

MANDATORY BULLETIN

MB No: L23/031a

Concerning: Flight Manual for the L23 SUPER - BLANIK /Do-L23.1012.5/

Reason: Customer request /CLUB DE PLANEADORES DE SANTIAGO, CHILE/ for change of instrument equipment, placards and physical units from Traditional British and American system to Metric system.

In the Flight Manual for CHILE /sailplanes S/N 978305 and 978306/replace old pages by enclosed new ones dated Feb 15/97.

New pages: O-1, O-3, 1-4, 1-5, 2-2, 2-3, 2-4, 2-5, 2-6, 2-8, 2-10, 2-11, 4-9, 4-10, 4-11, 4-12, 4-13, 4-14, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-22, 5-2, 5-3, 5-4, 6-2, 6-4, 6-5, 6-6 and 6-7.

To be carried out at the latest by: On receiving this Bulletin.

To be carried by: Manufacturer or Holder of Flight Manual.

Costs to be covered by: No cost arise.

Necessary material to be supplied by: New pages are enclosed.

Bulletin becomes effective: Since the date of receiving.

Manhours required: 0

Total number of pages: Title pages and see Reason.

  
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manufacturer

Engineering data contained in this Bulletin are CAI APPROVED.

10.2.1997



0.1. RECORD OF REVISIONS

Any revision or amendment of the present Manual will be issued in the form of Bulletins, approved by the Civil Aviation Inspectorate of the Czech Republic, supplement of which will contain new (revised) pages. User's duty is to make a note about revisions in the Record of revisions and to replace existing pages with revised and effective ones. Revised or amended parts of the text will be indicated by a vertical line in the left hand margin and the revision No. and the date will be shown on the bottom left hand of the page.

Rev. No.	Affected Section	Affected pages	Date	Bulletin No.	Date of Bulletin approval	Date inserted and signature
1.	0, 2, 6, 7	0-1, 0-3, 2-5, 2-10, 2-11, 6-5, 6-6, 6-7, 7-1, 7-4, 7-5	Dec 20/95	L23/026a	Jan 26/96	
2.	0, 7	0-1, 0-3, 7-1, 7-4, 7-5, 7-6	Sep 20/96	L23/029a	Sep 23/96	
3.	0, 1, 2, 3, 4, 7	0-1, 0-3, 1-1, 1-3, 1-4, 1-5, 2-10, 2-11, 3-1, 3-2, 3-3, 3-4, 3-5, 4-5, 4-6, 4-7, 7-4, 7-5, 7-6	Oct 30/96	L23/030a	Dec 2/96	
4.	0, 1, 2, 4, 5, 6	0-1, 0-3, 1-4, 1-5, 2-2, 2-3, 2-4, 2-5, 2-6, 2-8, 2-10, 2-11, 4-9, 4-10, 4-11, 4-12, 4-13, 4-14, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-22, 5-2, 5-3, 5-4, 6-2, 6-4, 6-5, 6-6, 6-7	Feb 15/97	L23/031a		



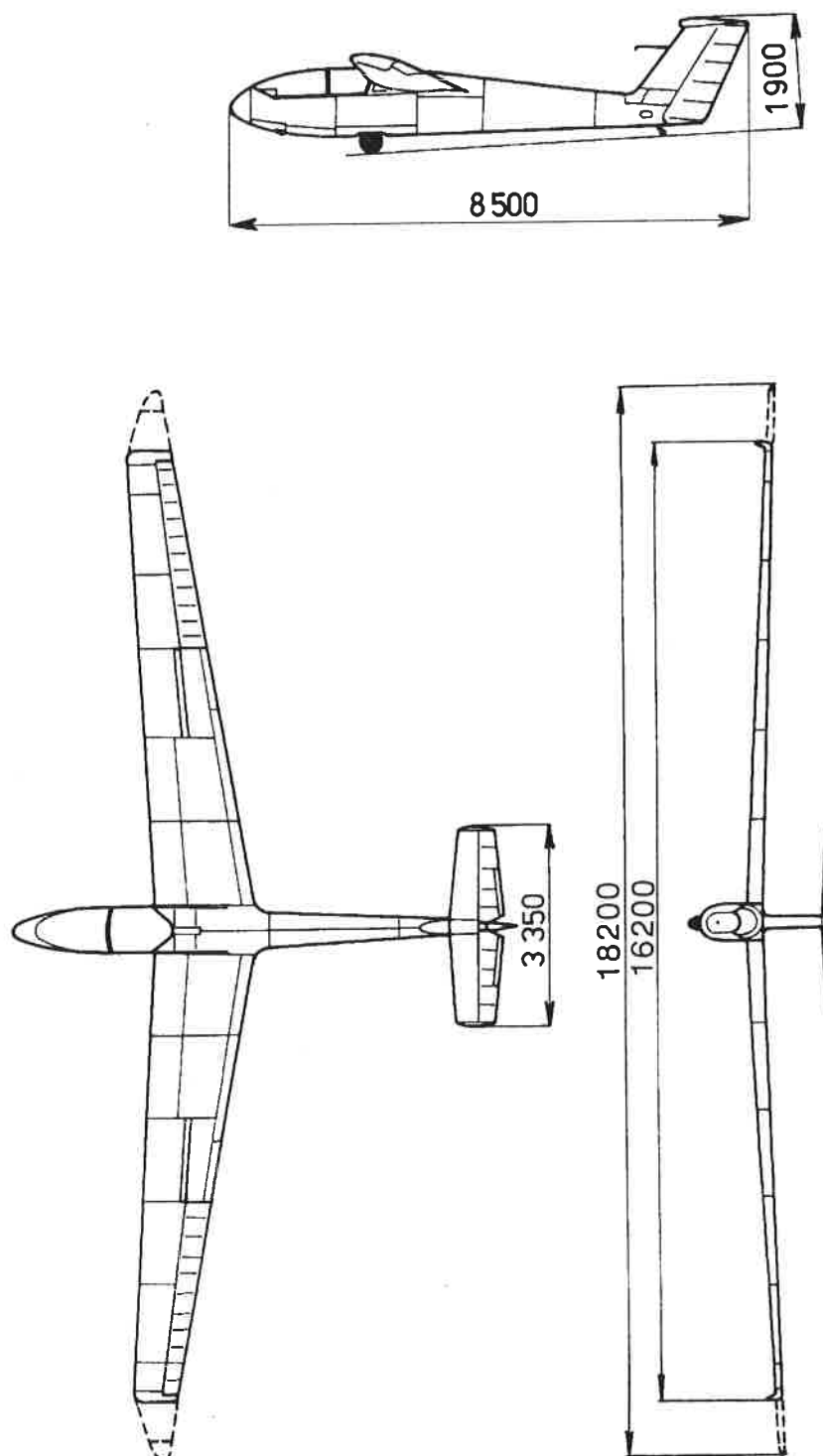
0.2. LIST OF EFFECTIVE PAGES

Pages identified as "Appr." provide information required to be furnished by the Federal Aviation Regulations.

Section	Page	Date	Section	Page	Date
0	1	Feb 15/97	4	Appr. 15	Dec 1/93
	2	Dec 1/93		Appr. 16	Feb 15/97
	3	Feb 15/97		Appr. 17	Feb 15/97
	4	Dec 1/93		Appr. 18	Feb 15/97
1				Appr. 19	Feb 15/97
	1	Oct 30/96		Appr. 20	Feb 15/97
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	Appr. 3	Oct 30/96		6	Oct 30/96
	Appr. 4	Oct 30/96	8	1	Dec 1/93
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	Appr. 13	Feb 15/97			
	Appr. 14	Feb 15/97			

