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SAILPLANE FLIGHT MANUAL

Serial Nos.eligible : 930101, and subsequent

Model : L 23 SUPER - BLANIK

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Signature :

Authority : CAI, Prague

Stamp :

Original date of approval : January 20, 1994

This Sailplane Flight Manual must be carried in the sailplane at all times.

This sailplane is to be operated in compliance with information and limitations contained herein.

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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	0-1, 0-3, 2-4, 2-9, 2-10, 6-6, 6-7, 6-8, 6-9	Feb 15/95	L23/021a	Feb 28/95	
2.	0, 7	0-1, 0-3, 7-1, 7-4, 7-5	Dec 20/95	L23/026a	Jan 26/96	
3.	0, 6, 7	0-1, 0-3, 6-8, 7-4	Sep 20/96	L23/029a	Sep 23/96	
4.	0, 1, 2, 3, 4, 7	0-1, 0-3, 1-1, 1-3, 1-4, 1-5, 2-3, 2-9, 3-1, 3-2, 3-3, 3-4, 3-5, 4-5, 4-7, 7-4, 7-5	Mar 14/97	L23/032a	Mar 28/97	

Rev. No.	Affected Section	Affected pages	Date	Bulletin No.	Date of Bulletin approval	Date inserted and signature

0.2. LIST OF EFFECTIVE PAGES

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	3	Mar 14/97		Appr. 21	Dec 6/93
	4	Dec 6/93		Appr. 22	Dec 6/93
				Appr. 23	Dec 6/93
				Appr. 24	Dec 6/93
				Appr. 25	Dec 6/93
				Appr. 26	Dec 6/93
				Appr. 27	Dec 6/93
1	1	Mar 14/97	5	Appr. 1	Dec 6/93
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SECTION 1

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1.1 INTRODUCTION

The Sailplane Flight Manual has been prepared to provide pilots with information for the safe and efficient operation of the L 23 SUPER-BLANIK sailplane. This manual includes the material required to be furnished to the pilot by JAR - 22. It also contains supplemental data supplied by the sailplane manufacturer.

1.2 CERTIFICATION BASIS

The Sailplane Flight Manual has been approved by the Civil Aviation Inspectorate of the Czech Republic in accordance with JAR-22, Change 4 issued April 1, 1980 including Amendment 22/86/1 Eff. Oct. 22, 1986 and FAA AC 21.17-2.

1.3 WARNINGS, CAUTIONS AND NOTES

The following definitions apply to warnings, cautions and notes used in the Flight Manual.

WARNING:

MEANS THAT THE NON-OBSERVATION OF THE CORRESPONDING PROCEDURE LEADS TO AN IMMEDIATE OR IMPORTANT DEGRADATION OF THE FLIGHT SAFETY

CAUTION:

MEANS THAT THE NON-OBSERVATION OF THE CORRESPONDING PROCEDURE LEADS TO A MINOR OR TO A MORE OR LESS LONG TERM DEGRADATION OF THE FLIGHT SAFETY.

NOTE:

Draws the attention on any-special item not directly related to safety but which is important or unusual.

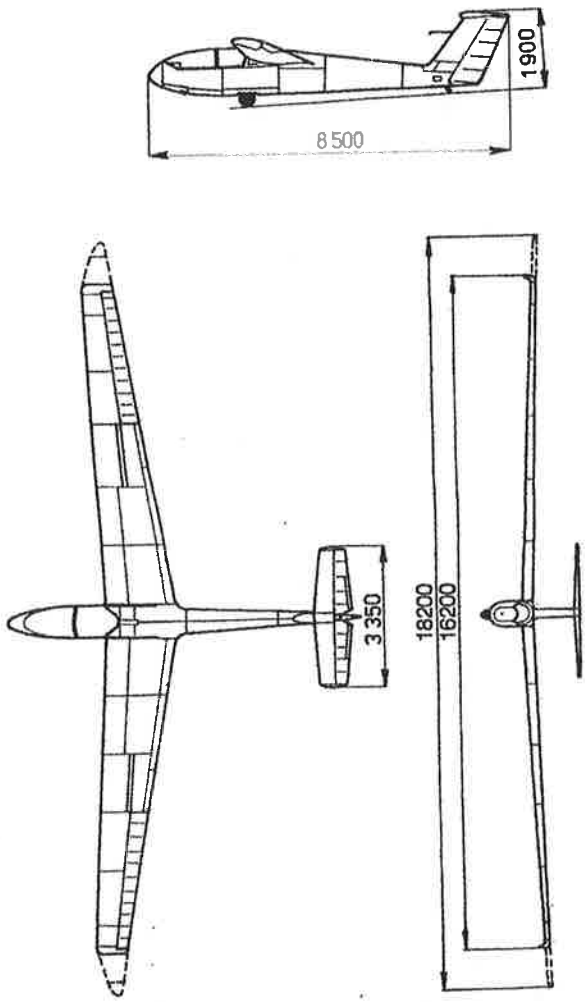
DESCRIPTIVE DATA

The L 23 SUPER - BLANIK sailplane is a cantilever, high-wing, two-seat glider of all-metal structure. It is possible to use wing tip extensions.

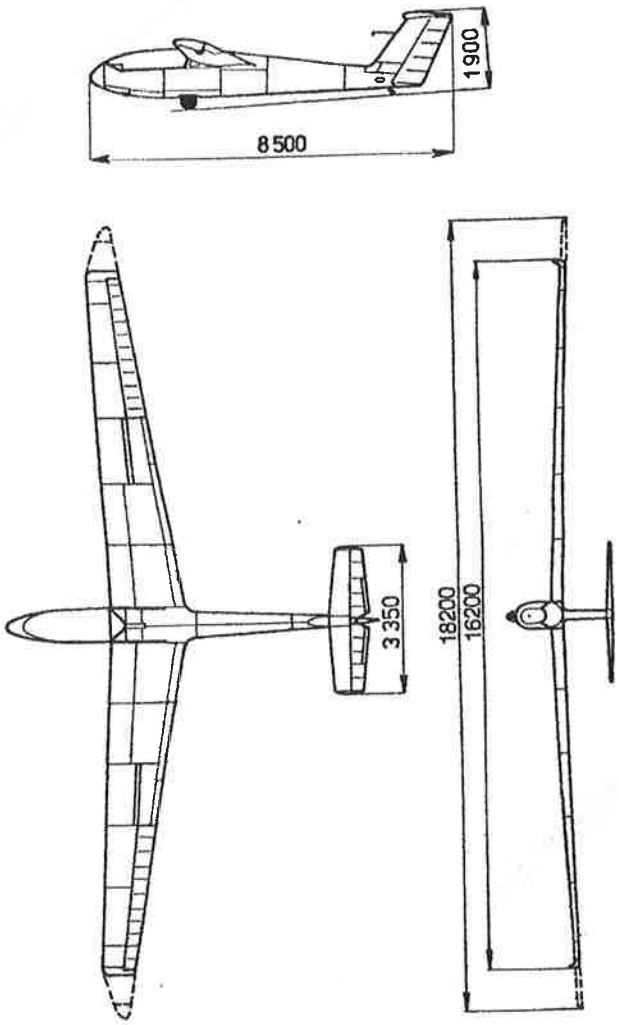
Basic dimensions

Wing span	16.2 m (53.15 ft)
(with the installed wing tip extensions)	18.2 m (59.71 ft)
Note: If the wing tip with supporting wheel is installed wing span is	16.26 m(53.35 ft)
Length	8.5 m (27.89 ft)
Height	1.9 m (6.23 ft)
Wing area	19.15 sq.m (206.13 sq ft)
(with the installed wing tip extensions)	20.00sq.m (215.27 sq ft)
Aspect ratio	13.7
(with the installed wing tip extensions)	16.6
Mean aerodynamic chord	1.253 m (4.11 ft)

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



SECTION 2

Limitations

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2.5 Centre of gravity

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2.9 Kinds of operation

2.10 Aerotow and winch-launching

2.11 Other limitations

2.12 Limitation placards

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 includes in this section have been approved by Civil Aviation Inspectorate of the Czech Republic.

2.2 AIRSPEED

Speed		km/h (KIAS)	Remarks
V_{NE}	Never exceed speed up to a pressure altitude of 4200 m (13 780 ft) -with wing tip extensions	250 (135) 230 (124)	Do not exceed this speed in any operation and do not use more than 1/3 of control deflection
V_{RA}	Rough air speed -with wing tip extensions	160 (86) 150 (81)	Do not exceed this speed except in smooth air, and then only with caution. Examples of rough air are lee-wave rotor thunderclouds etc.
V_A	Manoeuvring speed	150 (81)	Do not make full or abrupt control movement above this speed, because under certain conditions the sailplane may be overstressed by full control movement
V_W	Maximum winch-launching speed	120 (65)	Do not exceed this speed during winch-launching
V_T	Maximum aerotowing speed	150 (81)	Do not exceed this speed during aerotowing
V_{LO}	Maximum landing gear operating speed -with wing tip extensions	250 (135) 230 (124)	Do not extend or retract the landing gear above this speed

(Cont.)

Note:

V_{NE} airspeed limits above 4 200 m (13 780 ft) Pressure Altitude are reduced as follows:

Pressure Altitude m	5000	6000	7000	8000	9000	10 000
V_{NE} km/h - without extensions	243	230	221	211	202	191
- with extensions	223	210	201	191	182	171

Pressure Altitude ft	13 780	20 000	25 000	30 000	35 000
V_{NE}KIAS - without extensions	135	124	116	108	100
- with extensions	124	114	105	97	89

2.3 AIRSPEED INDICATOR MARKINGS

Marking	km/h (KIAS) (value - range)	Significance
Green arc	66 - 160 (36 - 86)	Normal Operating Range. (Lower limit is maximum weight 1.1 v_{SI} at most forward c.g. Upper limit is rough air speed)
Yellow arc	160 - 250 (86 - 135)	Manoeuvres must be conducted with caution and only in smooth air.
Red line	250 (135)	Maximum speed for all operations
Yellow triangle	75 (41)	Approach speed at maximum weight.
	90* (49*)	

NOTE :

yellow triangle 90(49*) valid from ser. No. 97 8402*

2.4 WEIGHT LIMITS

Maximum take - off and landing weight:

- with two occupants . . . . . 510 kg (1124 lb)

- with one pilot . . . . . 420 kg (925 lb)

Empty weight
with standard equipment . . . . . 310 kg ± 2 % (683 lb ± 2 %)
with wing tip extensions 315 kg ± 2 % (695 lb ± 2%)

Maximum weight of all non lifting parts 353 kg (778 lb)
with wing tip extensions 348 kg (767 lb)

and the corresponding centre
of gravity position . . . . . 67.30 ± 1% MAC
with wing tip extensions 68.30 ± 1% MAC

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.

