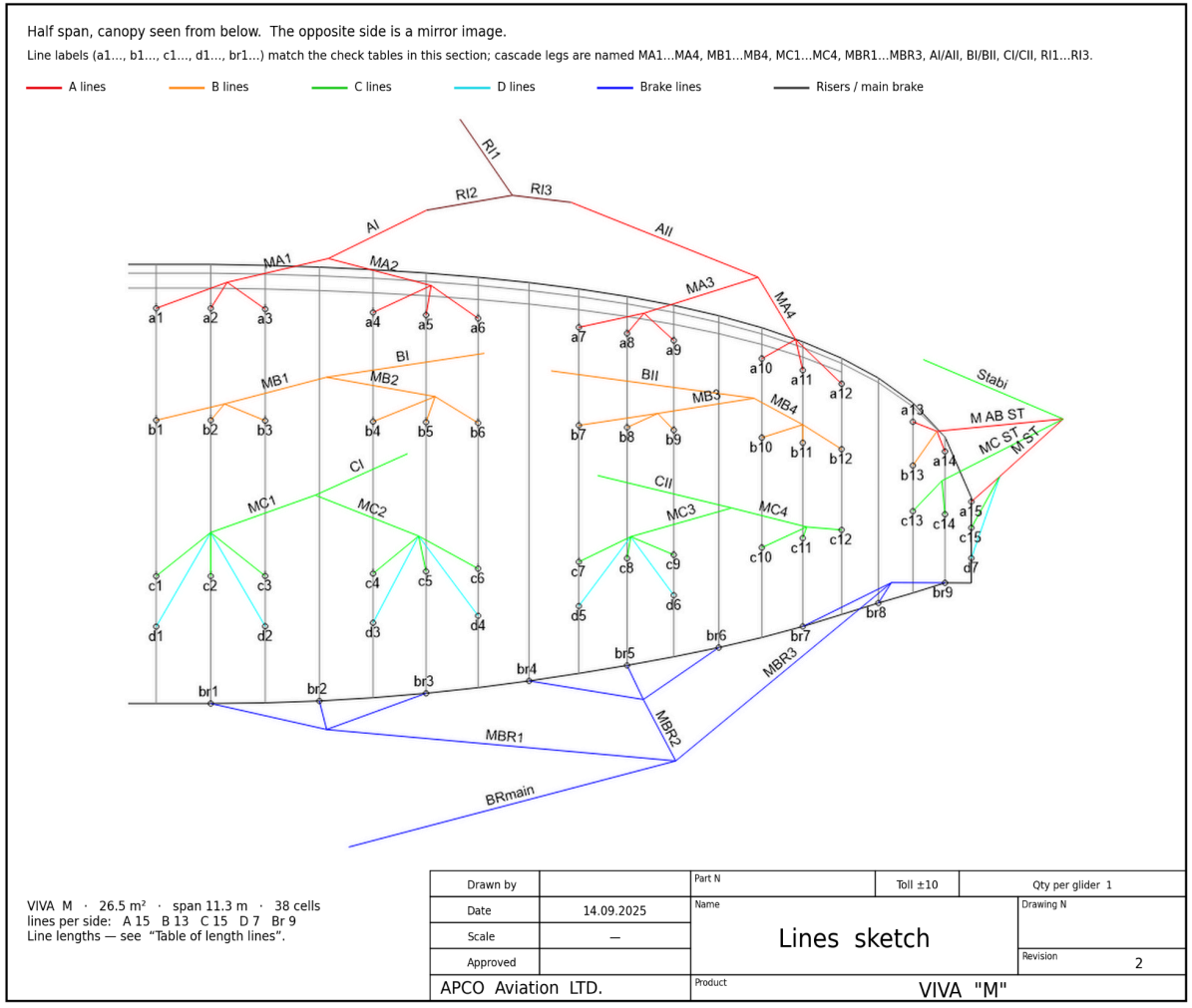
Line sketches — half-span line map of each size, drawn to the APCO standard drawing frame. Every line carries the same label as in the check tables of Section 27; the opposite side of the canopy is a mirror image. Source: production line maps, rev.2 · 14.9.2025.