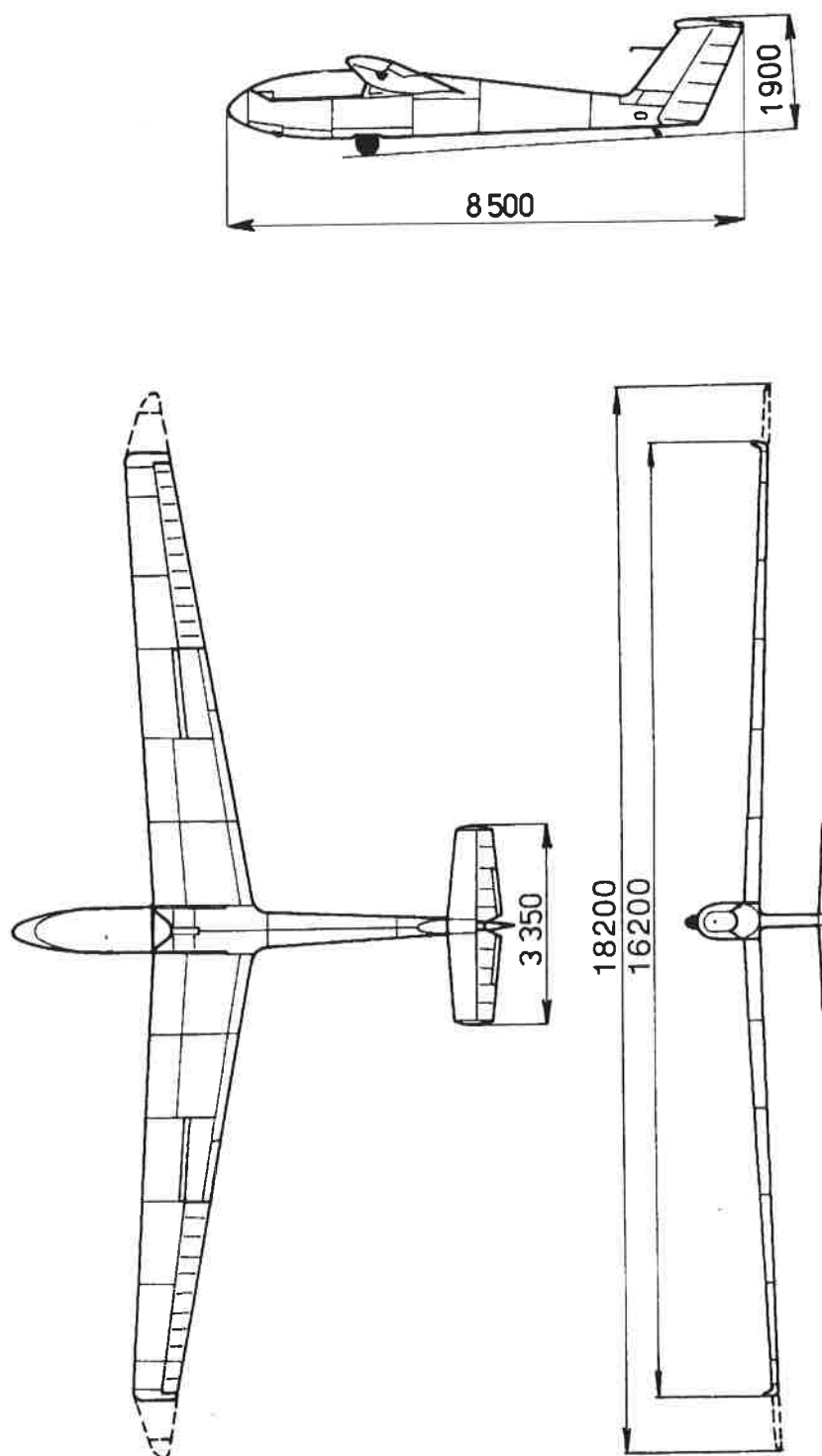


1.5.1 THREE - VIEW DRAWING (Dimensions in mm) - valid to ser. No. XX 8320





1.5.2 THREE - VIEW DRAWING (Dimensions in mm) - valid from ser. No. 96 8401





2.1 INTRODUCTION

Section 2 includes operating limitations and basic placards necessary for safe operation of the sailplane, its standard systems and standard equipment. The limitations in this section are FAA approved by the CAI, Czech Republic. The values in parentheses are valid only when using wing tip extensions.

2.2 AIRSPEED

Speed		km/h IAS	Remarks
VNE	Never exceed speed up to a pressure altitude of 4200 m	230	Do not exceed this speed in any operation and do not use more than 1/3 of control deflection
VRA	Rough air speed	160	Do not exceed this speed except in smooth air, and then only with caution. Examples of rough air are lee-wave rotor thunderclouds etc.
VA	Manoeuvring speed	150	Do not make full or abrupt control movement above this speed, because under certain conditions the sailplane may be overstressed by full control movement
VW	Maximum winch-launching speed	120	Do not exceed this speed during winch- or autotow-launching
VT	Maximum aerotowing speed	150	Do not exceed this speed during aerotowing
VLO	Maximum landing gear operating speed	230	Do not extend or retract the landing gear above this speed

Note: VNE airspeed limits above 4200 m Pressure Altitude are reduced as follows:

Pressure Altitude m *	4200	6000	7500	9000	10500
VNE km/h IAS	230 (230)	230 (210)	215 (195)	200 (180)	185 (165)

*- Altimeter Setting at 1013.25 hPa.



2.3 AIRSPPEED INDICATOR MARKINGS

Marking	km/h IAS (value - range)	Significance
Green arc	66 - 160	Normal Operating Range. (Lower limit is maximum weight 1.1 vs _I at most forward c.g. Upper limit is rough air speed)
Yellow arc	160 - 230	Manoeuvres must be conducted with caution and only in smooth air.
Red line	230	Maximum speed for all operations
Yellow triangle	75 (90*)	Approach speed at maximum weight.

Note: yellow triangle (90*) valid from ser. No. 97 8402

2.4 WEIGHT LIMITS

Maximum take - off and landing weight:

- with two occupants 510 kg

- with one pilot 420 kg

Empty weight

with standard equipment $310 \text{ kg} \pm 2\%$ ($315 \text{ kg} \pm 2\%$)

and the corresponding centre

of gravity position $67.30 \pm 1\%$ MAC ($68.30 \pm 2\%$ MAC)

Maximum weight of all non lifting parts 353 kg (348 kg)

Note : Refer to weight and Balance (Section 6.0) to determine actual
empty weight / c.g. as established by the installed equipment
and manufacturing tolerances.

(Cont.)



Pilot's weight (including parachute):

- minimum pilot's weight (solo) 70 kg

It is necessary to use front seat removable ballast of 15 kg when flown solo by a pilot (including parachute) weighing less than 70 kg in the front cockpit.

Note: Installation of the front seat ballast is described in Section 7, paragraph 7.2 of this Flight Manual.

- maximum pilot's weight (solo) 110 kg

Maximum useful load (occupants,
baggage, optional equipment) 200 kg (195 kg)

Maximum baggage compartment load . . . 10 kg



2.5 CENTRE OF GRAVITY

Centre of gravity range

- front limit 23 % MAC i.e. 4.397 in
(112 mm) aft of
reference datum
- rear limit 40 % MAC i.e. 12.783 in
(325 mm) aft of
reference datum

Wing tip extensions installation moves the center of gravity of the empty sailplane 1% MAC (0.493 in = 12.53 mm) to the back.

The reference datum is located 93.6 in(2.37 m) aft of the sailplane nose.

2.6 APPROVED MANOEUVRES (UTILITY CATEGORY)

Sailplane is certified in the Utility Category.

With the installed wing tip extensions all aerobatic manoeuvres are prohibited.

Manoeuvre	Airspeeds - km/h IAS				Procedures
	SOLO	DUAL	ENTRY	RECOVERY	
Loop	160	180	X		Section 4.4.6 item 1.
Stall turn	170	180	X		Section 4.4.6 item 2.
Lazy Eight	180	180	X		Section 4.4.6 item 3.
Spin	60 160	60 160	X	X	Section 4.4.6 item 4.
Chandelle(climbing)	180	180	X		Section 4.4.6 item 5.
Steep turn	170	180	X		Section 4.4.6 item 6.

2.7. MANOEUVRING LOAD FACTORS

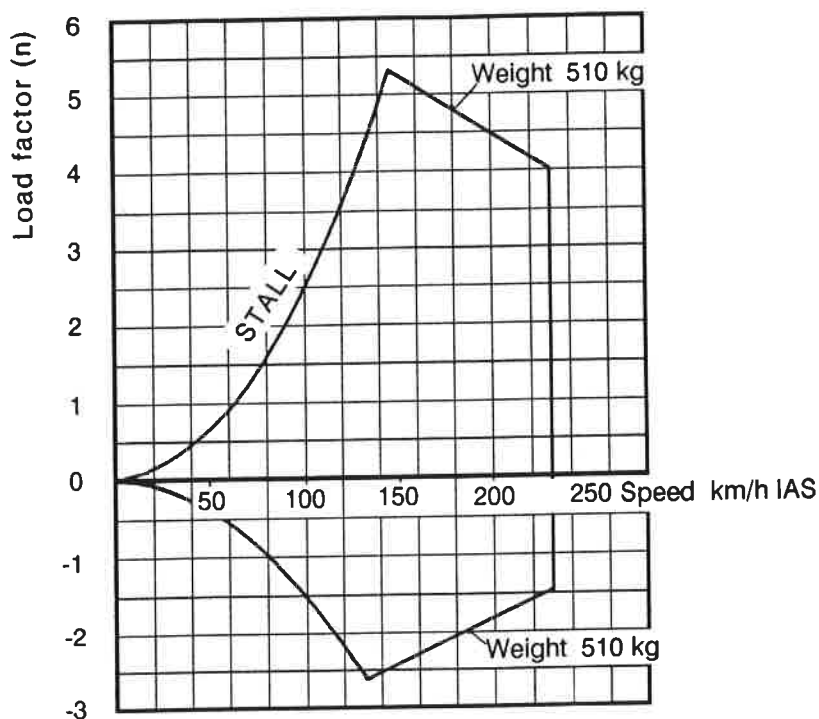


FIG. 2 - 1

2.8 FLIGHT CREW

Minimum - one pilot. Maximum number of occupants is two. If the sailplane is to be flown solo, the pilot must be sitting in the front seat and his weight (including parachute) must be 70 kg at least. If the pilot's weight is less than 70 kg, it is necessary to use the cushion with 15 kg ballast.

WARNING: THE REAR SEAT MUST BE SECURED AGAINST FOLDING AND SAFETY HARNESSSES ON THE REAR SEAT MUST BE CONNECTED, DRAWN TOGETHER AND SECURED.

2.9 KINDS OF OPERATION

The sailplane is approved for Day VFR operations. Cloud- flying is permitted where operational regulations permit, and the minimum required equipment is installed and operable.

(Cont.)

2.11 AEROTOW AND WINCH LAUNCHING

Aerotow

- the maximum cable strength or cable safety device (weak link) strength is 6500 N .
- maximum permissible speed $V_T = 150$ km/h IAS
- the minimum cable length for aerotowing is 15 m , recommended length is 30 - 40 m .