Pilot's weight (including parachute):

- minimum pilot's weight (solo) . . . . . 55 kg (121 lb)

It is necessary to use front seat removable ballast of 15 kg (33 lb) when flown solo by a pilot (including parachute) weighing less than 70 kg (154 lb) lb in the front cockpit.

NOTE:

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

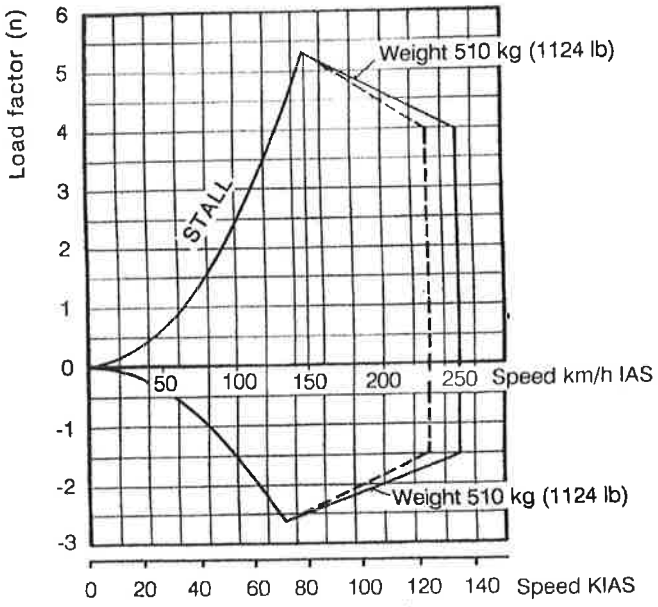
- maximum pilot's weight (solo) . . . . . 110 kg (242 lb)

Maximum useful load (occupants,
baggage, optional equipment) . . . . . 200 kg (440 lb)
with wing tip extensions . . . . . 195 kg (430 lb)

Maximum baggage compartment load . . . 10 kg (22 lb)

2.7. MANOEUVRING LOAD FACTORS

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



2.8 FLIGHT CREW

Maximum number of occupants is two. If the sailplane is to be flown solc the pilot must be sitting in the front seat and his weight (includin parachute) must be 70 kg (154 lb) at least. If the pilot's weight is less tha 70 kg (154 lb), it is necessary to use the cushion with 15 kg (33 lb) ballast

WARNING:

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

2.5 CENTRE OF GRAVITY

Centre of gravity range

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

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

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

The reference datum is located 2.37 m (93.6 in) 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				Procedures
	SOLO	DUAL	ENTRY	RECOVERY	
Loop	160	180	X		Section 4.3.6 item 1.
Stall turn	170	180	X		Section 4.3.6 item 2.
Lazy Eight	180	180	X		Section 4.3.6 item 3.
Spin	60 150	60 150	X	X	Section 4.3.6 item 4.
Chandelle(climbing)	180	180	X		Section 4.3.6 item 5.
Steep turn	170	180	X		Section 4.3.6 item 6.
Half loop and half roll	180	No	X		Section 4.3.6 item 7.
Half roll and half loop	130	No	X		Section 4.3.6 item 8.
Inverted flight	130	No	X		Section 4.3.6 item 9.
Slow roll	150	No	X		Section 4.3.6 item 10.

2.10 AEROTOW AND WINCH LAUNCHING

Aerotow

- the maximum cable strength or cable safety device (weak link) strength is 6500 N (1460 lb).
- the minimum cable length for aerotowing is 15 m (50 ft), recommended length is 30 - 40 m (100-130 ft.)

Winch-launching

- the maximum cable strength or cable safety device (weak link) is 6500 N (1460 lb.)

2.11 OTHER LIMITATIONS

A. Maximum crosswind component

- maximum demonstrated crosswind component for safe approach landing and aerotow launching is 8 m/s (16 kt) for angle 90^0.

Maximum demonstrated crosswind component for winch-launching:

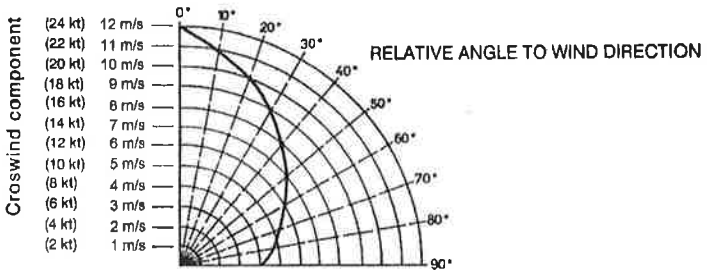


FIG. 2 - 2

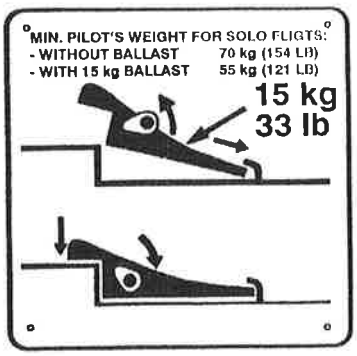
B. Maximum demonstrated operating altitude - 4 200 m (13 780 ft)

C. Maximum Tire Pressure 255 kpa (37 psi).

2.12 LIMITATIONS PLACARDS

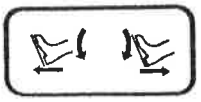
The following operating limitations are emphasized on the limitation placards in both cockpits:

a) front cockpit



SEAT BACK

PEDAL ADJUSTMENT



AIR VENT

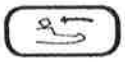
FRONT LIFT OFF
para 3.2.1
To ser. No. xx 8320

On customer's request:

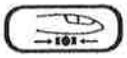
CENTRE OF GRAVITY RANGE
FRONT LIMIT . 23 % MAC
REAR LIMIT . . 40 % MAC

b) both front and rear cockpits

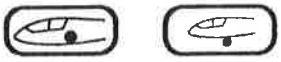
AIR BRAKES



JETTISON/LIFT OFF
(REAR SEAT ONLY)
see para 3.2.1
To ser. No. xx 8320

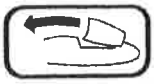


WHEEL BRAKE



LANDING GEAR

FRONT CANOPY JETTISON
see para 3.2.1
To ser. No. xx 8320



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	5 000	6 000	7 000	8 000	9 000	10 000
WITHOUT EXTENSIONS	243	230	221	211	202	191
WITH EXTENSIONS	223	210	201	191	182	171

On customer's request:

MAX. ALLOWABLE SPEED (KIAS) VS ALTITUDE					
PRESSURE ALTITUDE (ft) UP TO	13 780	20 000	25 000	30 000	35 000
WITHOUT EXTENSIONS	135	124	116	108	100
WITH EXTENSIONS	124	114	105	97	89

See para 2.2

MAX. WINCH - LAUNCHING SPEED	120 km/h (65 KIAS)
MAX. AERO - TOWING SPEED	150 km/h (81 KIAS)
MAX. MANOEUVRING SPEED	150 km/h (81 KIAS)

See para 2.2

If installed wing tip extensions:

ALL AEROBATIC MANOEUVRES
ARE PROHIBITED WITH
INSTALLED WING TIP EXTENSIONS

If installed wing tip extensions:

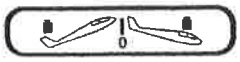
MAXIMUM AIRSPEED WITH
WING TIP EXTENSIONS
V_{NE} 230 km/h (124 KIAS)

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 (1124 lb)
EMPTY WEIGHT (STANDARD)	310 kg (683 lb)
APPROVED MANOEUVRES:	
LOOP	CHANDELLE (CLIMBING)
STALL TURN	HALF LOOP AND HALF ROLL
LAZY EIGHT	HALF ROLL AND HALF LOOP
SPIN	INVERTED FLIGHT
STEEP TURN	SLOW ROLL

SOLO FLIGHT FROM FRONT SEAT ONLY



TRIMMER

RELEASE

SECTION 3

Emergency procedures

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3.1 Introduction

3.2.1 Canopy jettison - valid to ser. No. xx 8320

3.2.2 Canopy jettison - valid from ser. No. 96 8401

3.3 Bailing Out

3.4 Stall recovery

3.5 Spin recovery

3.6 Spiral Dive Recovery

3.1 INTRODUCTION

Section 3 provides check-lists and amplified procedures for handling emergency situatins.

3.2.1 CANOPY JETTISON (SEE FIG. 3 - 1) - valid to ser. No. xx 8320

WARNING: THE FRONT CANOPY MUST BE JETTISONED FIRST.

Front pilot	
Red Canopy Jettison Lever (FIG. 3-1, pos. 1)	ROTATE fully anticlockwise and HOLD.
Canopy	FORCE UPWARDS.
Rear pilot	
Front canopy jettisoned	ROTATE canopy jettison levers (FIG. 3-1, pos. 2) in the direction of arrows. LIFT rear canopy UP.
Front canopy not jettisoned	RELEASE safety belts
Red Front Canopy Jettison Lever	ROTATE fully counterclockwise and HOLD. FORCE Front Canopy UPWARDS. ROTATE Rear Canopy Jettison Levers in the Direction of Arrows. LIFT rear canopy UP.

3.2.2 CANOPY JETTISON (SEE FIG. 3 - 2) - valid from ser. No. 96 8401

Front or rear pilot	
Red Canopy Jettison Lever	ROTATE fully counterclockwise and HOLD.
Canopy	FORCE UPWARDS.

3.3 BAILING OUT

Safety Belts	RELEASE and REMOVE from lap and shoulders

(Cont.)

Hand Holds	GRASP. STOOP legs below you BAIL OUT over the side cockpit rail.

3.4 STALL RECOVER

Low Speed Stall (One g)	PUSH control stick slightly. CHECK airspeed within normal operation range.
Stall at Speed (Accelerated)	PUSH control stick to reach subcritical angle of attack. ELIMINATE bank by rudder.

3.5 SPIN RECOVERY

Rudder	APPLY full deflection opposite to sense of rotation RETURN to neutral when rotation stopped.
Control Stick	PUSH forward slightly simultaneously as rudder is neutralized after rotation has stopped.