VIVA — SIZE S (24.9 m² | Span 10.6 m | AR 4.8)



VIVA "S" — lines sketch, half span (line map rev.2 · 14.9.2025). 24.9 m² · span 10.6 m · 36 cells · lines per side a 1–14 · b 1–12 · c 1–14 · d 1–7 · br 1–8.

VIVA — SIZE M (26.5 m² | Span 11.3 m | AR 4.8)



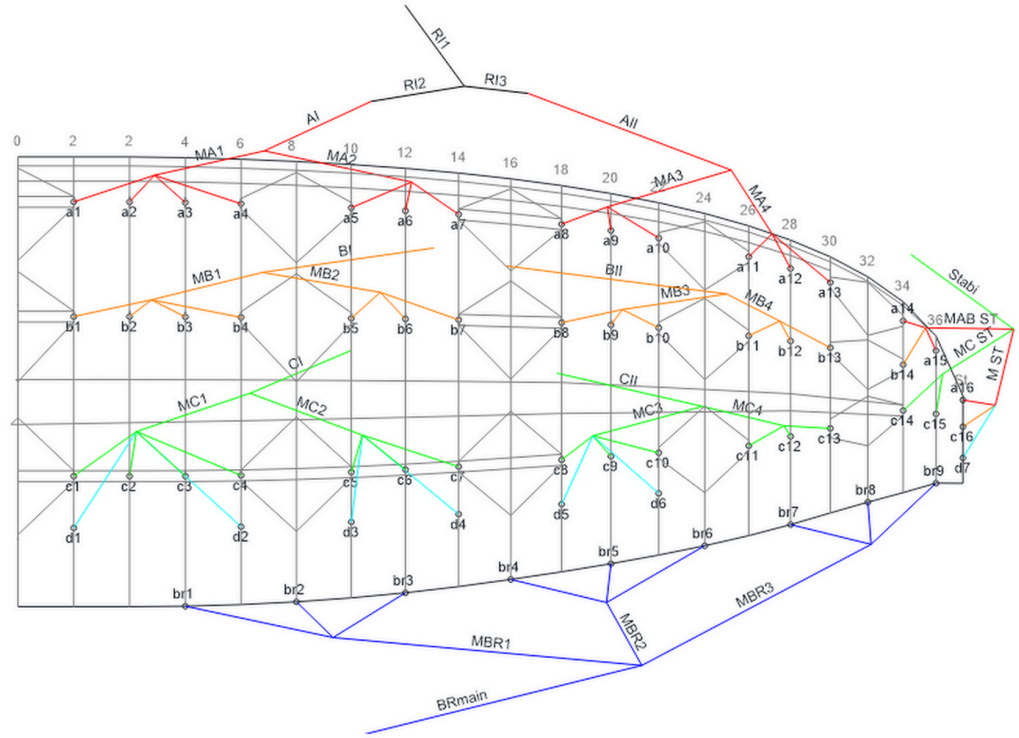
VIVA "M" — lines sketch, half span (line map rev.2 · 14.9.2025). 26.5 m² · span 11.3 m · 38 cells · lines per side a 1–15 · b 1–13 · c 1–15 · d 1–7 · br 1–9.

VIVA — SIZE L (28.25 m² | Span 12.0 m | AR 4.8)

Half span, canopy seen from below. The opposite side is a mirror image.

Line labels (a1..., b1..., c1..., d1..., br1...) match the check tables in this section; cascade legs are named MA1...MA4, MB1...MB4, MC1...MC4, MBR1...MBR3, AI/AII, BI/BII, CI/CII, RI1...RI3.

A lines · B lines · C lines · D lines · Brake lines · Risers / main brake



VIVA L · 28.25 m² · span 12.0 m · 40 cells
lines per side: A 16 B 14 C 16 D 7 Br 9
Line lengths — see "Table of length lines".

Drawn by		Part N	Toll ±10	Qty per glider 1
Date	14.09.2025	Name: Lines sketch		Drawing N
Scale	—			Revision 2
Approved				
APCO Aviation LTD.		Product: VIVA "L"		

VIVA "L" — lines sketch, half span (line map rev.2 · 14.9.2025). 28.25 m² · span 12.0 m · 40 cells · lines per side a 1–16 · b 1–14 · c 1–16 · d 1–7 · br 1–9.

APCO wishes you many hours of enjoyable flying!

Take Air!

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