Winch-launching

- the maximum cable strength or cable safety device (weak link) is 6500 N .
- maximum permissible speed $V_W = 120$ km/h IAS

2.12 OTHER LIMITATIONS

A. Maximum crosswind component

- maximum demonstrated crosswind component for safe approach, landing and aerotow launching is 8 m/s for angle 90° .

Maximum demonstrated crosswind component for winch-launching:

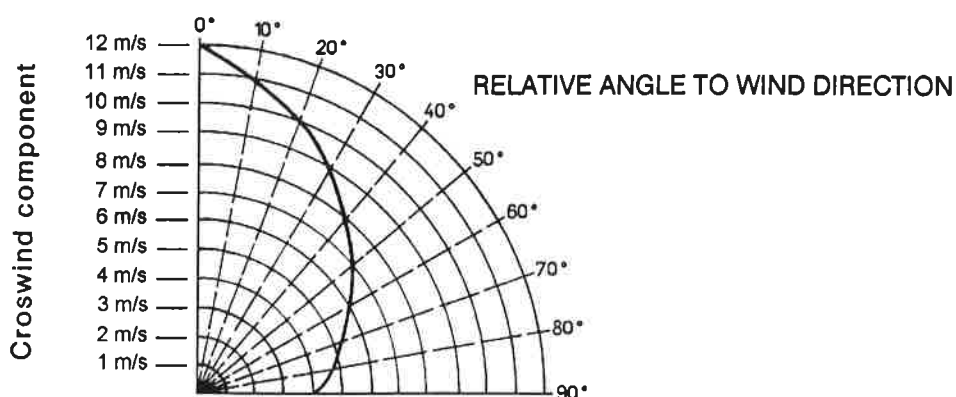


FIG. 2 - 2

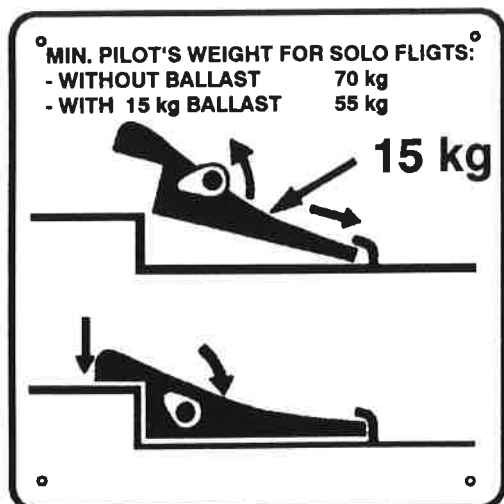
B. Maximum demonstrated operating altitude - 4200 m

(Cont.)

2.13 LIMITATIONS PLACARDS

The following operating limitations are emphasized on the limitation placards in both cockpits:

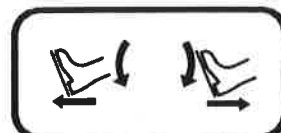
a) front cockpit



SEAT BACK



PEDAL ADJUSTMENT



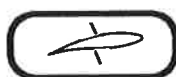
AIR VENT



FRONT LIFT OFF para 3.2.1 To ser. No. xx 8320

CENTRE OF GRAVITY RANGE
FRONT LIMIT . 23 % MAC
REAR LIMIT . . 40 % MAC

b) both front and rear cockpits

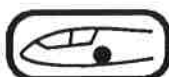


AIR BRAKES



JETTISON/LIFT OFF (REAR SEAT ONLY) see para 3.2.1

To ser. No. xx 8320

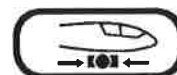


LANDING GEAR



FRONT CANOPY JETTISON see para 3.2.1

To ser. No. xx 8320



WHEEL BRAKE



CANOPY LIFT OFF From ser. No. 96 8401



CANOPY JETTISON see para 3.2.2 From ser. No. 96 8401



BAGGAGE (REAR SEAT ONLY)



On customer's request:

MAX. ALLOWABLE SPEED (km/h IAS) VS ALTITUDE					
PRESSURE ALTITUDE (m) UP TO	4200	6000	7500	9000	10500
WITHOUT EXTENSIONS	230	230	215	200	185
WITH EXTENSIONS	230	210	195	180	165

If installed wing tip extensions:

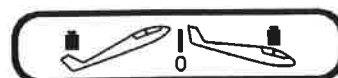
**ALL AEROBATIC MANOEUVRES
ARE PROHIBITED WITH
INSTALLED WING TIP EXTENSIONS**

V_{NE} 230 km/h IAS
 V_{RA} 160 km/h IAS

Valid to ser. No. 96 8303:

OPERATING LIMITATIONS
THE MARKINGS AND PLACARDS
INSTALLED IN THIS SAILPLANE CONTAIN
OPERATING LIMITATIONS WHICH MUST
BE COMPLIED WITH WHEN OPERATING IN
UTILITY CATEGORY. OTHER LIMITATIONS
ARE CONTAINED IN SAILPLANE FLIGHT
MANUAL.

MAX. GROSS WEIGHT 510 kg
APPROVED MANOEUVRES:
LOOP SPIN
STALL TURN CHANDELLE (CLIMBING)
LAZY EIGHT STEEP TURN
SOLO FLIGHT FROM FRONT SEAT ONLY



TRIMMER



RELEASE

MAX. WINCH - LAUNCHING SPEED 120 km/h IAS
MAX. AERO - TOWING SPEED 150 km/h IAS
MAX. MANOEUVRING SPEED 150 km/h IAS

See para 2.2

Valid from ser. No. 96 8304:

OPERATING LIMITATIONS
THIS GLIDER MUST BE OPERATED
IN COMPLIANCE WITH THE OPERATING
LIMITATIONS STATED IN THE FORM
OF PLACARDS, MARKINGS AND MANUALS
MAX. GROSS WEIGHT 510 kg
APPROVED MANOEUVRES:
LOOP SPIN
STALL TURN CHANDELLE (CLIMBING)
LAZY EIGHT STEEP TURN
SOLO FLIGHT FROM FRONT SEAT ONLY



4.4 NORMAL OPERATIONS AND RECOMMENDED SPEEDS

4.4.1 TAKE-OFF AND CLIMB

1. Aerotow launching

The take-off technique by aerotow is entirely conventional. The elevator and rudder efficiency is high enough during the initial stages of the take-off run, that it is easy to prevent directional or roll oscillations by use of rudder or ailerons. Set the elevator trim tab control to a position between "zero" and "nose heavy" and hold the control stick in the neutral position - on the landing gear and at liftoff speed pull the control stick gently to unstick the sailplane. Hold the sailplane in horizontal flight at a height of 3 ft (1 m) until the towing airplane starts to climb. The take-off with cross wind is different from the normal take-off. It is necessary to bank the wing into the wind (in proportion to the wind speed) and to unstick the sailplane at a higher speed. The tow rope should be attached to the front hook only.

Note: Before take-off close the ventilation in order that dust and impurities do not get into the cockpit. The ventilation can be opened during at climb.

2. Winch-launching

**WARNING: USE EITHER SIDE HOOKS OR LOWER HOOK
(DEPENDING ON WHICH HOOK IS INSTALLED)**

The winch launching is entirely conventional. Set the elevator trim tab control to the neutral position. The recommended speed for winch launching is 80 - 100 km/h IAS. Do not retract the landing gear when performing the traffic pattern.

3. Aerotow

a) Climb

Retract and lock the landing gear (by pulling the handle in your direction) when above a minimum safe height of 20 m and the minimum speed of 100 km/h IAS is reached. Trim the sailplane for the climb speed. The sailplane angle of attack is fairly high when the climb speed is low and the view from cockpit is reduced considerably. Therefore it is recommended that the towing aircraft to keep a climbing speed of 100 - 130 km/h IAS .

(Cont.)



The pilot should avoid overcontrolling.

Principles of aerotow are the same as for other sailplanes.

b)Level flight

The maximum speed for aerotow is 150 km/h IAS. It is necessary to trim the sailplane to reduce control forces and to decrease pilot fatigue during longer flights on tow. It is necessary to realize that control sensitivity increases with flight speed.

c)Descending

A satisfactory rate of descent 2 - 3 m/s can be obtained when the towing aircraft maintains an airspeed at least of 100 km/h IAS .

4.4.2 FLIGHT

1. Turns and circling

The sailplane is very manoeuvrable and controllable and its behaviour is very good in turns with angles bank up to 60° .

2. Side slipping

The piloting technique of the side slipping is entirely conventional. The angle of bank of the sailplane should be between 10° and 20° . The side slip is not very effective mean of losing height in this sailplane. As, the rate of descent may be effectively increased by the use of the air brakes. If a constant airspeed is to be maintained during a side slip, the angle of pitch must be constant. The air speed indicator is unreliable during slip manoeuvres.

