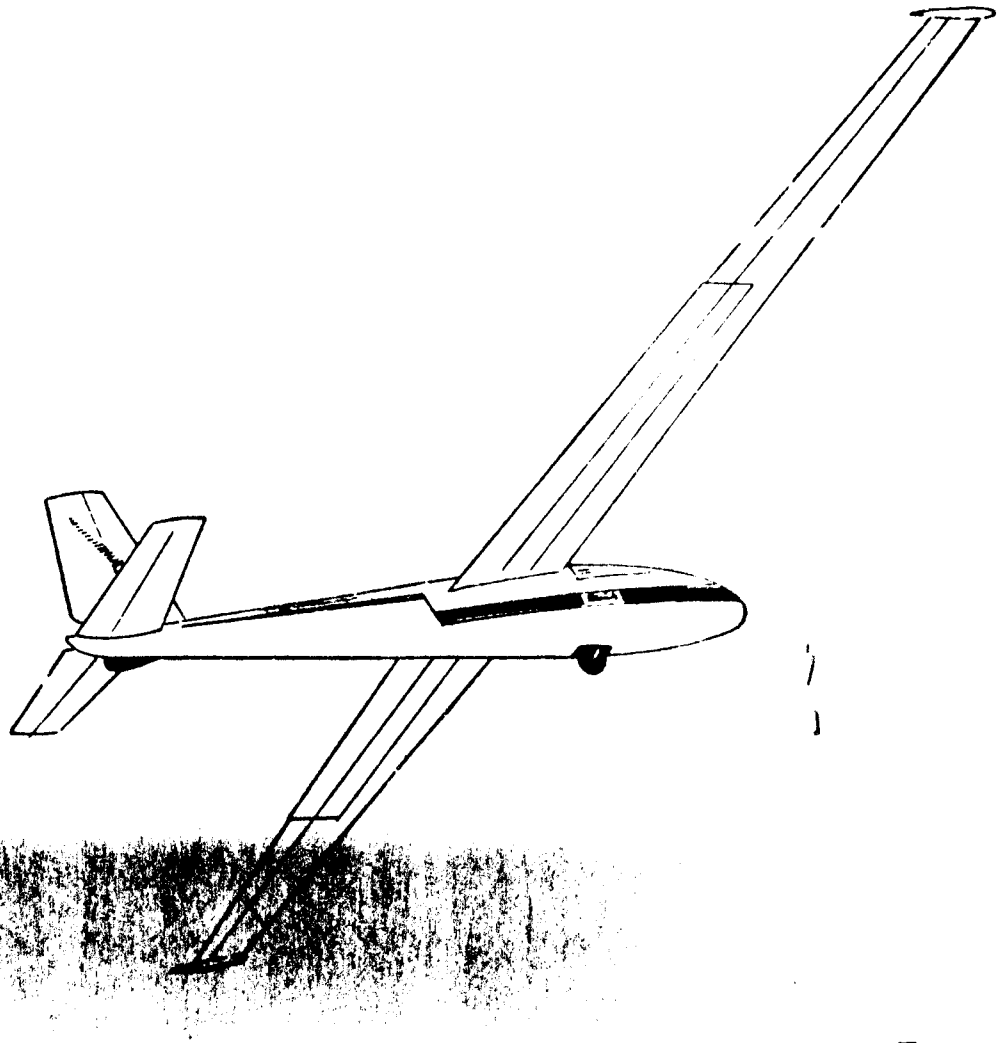
PILOT'S NOTES FOR THE L-13 SAILPLANE



L-13

Fundamental technical data

Dimensions	
Wing span	53 ft 1 3/4 in.
Length	27 ft 6 1/4 in.
Height	6 ft 10 1/2 in.
Maximum fuselage width	2 ft 0 1/2 in.
Maximum fuselage height	3 ft 8 3/4 in.
Wing area	206 sq. ft
Aspect ratio	13.7
Weights	
Net weight	644 lbs
Normal flying weight (2 persons on board)	1040 lbs
Maximum flying weight	1102 lbs
Wing loading, normal	5.05 lb./sq.ft
Wing loading, maximum	5.35 lb./sq.ft
Performance at max. gross weight - 1102 lbs.	
Maximum glide ratio	28:1
Minimum sink speed	162 ft./min.
Minimum speed, flaps extended	34 mph
Maximum dive speed	157 mph
Maximum tow speed	
wing flaps retracted	87 mph
wing flaps extended	68 mph
Maximum winch launch speed	
wing flaps retracted	75 mph
wing flaps extended	62 mph

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2680 EAST WARDLOW ROAD, LONG BEACH, CALIFORNIA 90807
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PILOT'S NOTES FOR THE L-13 SAILPLANE

2nd REVISED EDITION – 1967

AERONAUTICAL WORKS – LET KUNOVICE – CZECHOSLOVAKIA

FOREWORD

These Pilot's Notes are intended to be used by qualified sailplane pilots only and so no attempt has been made in them to give any basic instruction.