3.6 Spiral Dive Recovery

Rudder and ailerons	USE to establish at nose - low wings level condition
Control stick	INCREASE gently back pressure to raise the nose to a level flight attitude. Use caution not to obtain excessive accelerations (g) with back pressure during the pull - up.

CANOPY JETTISON DURING FLIGHT - valid to ser. No. xx 8320

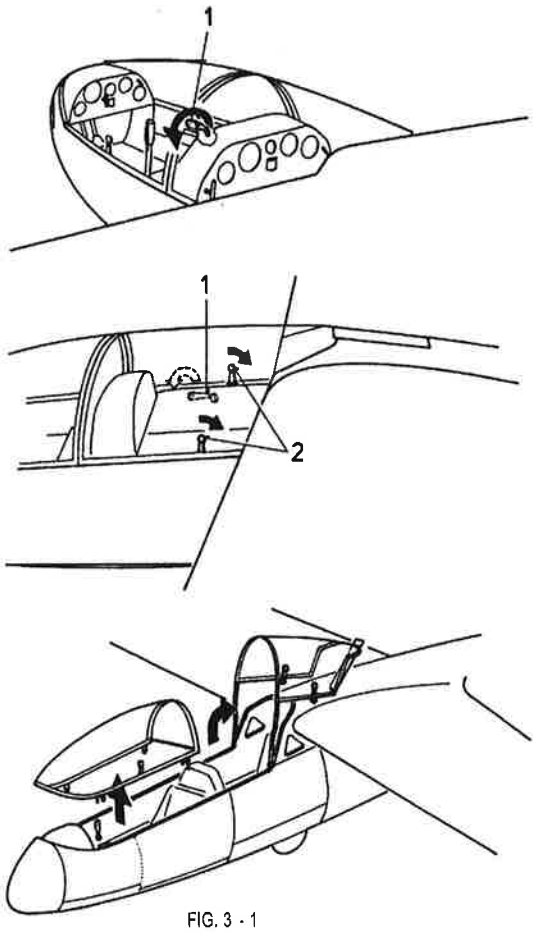

FIG. 3 - 1

CANOPY JETTISON DURING FLIGHT - valid from ser. No. 96 8401

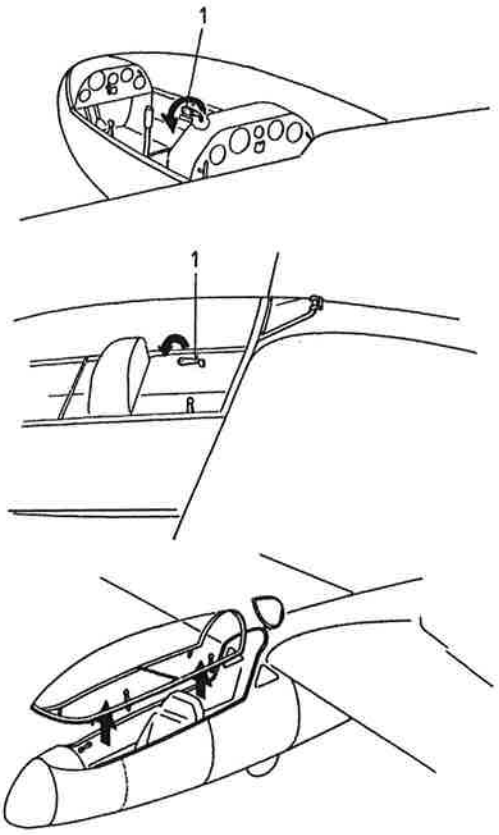

FIG. 3 - 2

SECTION 4

Normal procedures

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4.2 Rigging and de-rigging
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4.4 Normal operations and recommended speeds
4.4.1 Take-off and climb
4.4.2 Flight
4.4.3 Approach
4.4.4 Landing
4.4.5 Use of air brakes
4.4.6 Basic aerobatics

4.1 INTRODUCTION

Section 4 provides checklists and information on recommended procedures for normal operation.

4.2 RIGGING AND DE-RIGGING

A. Wing removal

Four people are needed for the wing removal. The first holds the fuselage, the second holds the wing tip, the third and the fourth hold the wing root (see Fig. 8-1). Level the sailplane to the horizontal position.
Take off the fairings between the fuselage and the wing. Uncouple the aileron control tie rods by unlocking safety pins and removing pins on rocker levers, pivoted in consoles on the ribs No.1 (from the fuselage side). Remove lock pins out of both front hinge pins and wing main pins and knock out the front pin. Remove eletrical ground strap.
Move the wing gently up and down when installing or removing the pins. Pull the wing from the fuselage by slow careful movement and sit the wing vertically with the leading edge down on the special handling equipment.

B Wing installation

The process of wing installation is the opposite. For easier installation of the centre hinge pins use the centering pin (or installation drift pin)before inserting the main pins (see Fig. 8-1, Detail A). When slipping wing hinges on fuselage hinges make sure that the globular joint of the air brakes control (see Fig. 8-1, Detail B) will be positioned to fit into the control drivers in the wing.
When assembling first slide in the wing main hinge pin and then the wing front hinge pin.

C Removal and installation of the wing tip extensions

Remove 12 bolts at the last wing rib fixing the wing tip and remove the wing tip and/or wing tip extension.
Perform the installation in the reverse oder. Insert the extension and/or by its guiding into the guiding tube at the last wing rib,adjust it in the proper position and fix with original bolts (10 pieces of M4 sunk bolt and 2 pieces of M5 fitted bolt with cylinder head) at both the wing ends.Tight fully all the screws and bolts.

(Cont.)

D. Horizontal stabilizer installation

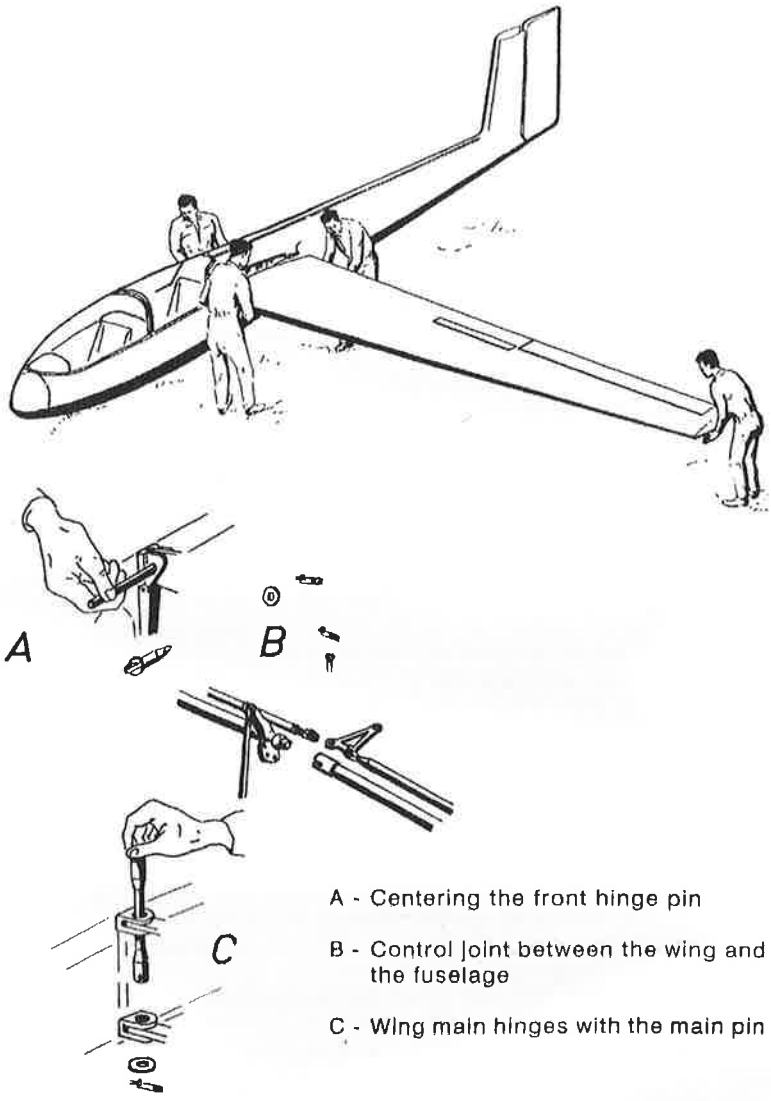
The process of horizontal stabilizer installation is the opposite. It is recommended that the horizontal stabilizer and the automatic connection rocker levers of the elevator trim tab control on the vertical stabilizer, and on the horizontal stabilizer, are approximatelly parallel.

E. Horizontal stabilizer removal

Remove the safety wire from the front pin of the horizontal stabilizers (in front of the leading edge of the vertical stabilizer on its top). Rotate the pin handle 180° and pull out the pin. Elevate the horizontal stabilizer leading edge about 30° up, slip out the horizontal stabilizers from pins by pulling forward. It is recommended that the elevator to be in the neutral position during removal. Put the horizontal stabilizers on the special handling equipment support.

4.3 PREFLIGHT INSPECTION

The pilot must check the sailplane for proper condition in accordance with the checklist walkaround inspection (before getting into the sailplane). It is recommended to perform the inspection as show in Fig.4-1.



A - Centering the front hinge pin

B - Control joint between the wing and the fuselage

C - Wing main hinges with the main pin

4.3.1 WALKAROUND INSPECTION CHECKLIST

Item No.	Subject	Check/activity
1	Front fuselage section	
	Fuselage skin	no damage
	Cockpit canopy surface	no damage or dirt
	Nose pitot tube	no damage or clogging
2	Cockpit	
	Instruments	no damage
	Altimeters	correct setting QFE (QNH)
	Radio station (if installed)	proper operation
	Safety harnesses	no damage
3	Landing gear	
	Tire	no damage, correct inflation
4	Left wing	
	Wing skin including leading edge	no damage
	Wing-tip fairing (wing tip extension)	no damage or loose
	Aileron skin	no damage to fabric cover trailing edge
	Ailerons	free movement
	Airbrake locking hinges	locking no damage of hinges control tie rods

(Cont.)