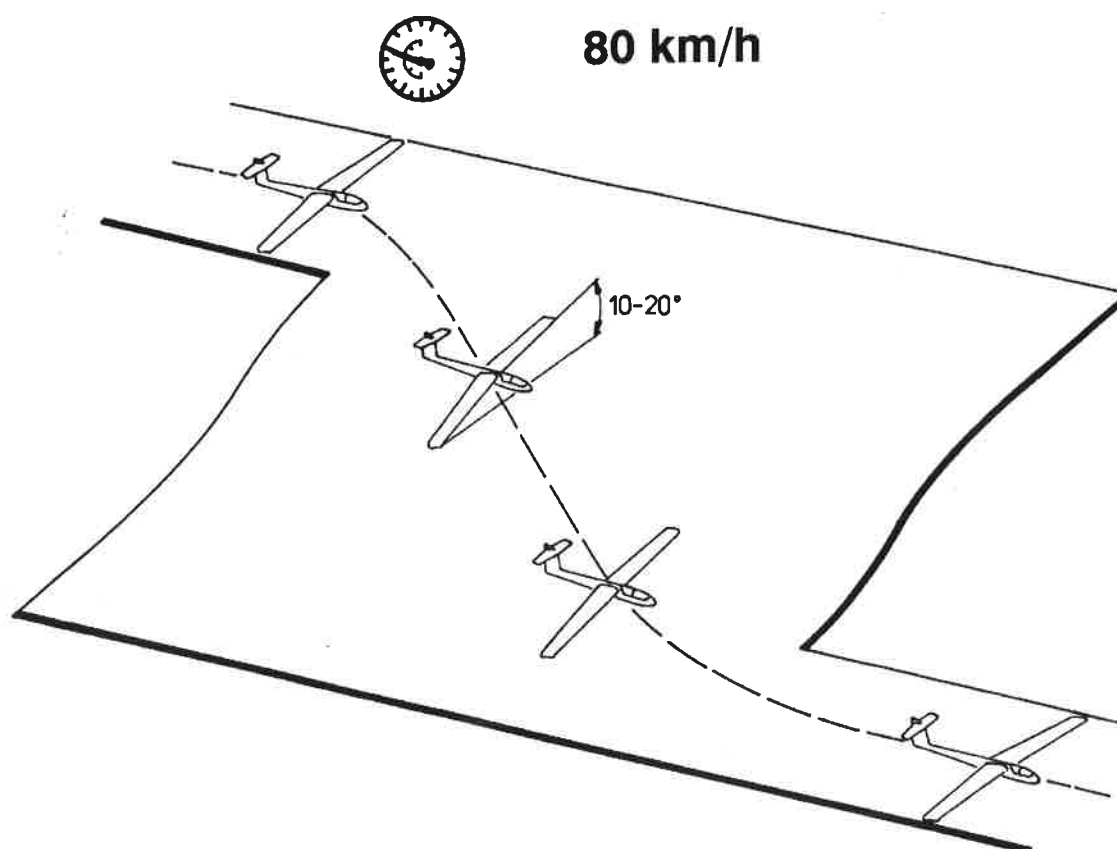


FIG. 4 - 2



3. Stalls

Slow and continuous pulling aft on the control stick causes the sailplane to stall. Ailerons and rudder should be used to control bank, if any. Pre-stall warning starts (at the speed of about 5% higher than the stalling speed), in the form of buffeting of the rudder pedals and of all front fuselage section. When stalled, the sailplane settles with a gentle pitching. Move the control stick forward and start the stall recovery.

CAUTION: Before stalling and spinning the following procedures must be done:

Trim:	neutral
Air brakes:	retracted and secured
Cockpit canopy	locked and secured
Ventilation	shut
Rudder pedals:	properly adjusted to allow full deflections
Safety belts:	fastened and tight
Loose objects:	removed or secured

4. High Altitude Flight

Operation above 4200 m has not been demonstrated by the manufacturer. A sailplane placard provides calculated maximum (VNE) airspeeds above a pressure altitude of 4200 m for information only. High altitude flight should be conducted in accordance with any applicable operating rules.



4.4.3 APPROACH

The following approach speeds are recommended.

Descent	Air brakes	Approach speeds
Normal	retracted	75 - 85 km/h IAS
	extended	80 - 95 km/h IAS
Steeper	extended	95 - 110 km/h IAS

Anticipate mild sailplane ballooning when using higher approach speeds.

4.4.4 LANDING

Landing on the airport

The landing manoeuvre is entirely conventional. Use small elevator inputs at the flare. The sailplane should touch down with the landing gear first and then with the tail wheel if landed correctly (to reduce shock to the tail wheel on ground contact). Do not flare prematurely in order to prevent the sailplane from dropping from a higher height.

Off-field landing

It is recommended to land with the landing gear retracted if landing on a soft ground.

Note: In this case extend the wheel before the next flight.

Post flight

The following operations must be recorded in the sailplane log book as they occur:

- (1) Flight time with wing tip extensions installed.
- (2) Number of winch and aerotow launches by type.
- (3) Flight time during acrobatic maneuvers.



4.4.5 USE OF AIR BRAKES

It is recommended to use the air brakes in following cases :

1. To reduce landing especially roll on rough ground.
2. To increase accuracy of the landing manoeuvre.

Note: In case of using air brakes during landing, it is necessary to maintain an approach speed of about 10 km/h IAS higher, because the stall speed with fully opened air brakes is about 5-7 km/h IAS higher.

3. To avoid exceeding the never exceed speed (V_{NE}) during unusual attitude recoveries (for example during aerobatics).

It is recommended to use the air brakes in any case when the sailplane starts to increase the speed and the pilot is uncertain of his orientation or how to manage the situation. Configuration with "air brakes extended" will ensure that V_{NE} is not exceeded. Use of air brakes will enhance the safety and makes handling easier because the extended air brakes tend to stabilize the sailplane.

The control lever should be held firmly when operating the air brakes to ensure smooth deployment and retraction.

1. Loop

Enter a moderate dive with slight forward movement of the control stick to gain a speed of 160 km/h IAS when flying solo or 180 km/h IAS when flying dual. Raise the nose of the sailplane by slight backward movement of the control stick, taking care not to apply excessive "g" forces, and maintain this rate of backward stick movement throughout the first half of the loop, but do not use more than about 60 % of the control stick full deflection. The load factor must drop in the inverted position. After passing the inverted position the speed will increase and the control stick must be eased forward gradually until the sailplane is flying level again. Before and during this manoeuvre rudder should be used to prevent yaw and ailerons used to keep the wings level. Maintain precise directional control for proper completion.

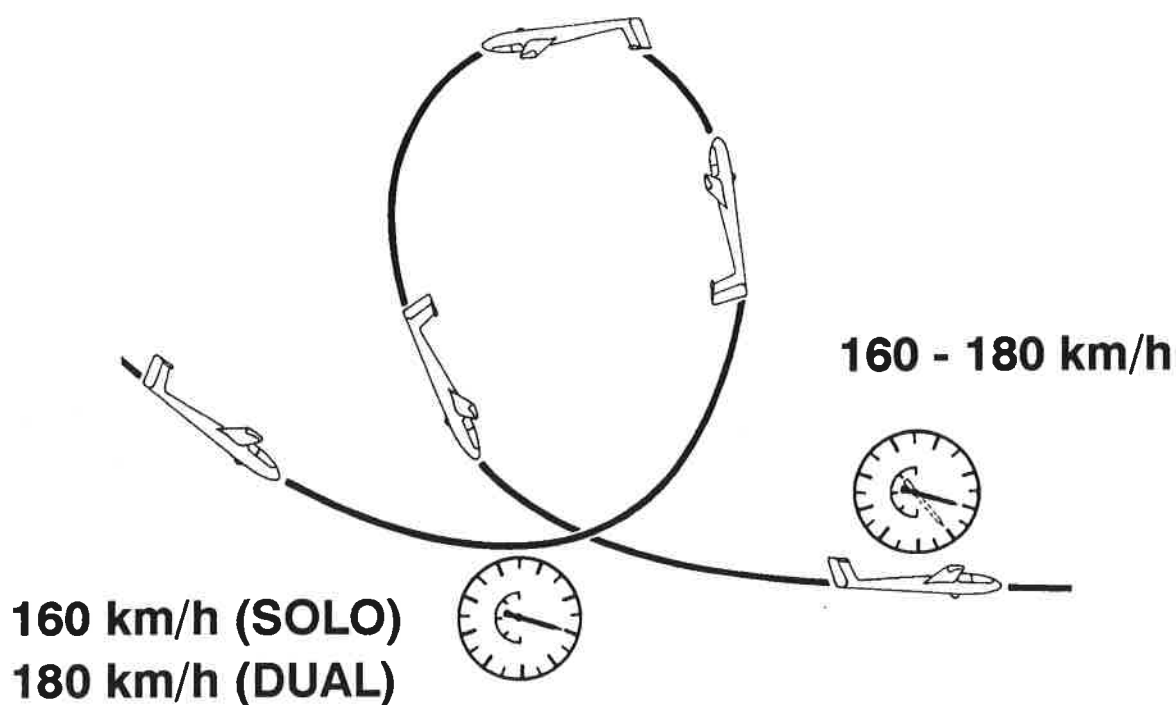


FIG. 4 - 3

(Cont.)

2. Stall turn

This manoeuvre should be begun at the speed of 170 km/h IAS when flying solo or 180 km/h IAS when flying dual. Pull the control stick gently backward to bring the nose to a position of about 60° to 70° above the horizon. Ease the control stick forward slightly to maintain this attitude. As the speed falls to 130 - 140 km/h IAS, start to apply rudder slowly in the required direction of turn. As the force on the rudder decreases, gradually apply full rudder.

Full deflection of the rudder should be reached when the sailplane heads about 45° in the direction of turn. The ailerons should be used against the direction of turn as necessary to prevent the sailplane rolling to the inverted position. As the nose approaches the reciprocal heading, neutralize the rudder, keep the wings level by use of the ailerons, and ease out of the resulting dive, taking care not to apply excessive "g".