For further technical details about the sailplane, reference should be made to the publication "Technical Manual of the L 13 Sailplane".

Any amendment to this publication will be issued by the manufacturer in the form of Service Bulletins. The incorporation of any such amendment should be recorded in the Amendment List given on page 4.

AMENDMENT LIST

Note: "I" or "S", as appropriate, indicating either an Information or a Service bulletin, should be entered in the column headed "Class of Bulletin".

Item No.	Bulletin No.	Class of Bulletin	Alterations made in the following paras.	Carried out by
1	L 13/024	Service	10., 12.	Editor

1. PRE – FLIGHT PREPARATION

(a) EXTERNAL CHECKS

Before entering the cockpit, a detailed inspection of the sailplane for proper condition should be carried out by the pilot. This inspection should include the following specific items: –

I. Check the glider log book for servicability state.

II. Examine the sailplane for external damage.

III. Remove pitot cover or plug if fitted.

IV. Check that all wing and tailplane attachment and control assembly pins are secure.

V. Check that all detachable panels are secure.

VI. Check that the undercarriage is lowered, and that the tyre and oleo are normally inflated [tyre pressure 37 lb./sq.in. (2,6 kp/sq.cm.), oleo 470 $\pm$ 15 lb./ /sq.in. (33 $\pm$ 1 kp./sq.cm.)].

VII. Check that the canopy jettison lever has not been operated accidently, and that the sealing wire is intact.

VIII. Inspect the cockpit hood for damage and, if necessary, clean it and demist the interior.

IX. Check the controls, flaps, air brakes, and trim control for full and free movement and operation in the correct sense.

X. Inspect the cockpit, including all instruments, for proper condition, and make sure that the safety harnesses are not damaged and are securely attached to the glider. Remove all loose articles not wanted in flight and, if the sailplane is to be flown solo, secure the rear safety harness and seat cushions.

(b) PRE TAKE-OFF CHECKS (refer to Figs. 1 and 2 for location of numberec items)

I. **Safety Harness:** Enter the cockpit and fasten the safety harness ensuring that it is fully and tightly fitted.

II. **Rudder Controls:** The position of the rudder pedals should be adjusted with the pilot fully strapped in so that each pedal can be moved comfortably to the full extent of its travel without either foot having to be removed from the pedals.
The position of the rudder pedals in the front cockpit can be adjusted by means of the handle (25) on the cockpit floor just in front of the base of the control column. In the rear cockpit, adjustment to one of three possible positions may be obtained by first removing the locking pin on the back of each pedal (2).

III. **Trim:** Check the trim tab control (5) for full and free movement, and set to a position slightly forward of neutral or as otherwise may be determined by experience.

IV. **Flaps and Air Brakes: Check the air brakes (3) and flaps (4) for full and free movement, ensuring that the air brakes are fully retracted and the flaps set to the desired position for take-off.**

V. **Cable Release: Check the cable release mechanism for proper functioning by** operating the release handle (8).

V. **Instruments:** Set the barometric pressure scale on the altimeter (17) to the required reading by means of the knob (18). Check that the variometers (11 and 12) read zero.

By means of the switch (20), switch on the turn indicator and check it for proper functioning. If an electric artificial horizon is fitted, switch it on for a short period in order to check it for proper functioning (refer to para. 5 for more detailed information regarding the use of the LUN 1202 artificial horizon).

VII. **Flight Controls:** Both the control column and the rudder pedals should be checked again for and free movement in all directions. When checking the aileron controls, the wing tip should be lifted clear of the ground so as to prevent damage to the aileron.

VIII. **Wheel Brake:** Check the wheel brake lever (6) for free movement, and ensure that it is in the fully off position.