Sequence of the walkaround inspection

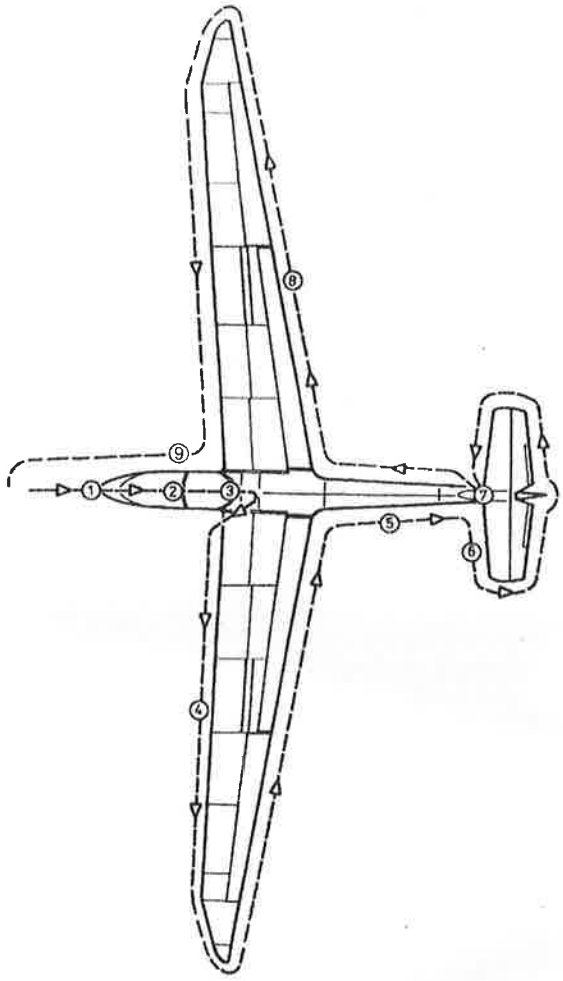


FIG. 4 - 1

(Cont.)

Item No.	Subject	Check/ activity
5	Rear fuselage section	
	Fuselage skin	no damage
6	Empennage	
	Vertical stabilizer	no damage
	Elevator	free movement
	Horizontal stabilizers	condition of locking wire on the front pin of the horizontal stabilizer (in front of the leading edge of the top part of the vertical stabilizer)
	Rudder	free movement
7	Tail landing gear	
	Landing gear attachment	no damage of attachment
8	Right wing	see Item 4 - left wing
9	Front fuselage section	
	Pins for canopy opening	proper position against hinges

4.3.2 BEFORE TAKE-OFF CHECKLIST

Front seat

Before entering the front cockpit, adjust the front seat back-rest to a position allowing control of the sailplane when fully strapped in.

Rudder control

The position of the rudder pedals should be adjusted with the pilot fully strapped in so that both left and right pedals can be moved comfortably to the full extent of their travel. The position of the rudder pedals in the front cockpit can be adjusted by means of the crank. In the rear cockpit, adjustment to one of three possible positions may be obtained by removing the locking pin.

NOTE:

This can be done only before the flight.

Control column

Check for full and free movement of the control column in all directions; move it to the left, to the right,forwards and backwards.

Instruments

Set the altimeters to zero or as desired by the baro-set knob. Check the other instruments and see that vertical speed indicators and airspeed indicators read zero.

Cockpit canopy

Close and lock.

Safety harnesses

Fasten the safety harnesses.

Trim

Set the elevator trim tab to the neutral position marked "0" .

(Cont.)

Air brakes

Check for easy movement of air brake control. Confirm air brakes retracted for take off.

Tow rope release

Check the tow rope release mechanism for proper functioning.

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 1 m (3 ft) 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)

(Cont.)

The winch launching is entirely conventional. Set the elevator trim tab control to the neutral position. The recommended speed for winch lauching is 80 - 100 km/h IAS (43 - 54 KIAS). 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 aminimum safe height of 20 m (66 ft) and the minimum speed of 100 km/h IAS (54 KIAS) is reached. Trim the sailplane for the clim 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 (54 - 70 KIAS).

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 (81 KIAS). 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 (390 - 590 ft/min) can be obtained when the towing aircraft maintains an airspeed at least of 100 km/h IAS (54 KIAS).

4.4.2 FLIGHT

1. Turns and circling

The sailplane is very manoeuvreable 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 loosing 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 maneuvers.

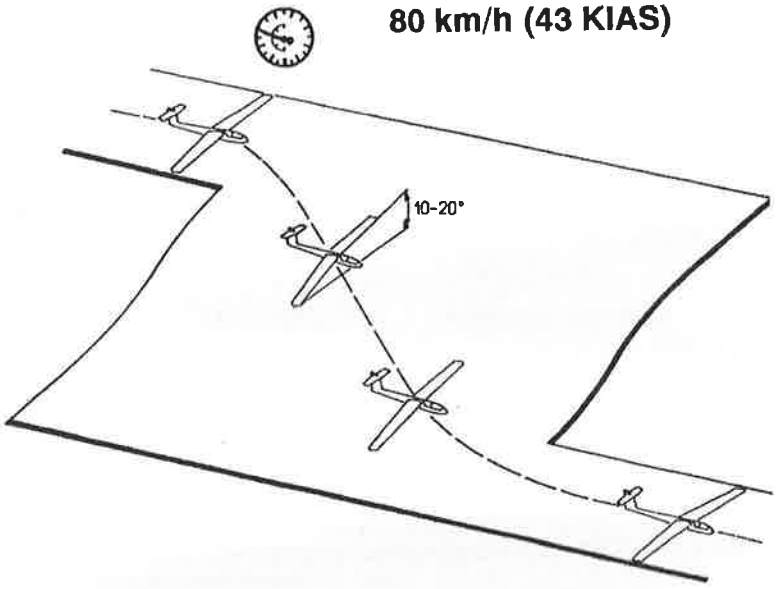


FIG. 4 - 2

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 4,200 m (13, 780 ft) has not been demonstrated by the manufacturer. A sailplane placard provides calculated maximum (V_{NE}) airspeeds above a pressure altitude of 4,200 m (13, 780 ft) 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 (41-46 KIAS)
	extended	80 - 95 km/h IAS (43-51 KIAS)
Steeper	extended	95 - 110 km/h IAS (51-60 KIAS)

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 droping 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.

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 (5 KIAS) higher, because the stall speed with fully opened air brakes is about 5 - 7 km/h IAS (3-4 KIAS) 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.

4.4.6 BASIC AEROBATICS

The L 23 SUPER-BLANIK sailplane is able to perform the listed approved aerobatic manoeuvres. The rate of acceleration of this sailplane is high, so great care must be taken not to exceed limitations given in Sections 2.2, 2.6 and 2.7.
Instruction guidelines for performing approved aerobatic manoeuvres are given on pages 13 to 19 of this Section.

WARNING:

ONLY MANOEUVRES WITH POSITIVE G LOAD FACTORS ARE APPROVED.

(Cont.)

1.Loop

Enter a moderate dive with slight forward movement of the control stick to gain a speed of 160 km/h IAS (86 KIAS) when flying solo or 180 km/h IAS (97 KIAS) 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.

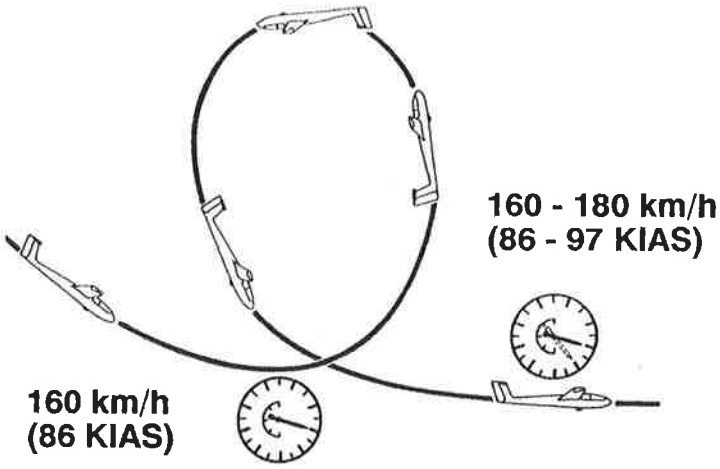


FIG. 4 - 3

(Cont.)

2. Stall turn

This manoeuvre should be begun at the speed of 170 km/h IAS (92 KIAS) when flying solo or 180 km/h IAS (97 KIAS) when flying dual. Pull the control stick gently backward to bring the nose to a position of about 60^{o} to 70^{o} above the horizon. Ease the control stick forward slightly to maintain this attitude. As the speed falls to 130 - 140 km/h IAS (70 - 76 KIAS), 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^{o} 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 allerons, and ease out of the resulting dive, taking care not to apply excessive "g".

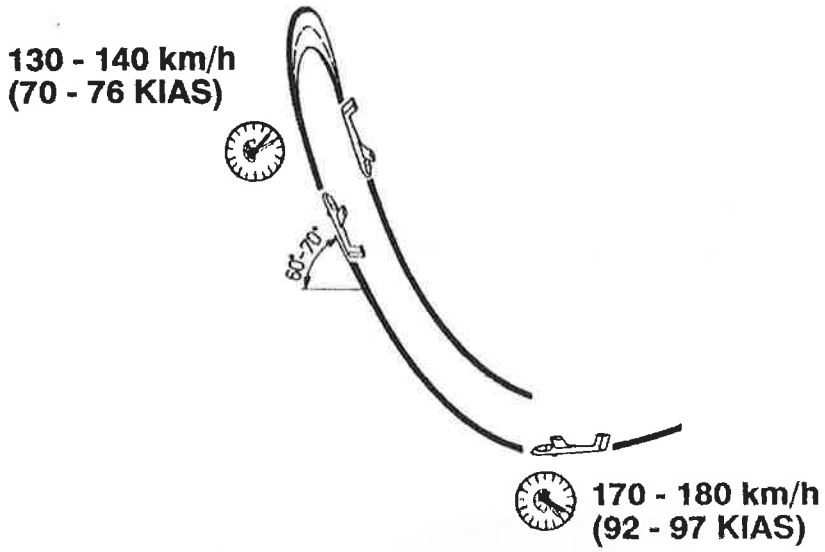


FIG. 4 - 4

(Cont.)

3. Lazy eight

Move the control stick slowly forward to attain the entry speed of 180 km/h IAS (97 KIAS)(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 (54 KIAS) transition the sailplane to a descent and after reaching a speed of 97 KIAS 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.