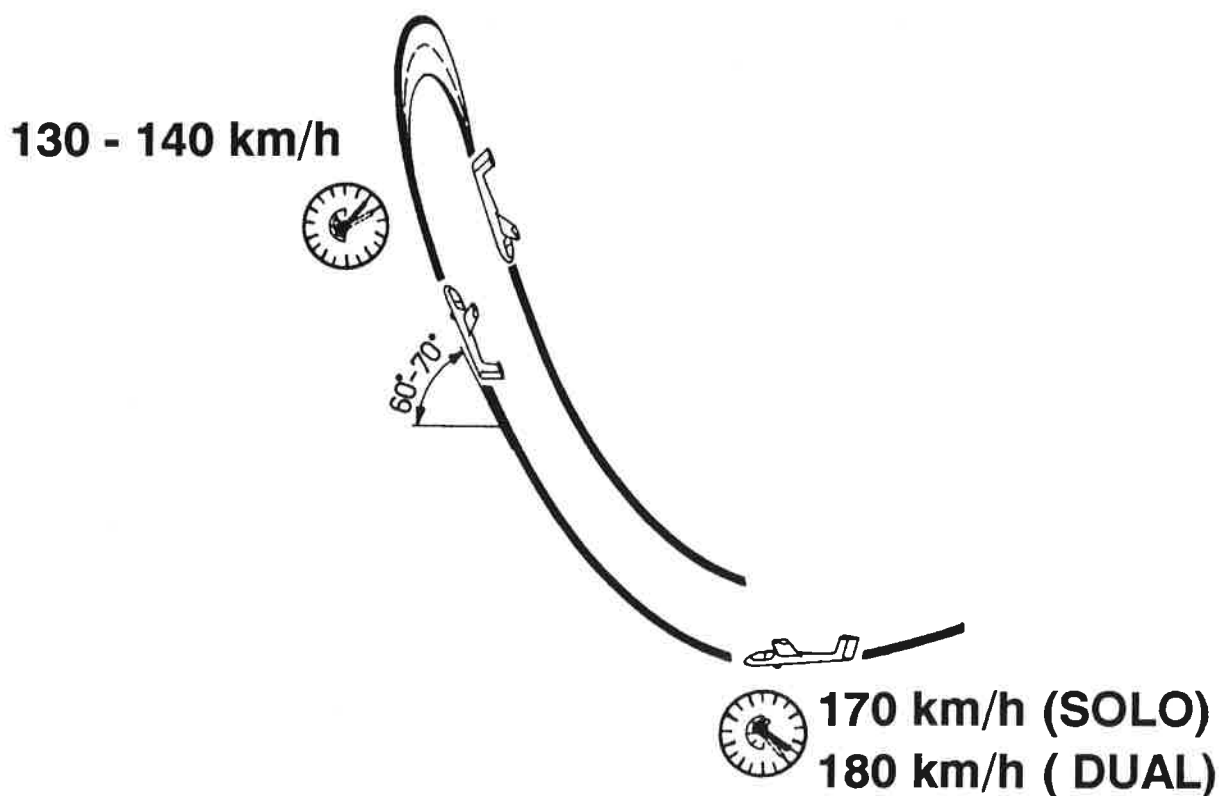


FIG. 4 - 4

(Cont.)

3. Lazy eight

Move the control stick slowly forward to attain the entry speed of 180 km/h IAS (solo or dual). Perform the steep turn to the selected side, smoothly pulling the control stick with simultaneous coordinated use of ailerons and rudder.

At a speed of 100 km/h IAS transition the sailplane to a descent and after reaching a speed of 180 km/h IAS perform the steep turn to the opposite side, smoothly pulling the control stick with simultaneous coordinated use of ailerons and rudder.

The flight path intersects at the lowest point of the manoeuvre.

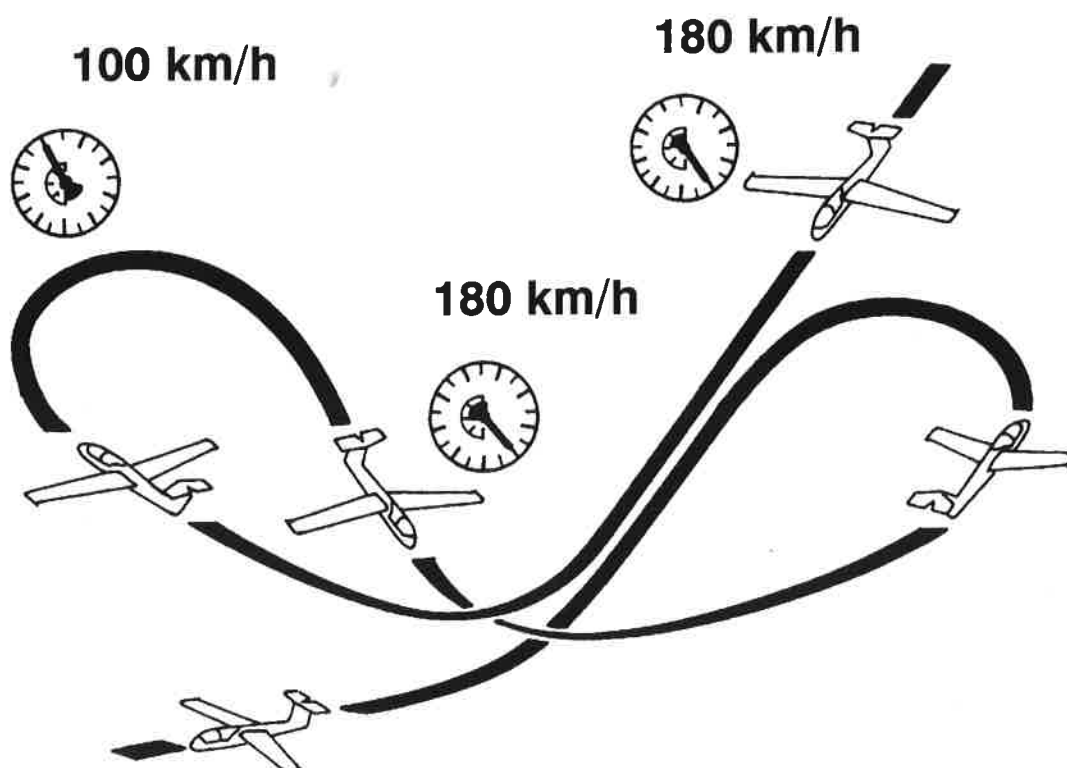


FIG. 4 - 5



4. Spin

The sailplane performs the spin without any tendency to enter a flat spin at all operating centre of gravity positions. The sailplane has the tendency to recover from the spin by itself, when at the maximum flight weight and the forward centre of gravity. Entering the spin is entirely conventional. Pull the control stick slowly back to approach the stall, use the full deflection of the rudder at the stall speed of approximately 60 km/hIAS (Fig. 4-3) and maintain full aft deflection of the control stick. Initiate recovery from the spin by applying full opposite deflection of the rudder. When the sailplane stops the rotation, neutralize the rudder and simultaneously ease the control stick forward. Recover the sailplane from the dive in the usual way. The attitude during the spin is 60° to 70° nose down and the loss of height in one turn is approximately 80 m when flying solo and 120 m when flying dual. The time of one revolution of the spin is approximately 3.5 secs.

Caution: 1. **Before spinning accomplish the procedures given in the Flight Manual, Section 4, paragraph 3.**

2. **IAS error.**

The airspeed indications become erroneous at large yaw angles, because the static vents on the sides of the fuselage are by-passed asymmetrically.

3. **When the spin is performed as an aerobatic manoeuvre, it is possible to maintain the spin by applying aileron in the direction of the rotation.**

Stop the spin rotation by applying full opposite rudder and neutralize the ailerons. When the sailplane stops the rotation, neutralize the rudder and ease the control stick forward. Pull-out from the dive using standard procedure.

Note: Airspeed indications well above the stall speed during a spin may indicate a spiral dive rather than a spin.

(Cont.)

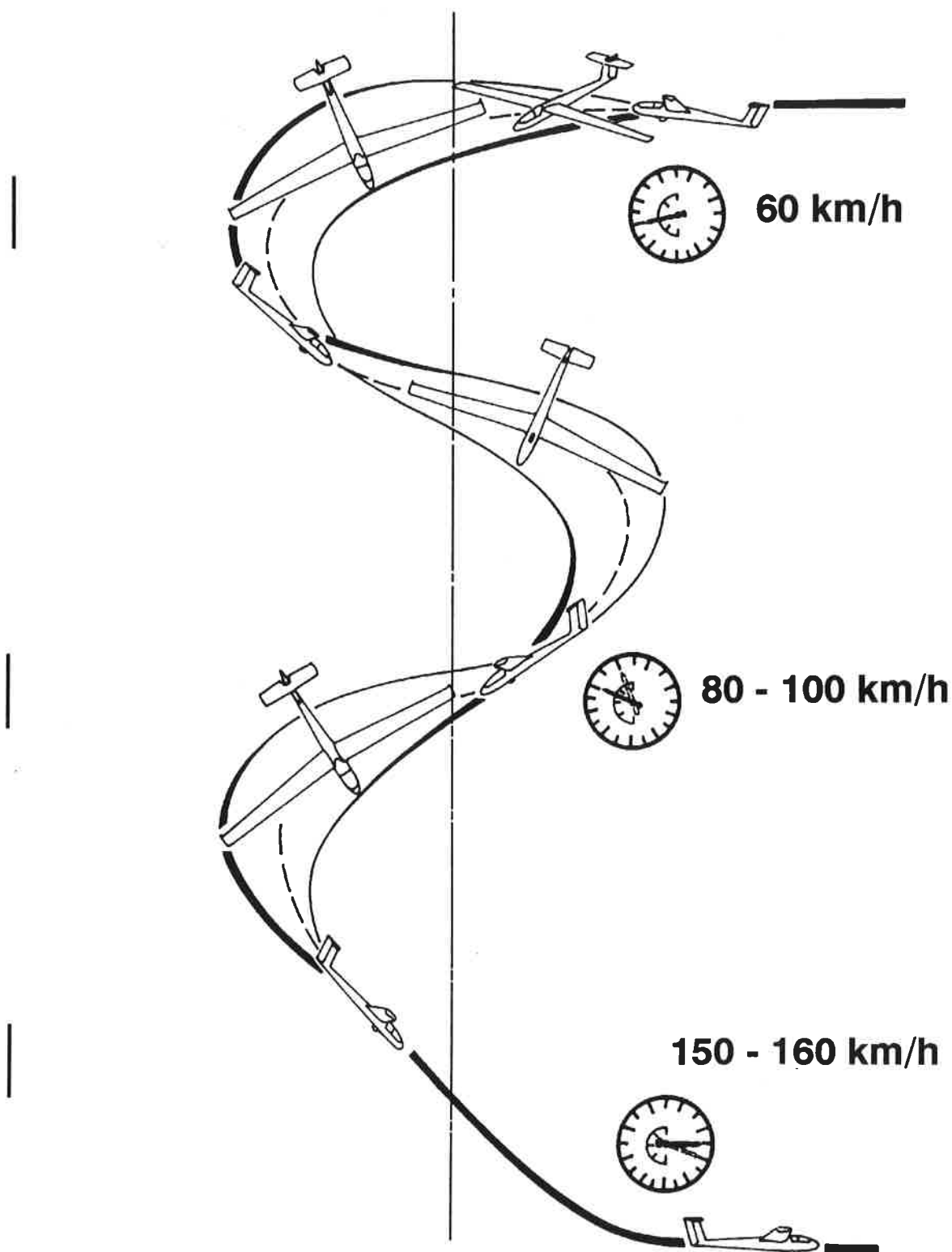


FIG. 4 - 6

5. Chandelle (climbing)

Move the control stick slowly forward to attain the entry speed of 180 to 190 km/h IAS (solo or dual).

Transition the sailplane to a steep climb at an angle of approximately 45° above the horizon (do not increase the angle).

At a speed of 140 km/h IAS, apply the rudder to the selected side of the turn and by coordinated positive use of the ailerons make a transition to gliding flight in the opposite direction at a minimum speed of 80 km/h IAS.

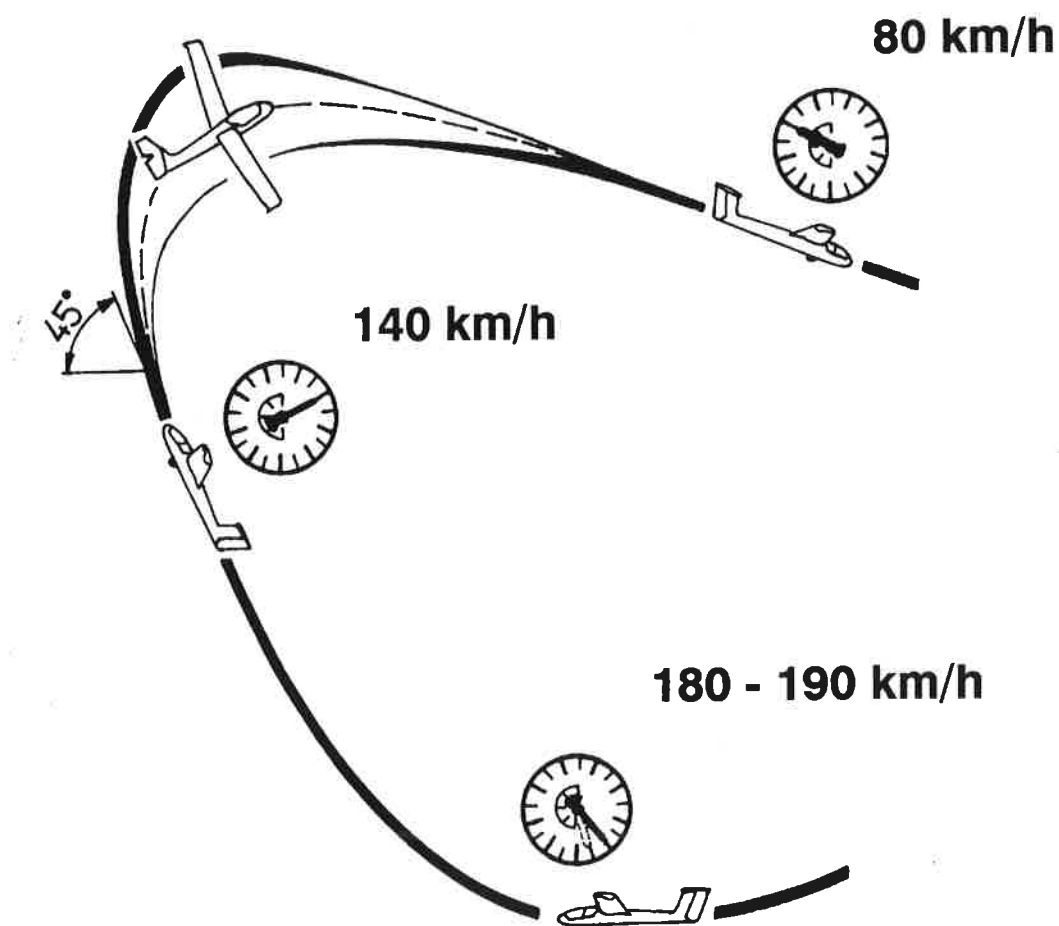


FIG. 4 - 7

(Cont.)

6. Steep turn

To perform this manoeuvre keep the entry speed of 170 km/h IAS when flying solo or 180 km/h IAS when flying dual. Enter the climb simultaneously with a bank of approx. 45° . After turning 150° start a transition to a glide angle such that the manoeuvre will be finished in the opposite direction with the speed not decreasing below 80 km/h IAS.