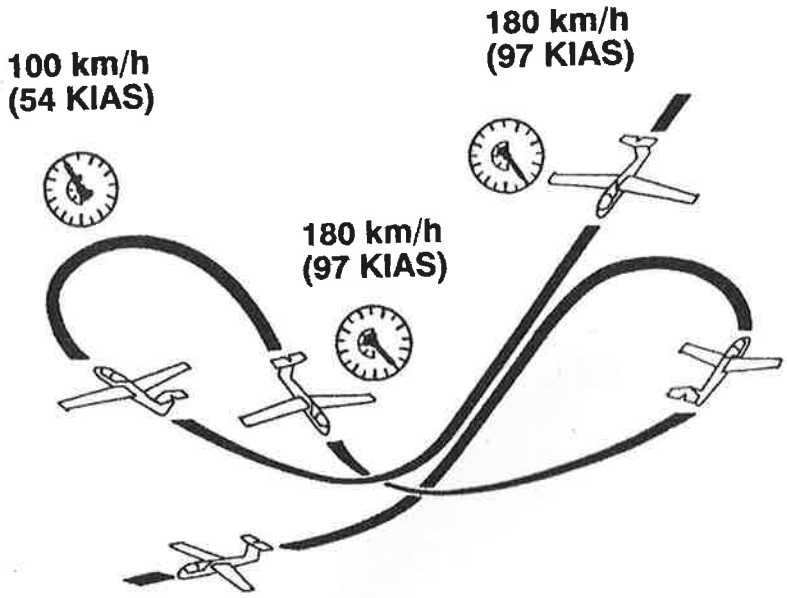


FIG. 4 - 5

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 aproximately 60 km/h IAS 32 KIAS (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^{o} to 70^{o} nose down and the loss of height in one turn is aproximately 80 m (260 ft) when flying solo and 120 m (390 ft) 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 ASYMETRICALLY.

(Cont.)

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.)

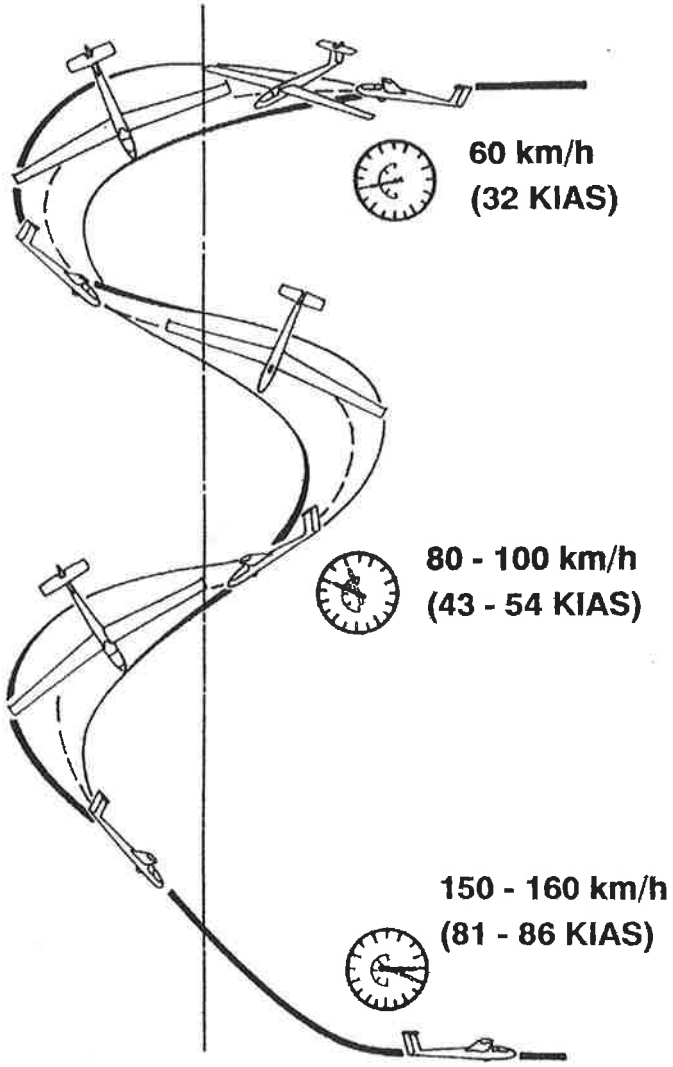


FIG. 4 - 6

5. Chandelle (climbing)

Move the control stick slowly forward to attain the entry speed of 180 - 190 km/h IAS (97 to 103 KIAS solo or dual).
Transition the sailplane to a steep climb at an angle of approximately 45^0 above the horizon (do not increase the angle).
At a speed of 140 km/h IAS (76 KIAS), 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 (43 KIAS).

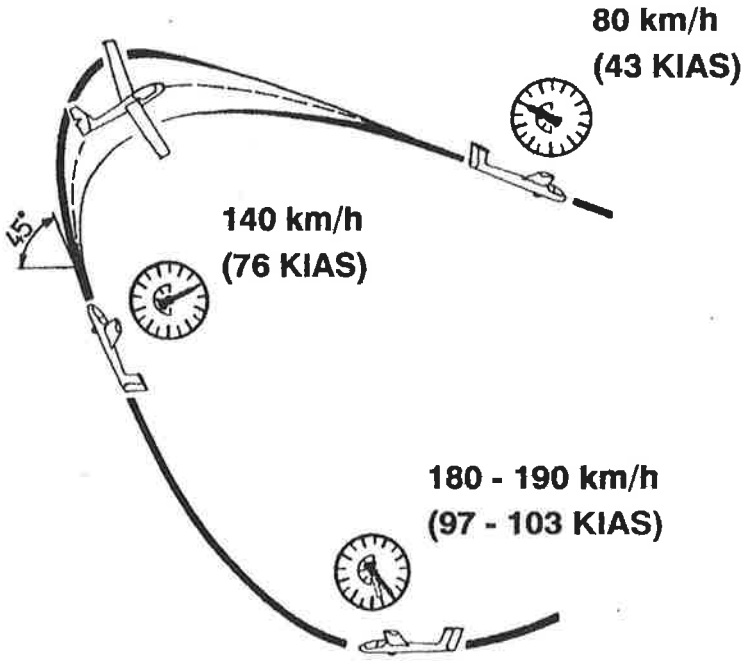


FIG. 4 - 7

(Cont.)

6. Steep turn

To perform this manoeuvre keep the entry speed of 170 km/h IAS (92 KIAS)when flying solo or 180 km/h IAS (97 KIAS) 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 (43 KIAS).

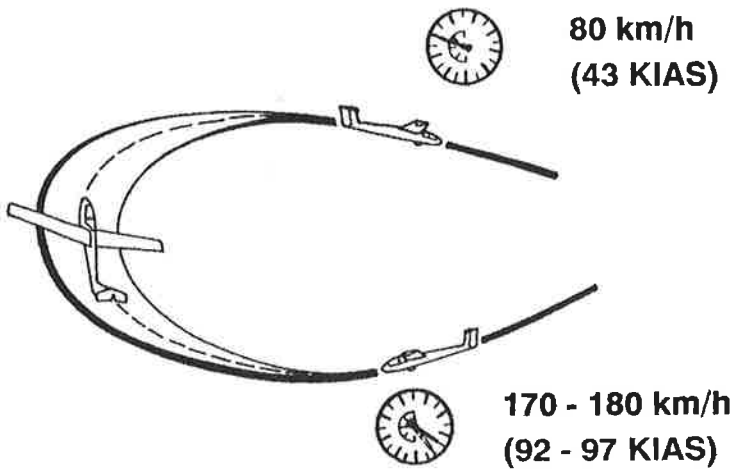


FIG. 4 - 8

(Cont.)

7.Half loop and half roll

Half loop and half roll may be performed at the sailplane solo flight only. Begin this manoeuvre as in the first half of a loop but at the higher initial speed of between 180 - 190 km/h IAS (97 - 103 KIAS). Raising the nose of the sailplane must be more energetical than at the loop. Too violent backward movement of the control stick may cause the unnecessary braking and loosing the speed needed for the manoeuvre. As the inverted position is reached, check the loop by moving the control stick gently forward and then apply full aileron so as to roll the sailplane into the normal position. When the verticaly banked position is reached, a full rudder deflection upwards is necessary to prevent the nose falling below the horizon. Continue rolling, pushing gently stick forward, so that the direction may remain constant.

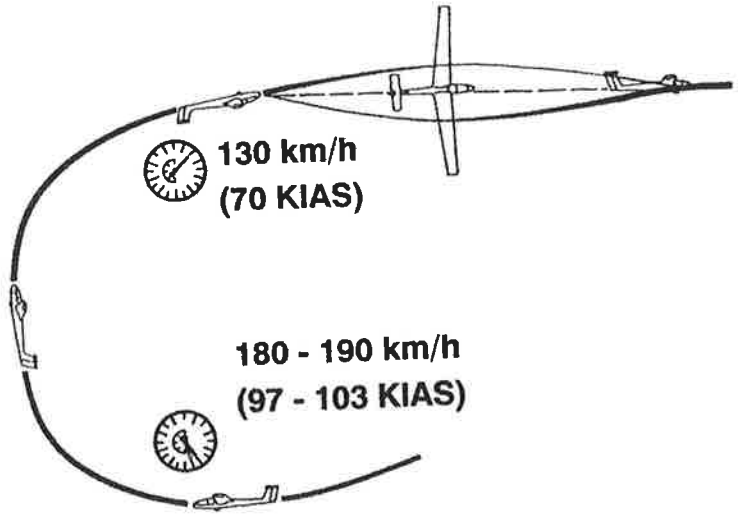


FIG. 4 - 9

(Cont.)

8. Half roll and half loop

Half roll and half loop may be at the sailplane solo flight only. This manoeuvre should be begun at the speed of 130 km/h IAS (70 KIAS). Raise the sailplane nose to a position of about 25° above the horizon and hold it there. Apply full aileron in the required direction of roll. As the angle of bank increases beyond 45° top rudder should be applied progressively (usually up to about 25 - 30 % deflection is sufficient) to keep the nose above the horizon.
As bank increases beyond 90°, the rudder should be centralized gradually and, at the same time, the control stick eased forward so as to maintain the position of the nose above the horizon. When the sailplane is inverted, the ailerons should be centralized and the control stick eased back so as to complete the second half of a loop. It is important to ensure that the initial air speed limitation is strictly observed or the maximum permissible speed may be exceeded during the dive from the inverted position.

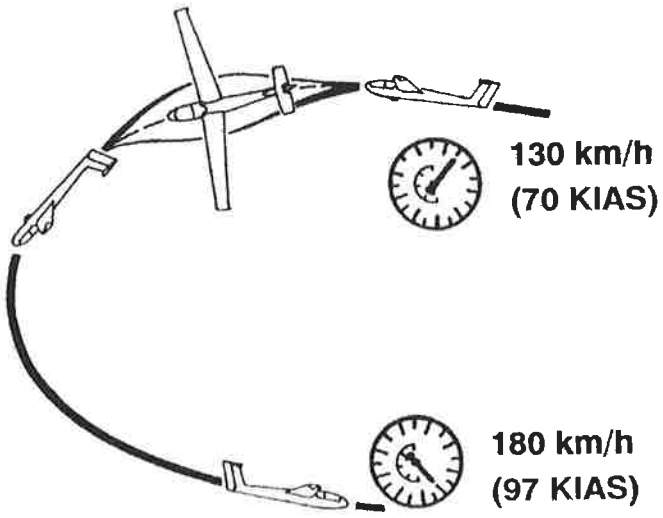


FIG. 4 - 10

(Cont.)

9. Inverted flight

Inverted flight may be performed at the sailplane solo flight only. The manoeuvre should begin at the speed of 130 km/h IAS (70 KIAS) in the same manner as a half roll and half loop, the speed of 130 km/h IAS (70 KIAS)being maintained when inverted. It is recommended that the inexperieced pilot should recover from the inverted position by pushing the control stick forward first until the speed has dropped to 100 km/h IAS (54 KIAS), and then pull back so as to complete the second half of a loop. When recovering by means of a half roll, the speed should be increased first to 140 - 150 km/h IAS (76 - 81 KIAS), and then stick pushed forward until the nose is about 25° above the horizon and kept there. Then full aileron deflection should be applied in the required direction. When banked vertically, it will be necessary to apply full top rudder and, as soon as the sailplane rolls into the level flight position, the tendency to turn should be overridden with the rudder and elevator deflection.

130 km/h
(70 KIAS)

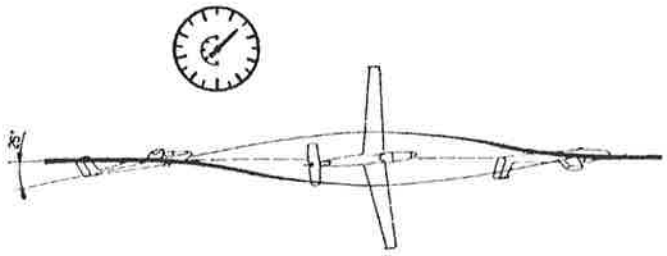


FIG. 4 - 11

(Cont.)

10. Slow roll

The slow roll may be performed at the sailplane solo flight only and, as it is one of the most difficult aerobatic manoeuvres, it should not be attempted until the pilot is fully proficient in the half roll and half loop, half loop and half roll and inverted flight. Choose a point on the horizon to keep straight and, having attained a speed of 150 km/h IAS (81 KIAS), raise the nose to a position about 25° above the horizon and keep it there. Apply the full aileron deflection in the required direction. As the vertical bank position approaches, it will be necessary to apply top rudder deflection (generally not more then 25 % of its full range) so as to prevent the nose down dropping.
As the inverted position is reached, the control stick should be pushed forward to maintain the pitch. Keep the full aileron deflection. Top rudder deflection will be again required as the sailplane rolls once more into the vertical bank position and tendency to turn should be overriddenwith the elevator down deflection. Usually the nose will be about 15° below the horizon when this manoeuvre is completed.

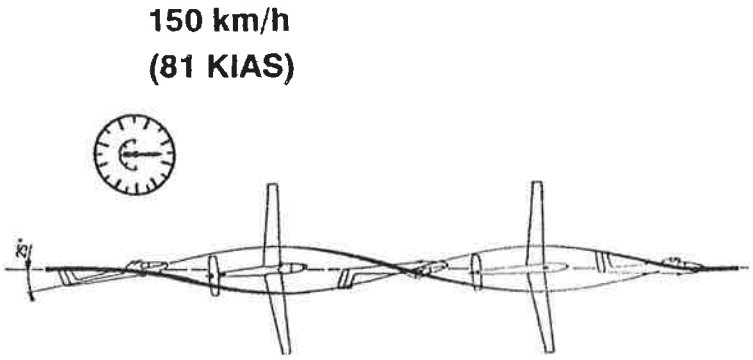


FIG. 4 - 12

SECTION 5

Performance

CONTENTS

5.1 Introduction

5.2 Approved data

5.2.1 Airspeed system calibration

5.2.2 Stall speeds

5.3 Additional information

5.3.1 Flight polar

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).

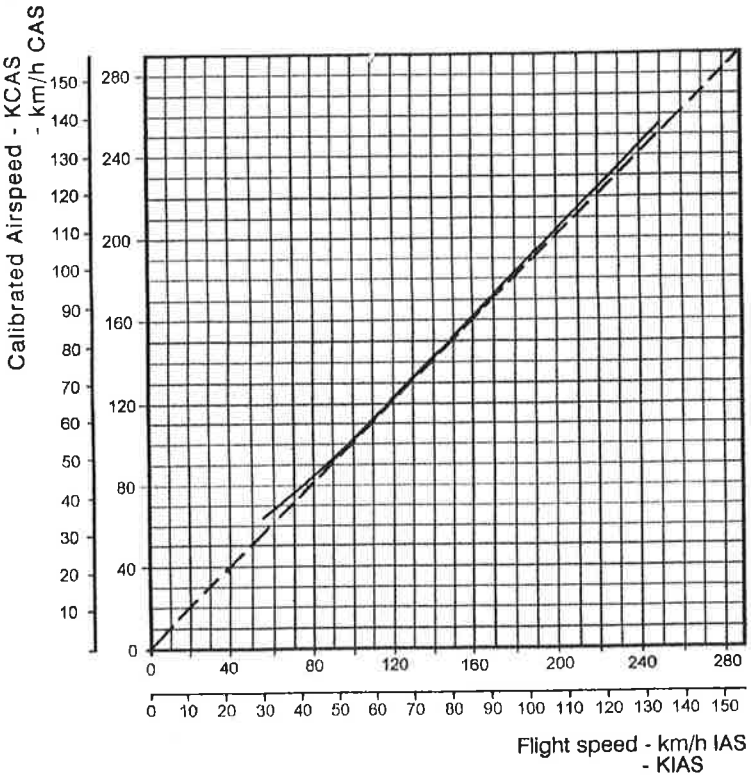


FIG. 5 - 1

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.

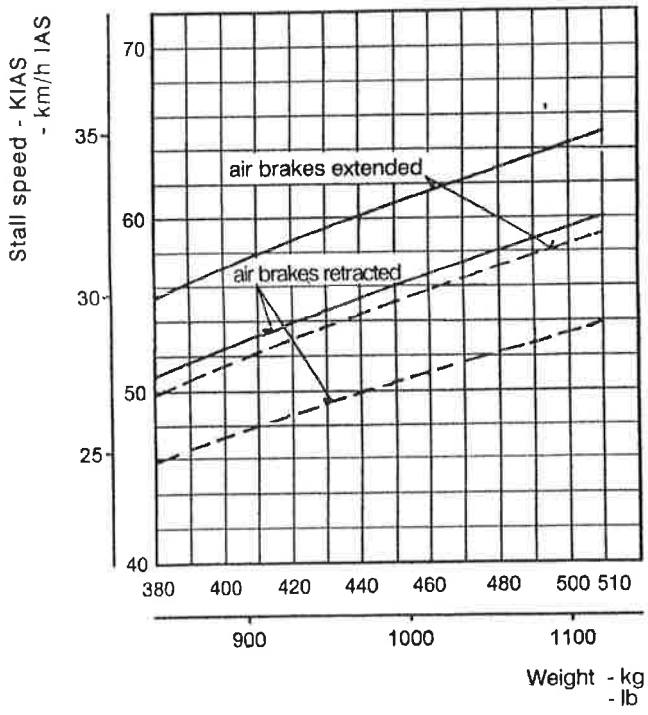


FIG. 5 - 2

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)

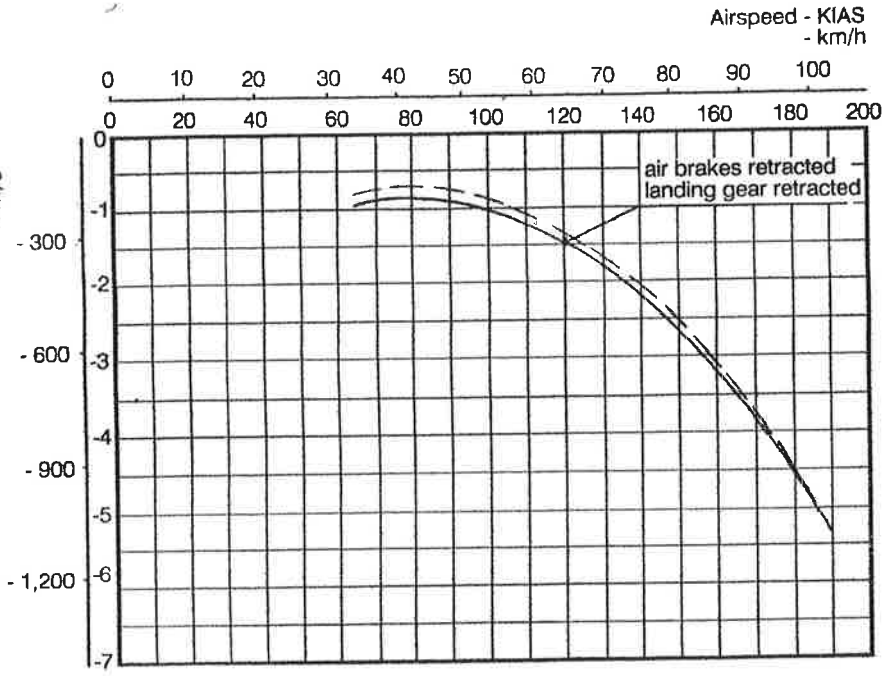


FIG. 5 - 3

SECTION 6

Weight and balance

CONTENTS

6.1 Introduction

6.2 Weight and balance record

6.3 Basic empty weight and moment

6.4 Balance chart

6.5 Balance record

6.6 Equipment list

6.1 INTRODUCTION

Section 6 includes basic empty weigh 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 ± 2 % (683 lb ± 2%)
(with the installed wing tip extensions) . . 315 kg ± 2 % (695 lb ± 2%)

Moment to the reference plane . . . . . 206.5 kg m (17,923.1 in-lb)

(see weight and balance record).