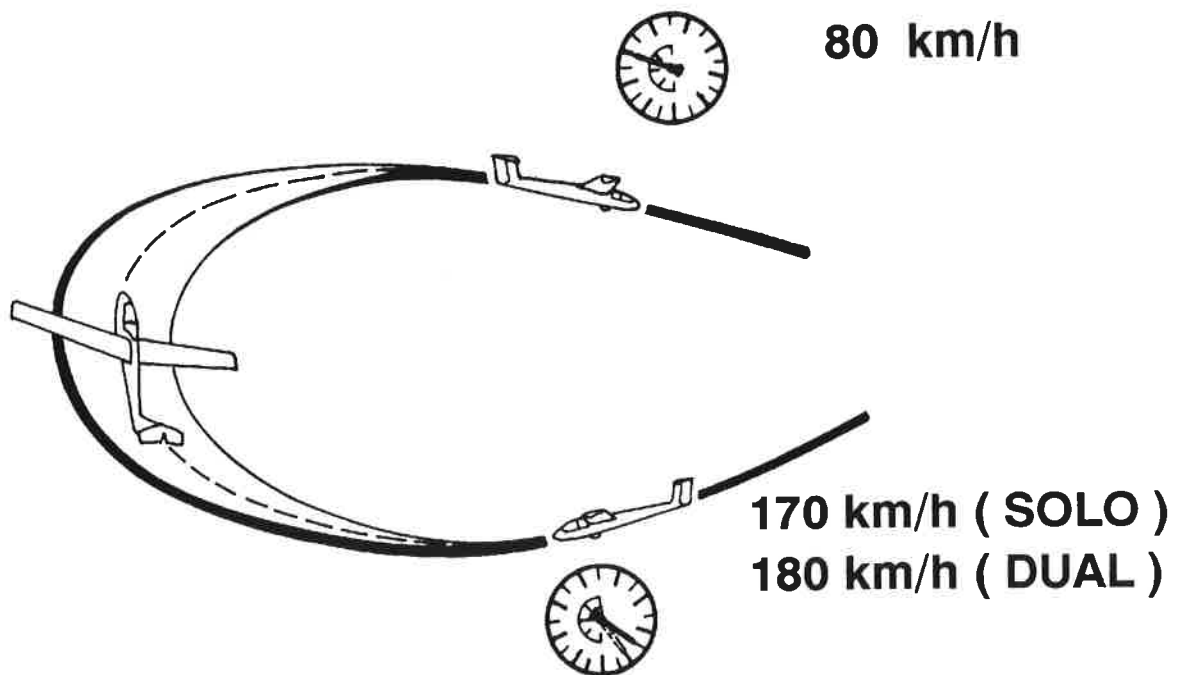


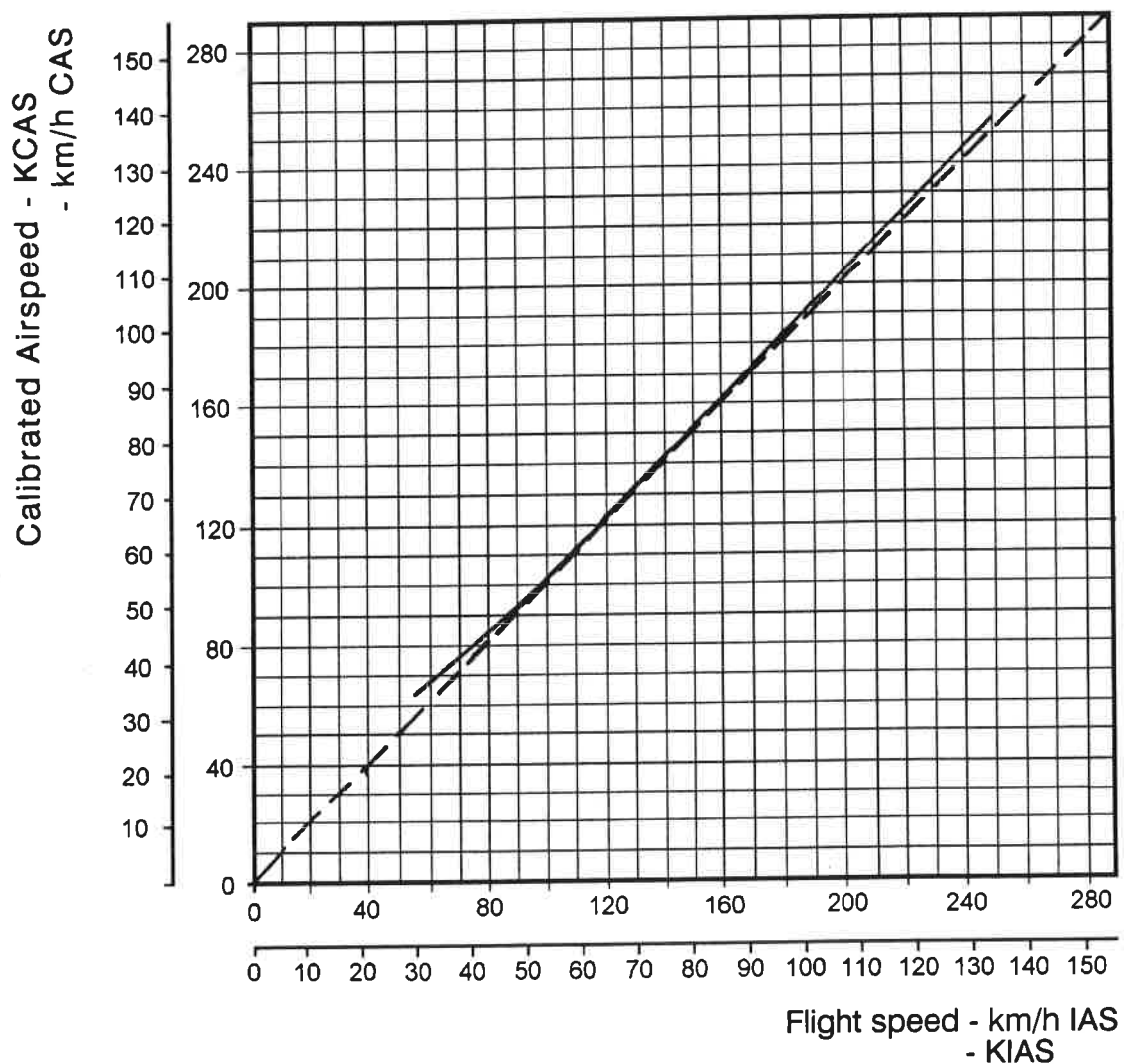
FIG. 4 - 8

**5.1 INTRODUCTION**

Section 5 provides approved data for airspeed calibration and stall speeds. Other non-approved information is provided.

5.2 APPROVED DATA**5.2.1 AIRSPEED INDICATOR SYSTEM CALIBRATION.
(Assumes zero instrument error)**

The diagram is effective for maximum flight weight of 510 kg (1124 lb).

**FIG. 5 - 1**



5.2.2 STALL SPEEDS (unaccelerated)

The broken line is valid only when using the wing tip extensions.

Note: The stall warning speed is about 5 % higher than stall speed for all configurations.

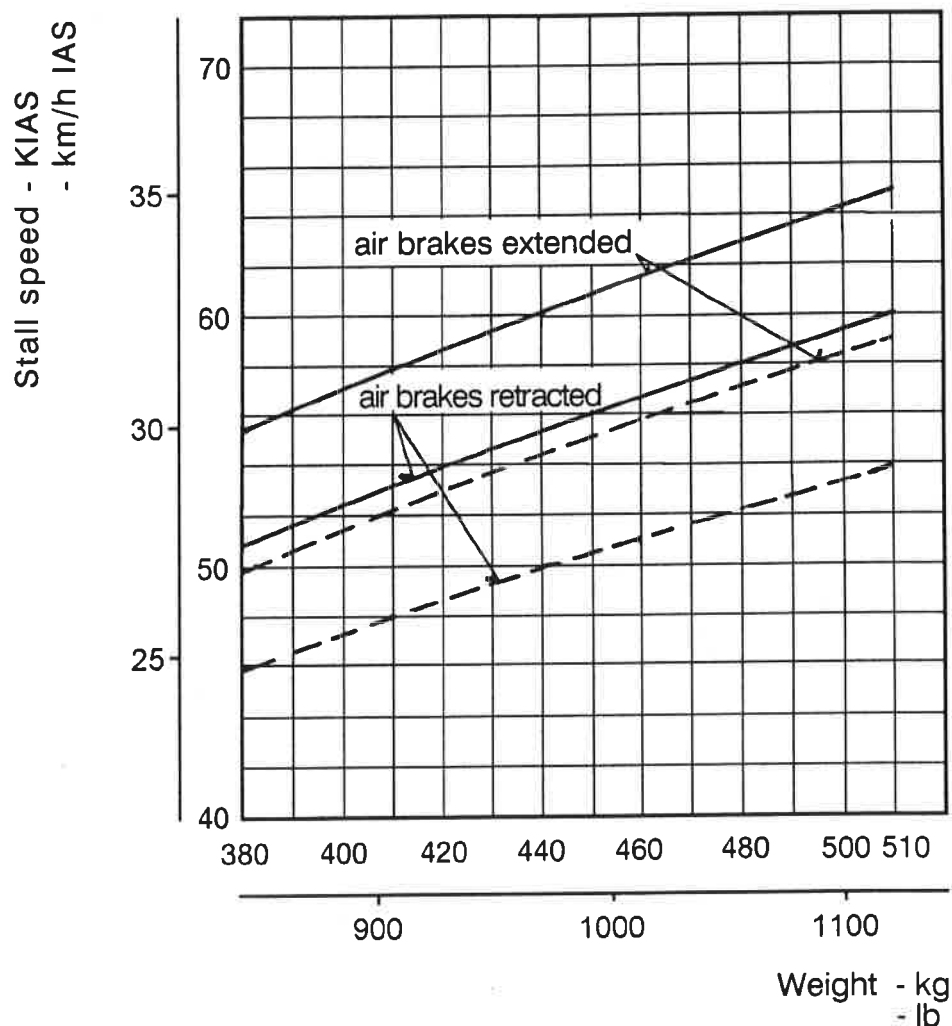


FIG. 5 - 2



5.3 ADDITIONAL INFORMATION

5.3.1 FLIGHT POLAR

5.3.1.1 FLIGHT SPEED POLAR

Maximum flight weight of 510 kg (1124 lb)

The broken line is valid only when using the wing tip extensions.

Airspeed with the angle
of descent of 45° 229 km/h (124 KIAS)