The reference datum is located 2.3765 m (93.6 in) 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.)

2. Directions for the balance chart use

See FIG.6-1 on Page 6-4, Line 0.

. Make a dot on the Empty Sailplane Center of Gravity Range corresponding with the value shown on the Balance Record on page 6 - 5.When the wing tip extensions are used, move the center of gravity of the empty sailplane 1% MAC in aft direction. Draw a vertical down to Line 1. The intersection of the vertical and Line 1 is Point A.

. Next, use Scale 1 at the top of the chart. Measure the distance from 0 on that scale to a number corresponding with the weight of the front pilot + parachute + ballast seat (if used). Transfer this distance from Point A to the left, draw a vertical, and mark the intersection with Line 2 as Point B.

. Next, use Scale 2. Measure the distance from 0 on that scale to a number corresponding with the weight of the rear pilot + parachute. Transfer this distance from Point B to the left, draw a vertical, and mark the intersection with Line 3 as Point C.

. Next, use Scale 3 for any changes in the front instrument panel. Measure the distance from 0 on that scale to a number corresponding with the weight of any instrument added or removed. Transfer this distance from Point C to the left (if an instrument is added), to the right (if removed). Draw a vertical, and mark the intersection with Line 4 as Point D.

. Next, use Scale 4 for any changes in the rear instrument panel in the same fashion as in the previous paragraph. That is how you arrive at point E. Draw a vertical on down to the lower part of the chart.

. Now, use the weight scale on the lower left part of the balance chart. Mark the sum of all weights: Empty sailplane + front pilot + parachute + ballast seat + rear pilot + parachute + instrument changes + baggage.

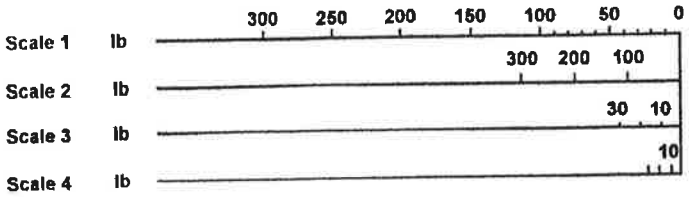
(Cont.)

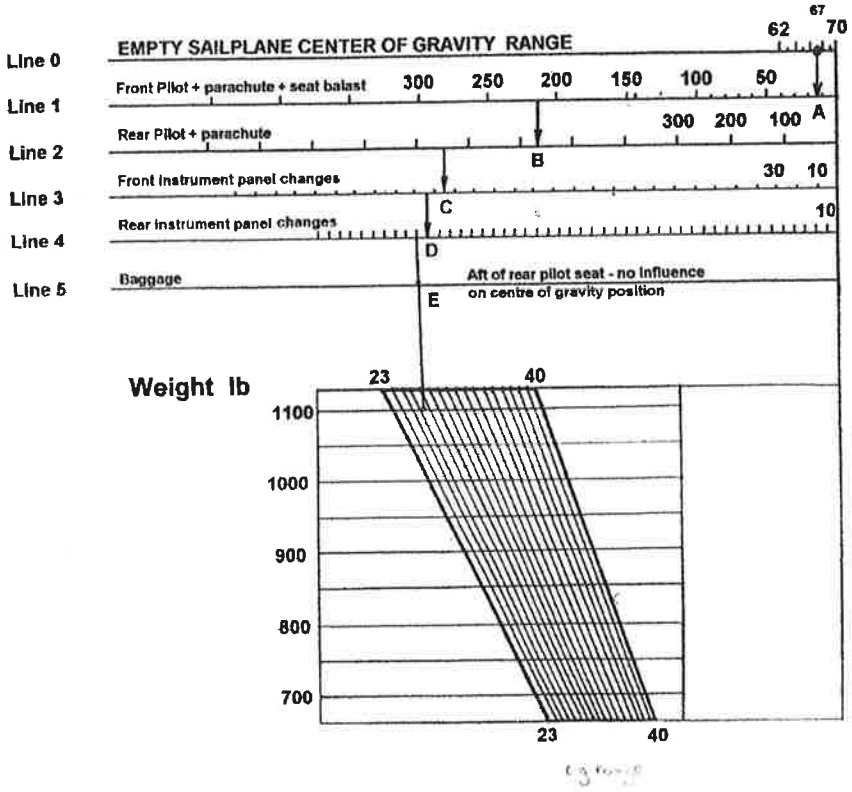
. Draw a horizontal line from the mark to the right. The center of gravity position is at the intersection of this horizontal line with the vertical from Point E.

. If this intersection is inside the slanted shape, the glider is loaded correctly. If the intersection is outside, the glider has to be reloaded.

Note:

The baggage weight is to include any battery, oxygen bottle, water bottle etc.Items in the baggage compartment have no influence on the centre of gravity position,but they must be included to the sum of all the weights.


Scale 1 lb
300 250 200 150 100 50 0
Scale 2 lb
300 200 100
Scale 3 lb
30 10
Scale 4 lb
10


EMPTY SAILPLANE CENTER OF GRAVITY RANGE
67
62 70
Line 0
Line 1
Front Pilot + parachute + seat balast
300 250 200 150 100 50
Line 2
Rear Pilot + parachute
300 200 100
A
B
Line 3
Front instrument panel changes
30 10
Line 4
C
Rear instrument panel changes
10
D
Line 5
Baggage
Aft of rear pilot seat - no influence
on centre of gravity position
E
Weight lb
23
40
1100
1000
900
800
700
23
40

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 kg (lb)	Arm from the reference plane (rib No. 1) mm	Date of installation
1	X		Altimeter	LUN 1124.01 front instr.panel rear instr.panel	0.85 (1.88)	- 1773.5 - 553.5	
2	X		Airspeed indicator	LUN 1106.10-8 front instr.panel rear instr.panel or LUN 1106.12-8 front instr.panel rear instr.panel	0.40 (0.88)	- 1775.5 - 555.5 - 1775.5 - 555.5	
3	X		Electric turn-and-bank/side indicator	LUN 1211.1 front instr.panel rear instr.panel	0.36 (0.79)	- 1775.5 - 555.5	
4	X		Vertical speed indicator ± 1000 ft/min **or** Vertical speed indicator ± 10 knots **or** Vertical speed indicator ± 5 m/s	LUN 1141.02 front instr.panel rear instr.panel LUN 1141.04 front instr.panel rear instr.panel LUN 1141 ront instr.panel rear instr.panel	0.48 (1.06) 0.48 (1.06) 0.48 (1.06)	- 1788.5 - 568.5 - 1788.5 - 568.5 - 1788.5 - 568.5	

(Cont.)

6.5 BALANCE RECORD

No:	Empty weight kg (lb)	c/g pos. % MAC	Permitted crew + passenger weight with (kg) [lb]:												Approved	
			Max. baggage 10 kg (22 lb)				Half baggage 5 kg (11 lb)				No baggage 0 kg (0 lb)				Date	Signed
			Front seat		Rear seat		Front seat		Rear seat		Front seat		Rear seat			
			Max.	Min.	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

	S	O	Subject	Type	Mass kg (lb)	Arm from the reference plane (rib No. 1) mm	Date of installation
5	X		Vertical speed indicator ± 6000 ft/min **or** Vertical speed indicator ± 60 knots **or** Vertical speed indicator ± 30 m/s	LUN 1147.12-8 front instr. panel LUN 1147.23-8 front instr.panel LUN 1147.10-8 front instr.panel	0.50 (1.1) 0.50 (1.1) 0.50 (1.1)	- 1768.5 - 1768.5 - 1768.5	
6	X		Magnetic compass	LUN 1221.1-8 front instr.panel rear instr.panel	0.105 (0.23)	- 1776.5 - 546.5	
7	X		Accelerometer	AM-10 front instr. panel	0.25 (0.55)	- 1680	
8		X	Vertical speed indicator ± 6000 ft/min **or** Vertical speed indicator ± 60 knots **or** Vertical speed indicator ± 30 m/s	LUN 1147.12-8 rear instr. panel LUN 1147.23-8 rear instr.panel LUN 1147.10-8 rear instr.panel	0.50 (1.1) 0.50 (1.1) 0.50 (1.1)	- 548.5 - 548.5 - 548.5	
9		X	COMM				
10		X	Paint				
11							

(Cont.)

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

Optional (O) Item 8, 9 as applicable are required for pilot's station for cloud flying operations.

SECTION 7

Sailplane and systems description

CONTENTS

7.1 Introduction
7.2 Sailplane description
7.3 Front seat ballast
7.4 Front cockpit
7.5 Rear cockpit

7.1 INTRODUCTION

The description and operation of the sailplane and its systems are given in the Maintenance Manual of the L 23 SUPER - BLANIK Sailplane.

7.2 SAILPLANE DESCRIPTION

The L 23 SUPER - BLANIK sailplane is a cantilever, high-wing, two-seat glider of all-metal structure. The rudder, elevator and ailerons are fabric covered. In the forward section part of the fuselage there are front and rear cockpits. Both cockpits are covered with a two-part canopy which can be jettisoned in flight. Both cockpits are equipped with all sailplane flight control including flight and navigation instrument panels. The sailplane is equipped with tow hooks either for winch or aero-tow take-off.

Wings including ailerons and air brakes,are attached to the fuselage at six suspension points (three on each side).There is a possibilityof using the wing tip extensions which enlarge the wing span from the 81st series.They may be connected to the standard wing instead of the laminated wing tips. The vertical stabilizer is permanently fixed to the rear fuselage section. The horizontal stabilizer is fastened by hinges on the top of the vertical stabilizer.

Elevator and aileron controls are actuated by control push rods and control cables, the rudder control is pedal- operated also by control push rods and control cables. Air brakes are controlled by control levers. The elevator trim tab is controlled by the control lever.

The sailplane is equipped with the main landing gear and the tail landing gear.The main landing gear is mechanically semi-retractable with an oleo-pneumatic shock-absorber and a mechanical brake. The tail landing gear is equipped with a wheel and shock-absorber . Cockpits are ventilated by cold air tapped from the nose part of the fuselage. The baggage compartment is behind the rear cockpit. Both cockpits are upholstered.

7.3 FRONT SEAT BALLAST

A.Seat installation, Fig. 7-1

1. Disassemble and remove the seat from the front cockpit.
2. Put the seat with ballast into the free space and insert stirrups (pos. 2) in the rear part of the seat into the chamber on the rest suspender.
3. Move the levers on the seat sides upwards (pawls will shift in the seat face) and fold the seat (pos. 1) to the floor.
4. Move the levers downwards, the pawls will shift out and they must shift in the hole on the floor frame (if the pawls do not shift in the holes, move the seat to both sides to enable shifting the pawls in the holes).

B.Seat removal

Removal is carried out in a reverse order to installation.

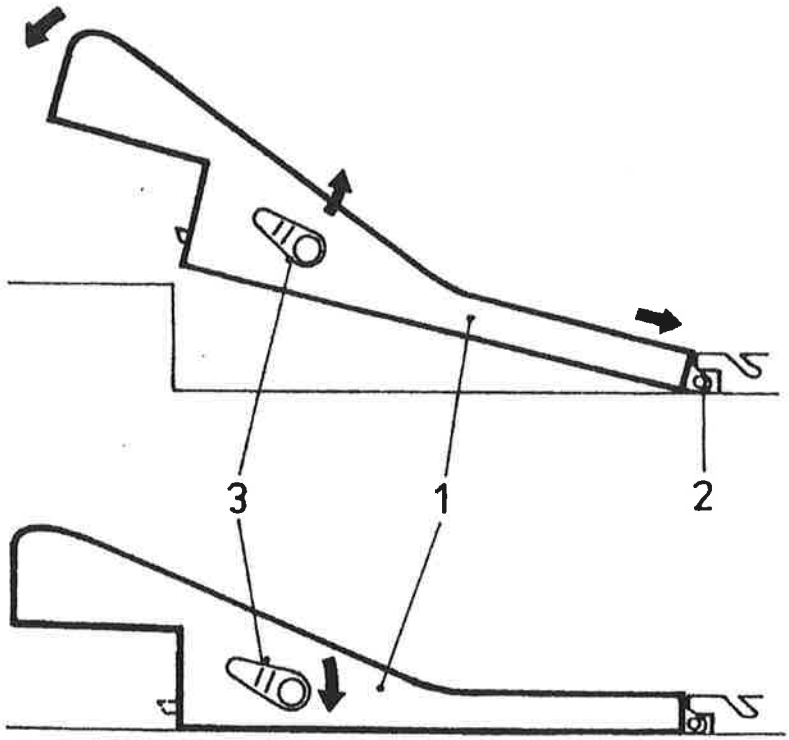


FIG. 7 - 1

7.4 FRONT COCKPIT

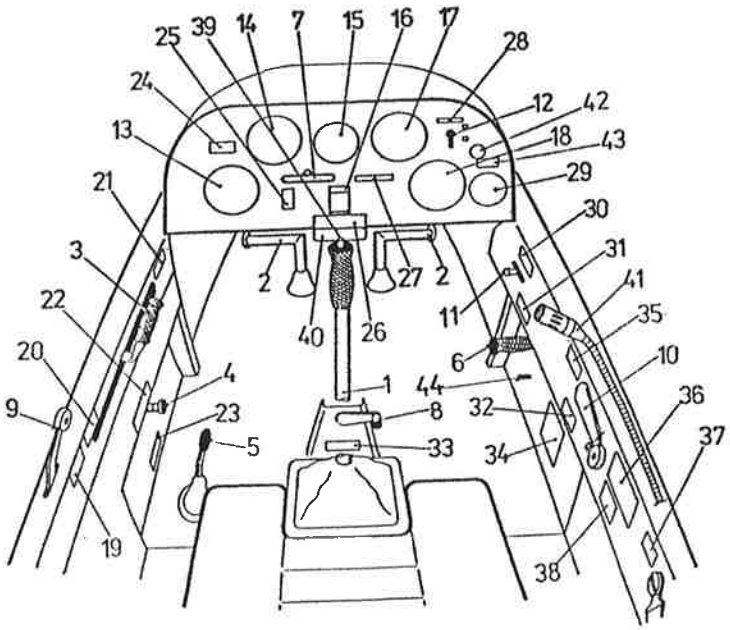


Fig. 7-2

(1) Control column, **(2)**Rudder pedals, **(3)**Airbrake handle, **(4)**Elevator trim handle, **(5)**Wheel brake handle, **(6)**Landing gear handle, **(7)**Rope release mechanism, **(8)**Rudder pedals adjustment, **(9)**Front cockpit hood opening handle, **(10)**Handle for emergency release of the front cockpit hood, **(11)**Air vent handle, **(12)**Turn-and-bank indicator switch, **(13)**Altimeter, **(14)**Airspeed indicator, **(15)**Turn-and-bank indicator, **(16)**Compass, **(17)** and **(18)**Vertical speed indicators, **(19)**Label "Front cockpit hood opening" , **(20)**Label "Airbrakes extended", **(21)**Label "Airbrakes retracted", **(22)**Label "Elevator trim control", **(23)** Label "Wheel brake", **(24)**Label "No smoking", **(25)**Label "Tow release", **(26)**Label "Max. airspeeds", **(27)**Identification number, **(28)**Label "TURN-AND-BANK INDICATOR", **(29)**Accelerometer, **(30)**Label "Air vent", **(31)**Label "Landing gear extended", **(32)**Label "Landing gear retracted", **(33)**Label "Adjustment of pedals", **(34)**Label "Max. pilot weight", **(35)**Label "Front cockpit hood emergency release", **(36)**Label "Permitted manoeuvers", **(37)**Label "Seat position", **(38)**Label "Center of gravity", **(39)**Radio control button, **(40)**Battery for turn-and-bank indicator, **(41)**Microphone, **(42)**Air vent pull rod with handle, **(43)**Label "Air vent", **(44)**Positional pin of landing gear opened and locked position (the landing gear handle must be located in front of the positional pin in flight direction)

Note: pos. **(11)** and **(30)** - valid to ser. No. XX 8320
pos. **(42)**, **(43)** and **(44)** - valid from ser. No. 96 8401
pos. **(35)** - from ser. No. 96 8401 Label "Canopy jettison"

7.5 REAR COCKPIT

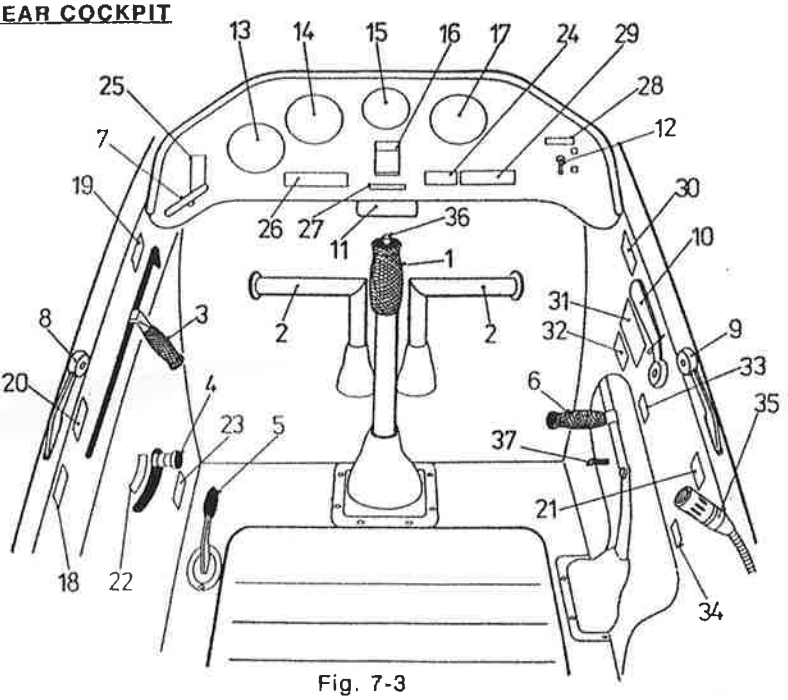


Fig. 7-3

(1) Control column, **(2)**Rudder pedals, **(3)**Airbrake handle, **(4)**Elevator trim handle, **(5)**Wheel brake handle, **(6)**Landing gear handle, **(7)**Rope release mechanism, **(8)** and **(9)**Rear cockpit hood opening handle, **(10)**Handle for emergency release of the front cockpit hood, **(11)**Battery for turn-and-bank indicator, **(12)**Turn-and-bank indicator switch, **(13)**Altimeter, **(14)**Airspeed indicator, **(15)**Turn-and-bank indicator, **(16)**Compass, **(17)**Vertical speed indicator , **(18)**Label "Airbrakes extended", **(19)**Label "Airbrakes retracted", **(20)** and **(21)**Label "Rear cockpit hood opening", **(22)**Label "Elevator trim control", **(23)**Label "Wheel brake", **(24)**Label "No smoking", **(25)**Label "Tow release", **(26)**Label "Max. airspeeds", **(27)**Identification number, **(28)**Label "TURN-AND-BANK INDICATOR", **(29)**Label "Manoeuvers with wing tip extensions forbidden", **(30)**Label "Front cockpit hood emergency release", **(31)**Label "Permitted manoeuvers", **(32)**Label "Center of gravity", **(33)**Label "Landing gear extended", **(34)**Label "Landing gear retracted", **(35)**Microphone, **(36)**Radio control button, **(37)**Positional pin of landing gear opened and locked position (the landing gear handle must be located in front of the positional pin in flight direction)

Note: pos. **(9)** and **(21)** - valid to ser. No. XX 8320
pos. **(20)** - from ser. No. 968401 Label "Canopy lift off"
pos. **(30)** - from ser. No. 968401 Label "Canopy jettison"
pos. **(10)** - from ser. No. 968401 Handle for canopy jettison
pos. **(37)** - from ser. No. 968401

SECTION 8

Sailplane handling, care and maintenance

CONTENTS

8.1 Introduction

8.2 Sailplane inspection period

8.1 INTRODUCTION

Procedures recommended by the manufacturer for proper ground handling, servicing and maintenance, which must be followed if the sailplane is to retain new-plane performance and dependability,are given in the Maintenance Manual of the L 23 SUPER - BLANIK Sailplane.

8.2 SAILPLANE INSPECTION PERIOD

Maintenance and servicing of the sailplane are provided in the L 23 SUPER-BLANIK sailplane Maintenance Manual Do - L 23 1031.3 (see Section 5).