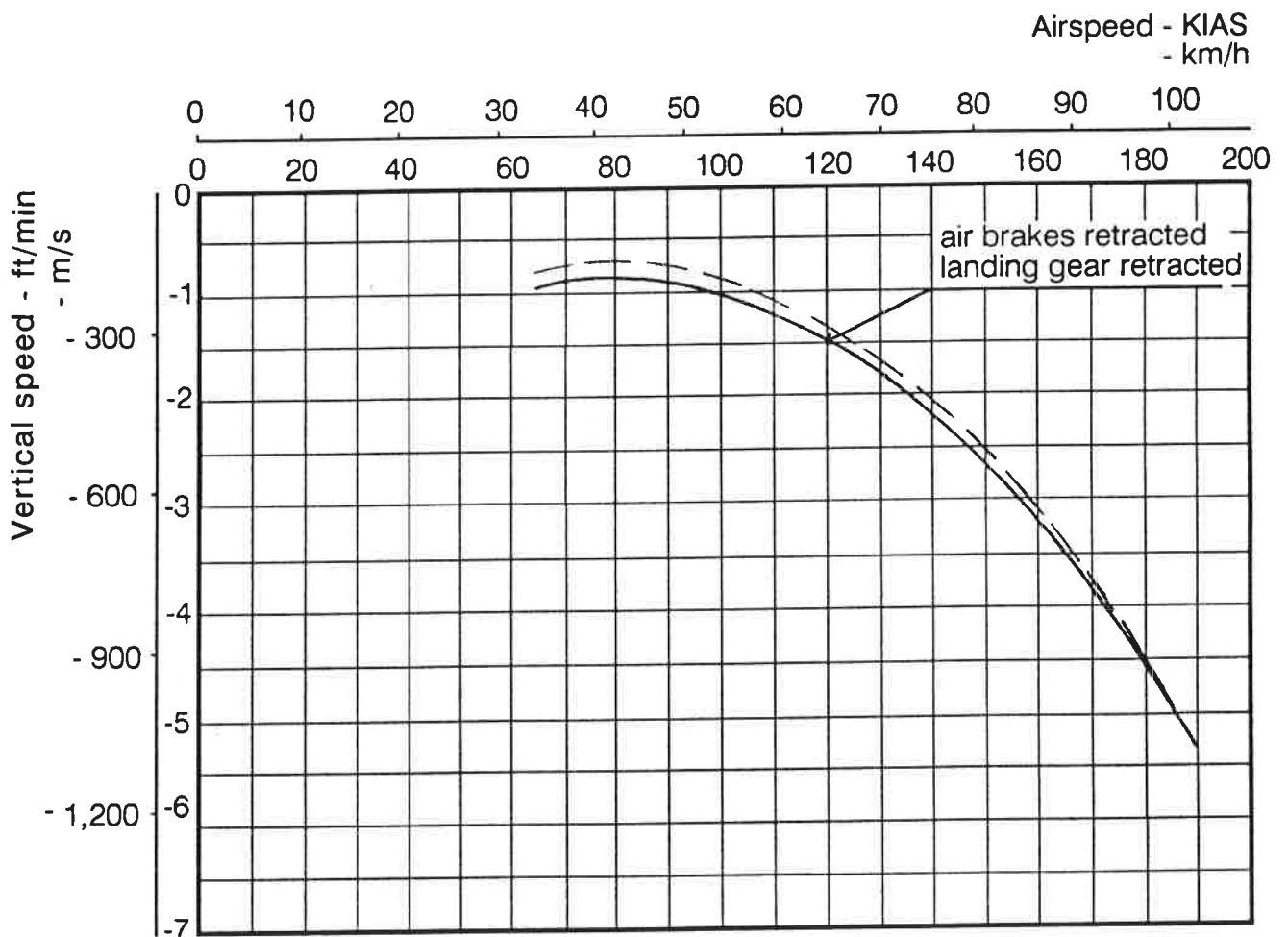


FIG. 5 - 3



6.1 INTRODUCTION

Section 6 includes basic empty weight and moment of the sailplane with standard equipment and the equipment list (standard and optional equipment). Procedures for determining the weight and centre of gravity position are explained by an example calculation.

6.2 WEIGHT AND BALANCE RECORD

Weight and balance record providing information for calculating centre of gravity position is given in the Maintenance Manual of the L 23 SUPER - BLANIK Sailplane, chapter 8.

6.3 BASIC EMPTY WEIGHT AND MOMENT

Basic empty weight 310 kg \pm 2%
(with the installed wing tip extensions) 315 kg \pm 2%

Moment to the reference plane 206.5 kgm

(see weight and balance record).

The reference datum is located 2.3765 m aft of the sailplane nose.

6.4 BALANCE CHART (FIG. 6-1)

1. Balance chart description

The varying load scales are in the upper part of the page. The separate scales are plotted in the middle part of the page. The chart of the centre-of-gravity position vs. sailplane weight is given in the bottom part of the page. The region of the allowable centre of gravity range is the slanted shape in the chart and it refers to all flight conditions.

(Cont.)

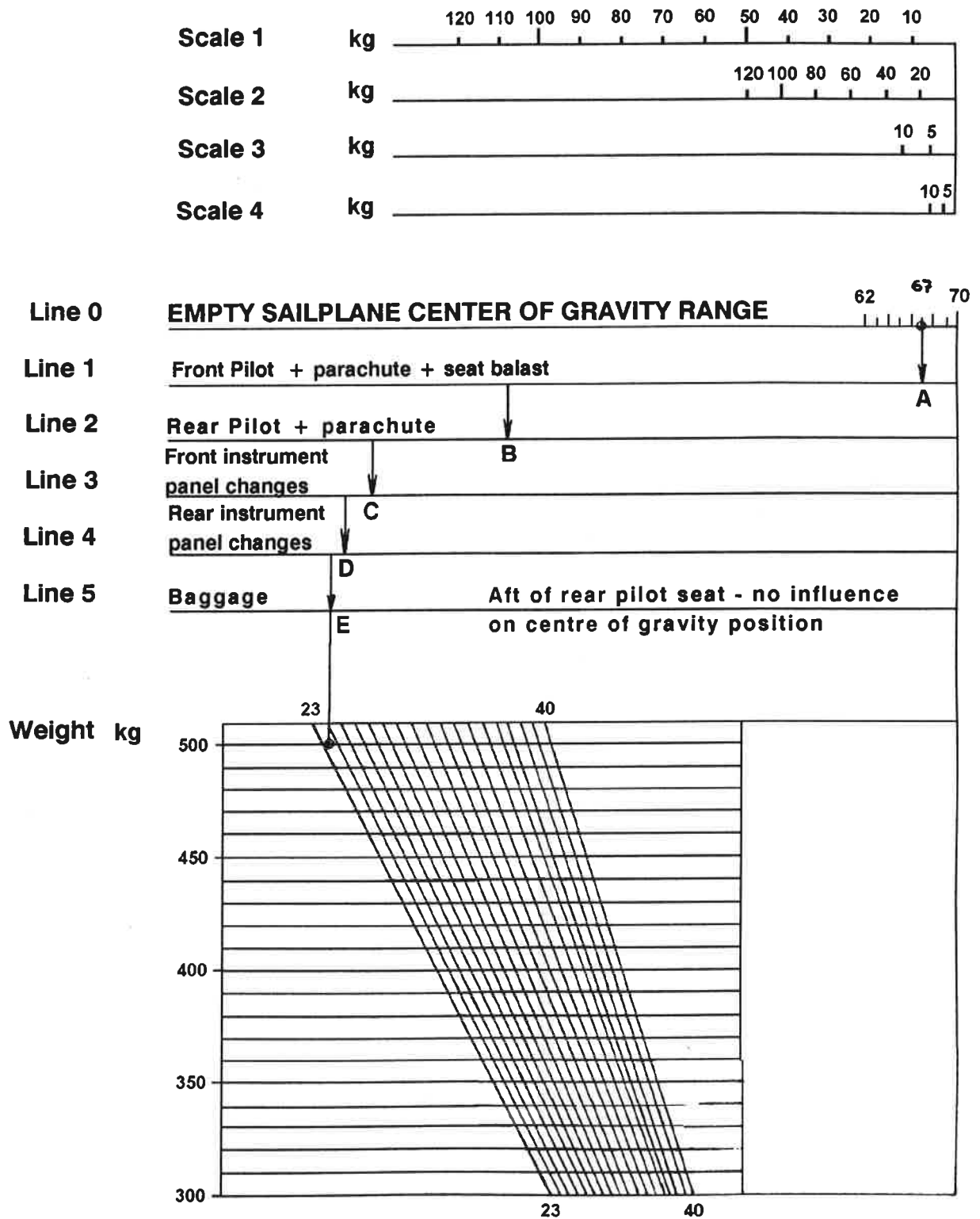


FIG. 6 - 1



6.5 BALANCE RECORD

No.	Empty weight kg	c/g pos. % MAC	Permitted crew + passenger weight (kg) with :												Approved	
			Max. baggage (10 kg)				Half baggage (5 kg)				No baggage (0 kg)					
			Front seat		Rear seat		Front seat		Rear seat		Front seat		Rear seat		Date	Signed
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1.																
2.																
3.																

1. Single seat

2. Tandem seater-max front pilot

3. Tandem seater-max rear pilot

**6.6 EQUIPMENT LIST**

Standard (S) items must be installed for all operations. Optional (O) items are available for installation. Installed items for each sailplane equipment list will be marked with an "X" and included in the Empty Weight/c.g. pos of the Balance Record.

	S	O	Subject	Type	Mass lb (kg)	Arm from the reference plane (rib No. 1) mm	Date of installation
1	X		Altimeter	LUN 1124.01 front instr.panel rear instr.panel	1.88 (0.85)	-1773.5 -553.5	
2	X		Airspeed indicator	LUN 1106.22-8 front instr.panel rear instr.panel	0.88 (0.40)	-1775.5 -555.5	
3	X		Electric turn-and-bank/side indicator	LUN 1211.1 front instr.panel rear instr.panel	0.79 (0.36)	-1775.5 -555.5	
4	X		Vertical speed indicator ± 5 m/s	LUN 1141 front instr.panel rear instr.panel	1.06 (0.48)	-1788.5 -568.5	
5	X		Vertical speed indicator ± 30 m/s	LUN 1147.10-8 front instr.panel	1.1 (0.55)	-1768.5	
6	X		Magnetic compass	LUN 1221.1-8 front instr.panel rear instr.panel	0.23 (0.105)	-1766.5 -546.5	

(Cont.)



	S	O	Subject	Type	Mass lb (kg)	Arm from the reference plane (rib No. 1) mm	Date of instalation
7		X	Accelerometer	AM-10 front instr. panel	0.25 (0.55)	-1680	
8		X	Vertical speed indicator ± 30 m/s	LUN 1147.12-8 rear instr.panel	1.1 (0.50)	-548.5	
9		X	Radio station				

Optional (O) Item 7 as applicable is required for pilot's station for cloud flying operations.

	S	O	Subject	Type	Mass lb (kg)	Arm from the reference plane (rib No. 1) mm	Date of instalation
10							
11							
12							
13							
14							
15							
16							
17							
18							