IX. **Cockpit Hood:** Check that the cockpit hood is properly closed and locked.

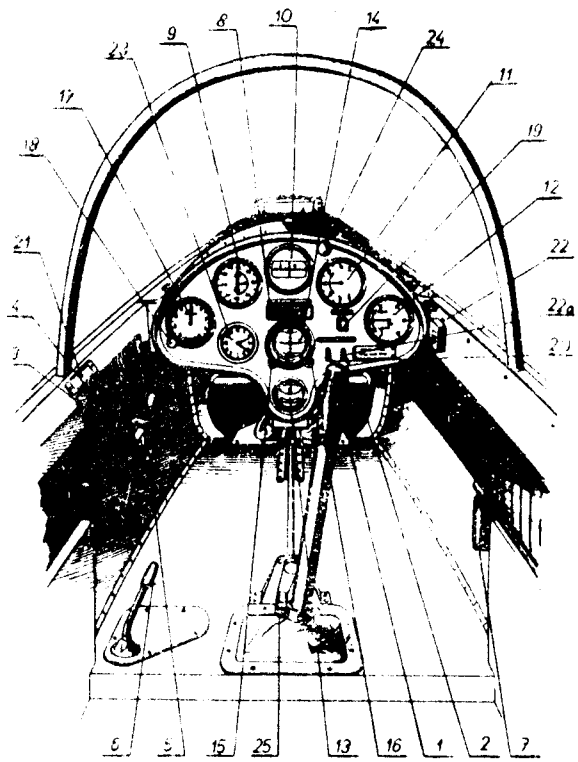


Fig. 1. Front Cockpit

(including optional extra instruments)

1. Control column. 2. Rudder pedals. 3. Air brake control. 4. Flap control. 5. Elevator trim tab control. 6. Wheel brake lever. 7. Towing cable release handle. 9. Airspeed indicator. 10. Compass. 11. Variometer 0—5 m/sec. 12. Variometer 0—15 m/sec or 0—30 m/sec. 13. Turn and slip indicator. 14. Artifical Horizon. 15. A/H aircraft silhouette height adjusting knob. 16. A/H caging knob. 17. Altimeter. 18. Altimeter barometric pressure adjustment knob. 19. A/H „on/off" push button 20. Turn indicator switch. 21. Compass correction card. 22. Battery circuit breaker (on sailplanes up to 21st series only). 22a. Battery circuit breaker (on sailplanes of 22nd series and upwards). 23. Clock. 24. Ventilator. 25. Rudder pedal adjustment handle.

Note: **Items 14, 15, 16, 19, 22 (or 22a) and 23 are optional extras which are installed only at the customer's special request.**

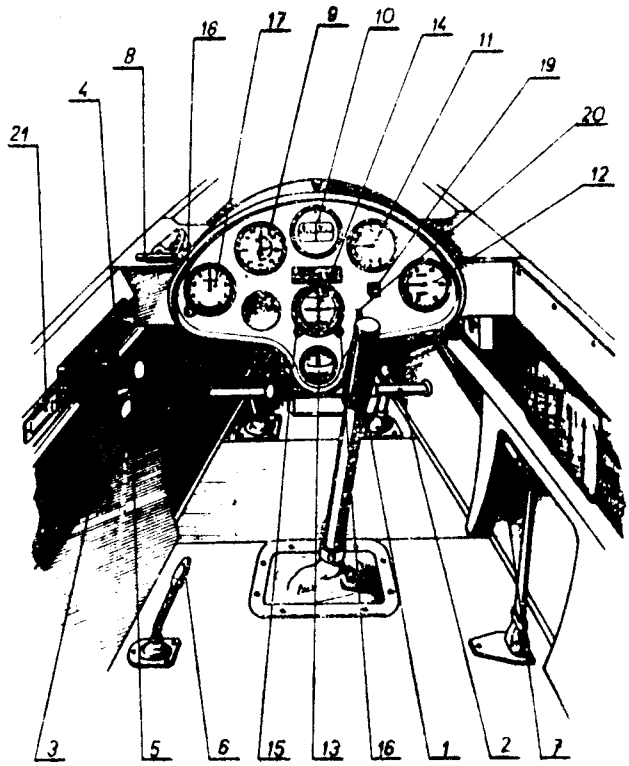


Fig. 2 Rear Cockpit

(including optional extra instruments)

1 to 21 inclusive — These items are identical to those shown in Fig. 1. Item 12. Variometer 0—15 or 0—30 m/sec. is installed in this cockpit only at the special request of the customer. In addition, a first aid box is installed on the right hand side of this cockpit just under the instrument panel.

2. WINCH LAUNCHING

If original towing-bridle is used, the maximum weak link strength is 2,000 lb. (910 kp).

For maximum launch height, the side-towing bridle should be used. To reduce the possibility of "whipping", the towing-bridle should be laid out in front of the sailplane before launching. During take-off, as the control loads are very light, care should be taken not to climb too steeply at a low airspeed, and it is important when releasing the cable to pull the release handle fully so as to allow the cable hooks to fall off.

The nose hook, which embodies a back release mechanism, also may be used for winch launching.

Partial flap may be used during winch launching, if desired, in order to reduce the take-off run. A speed of 54 knots (100 km/hr.) should not be exceeded if the flaps are extended, or 65 knots (120 km/hr.) with the flaps retracted.

The recommended speed for winch launching is 43—54 knots (80—100 km/hr.).

3. AERO-TOWING

(a) TAKE-OFF

The take-off technique by aero-tow is entirely conventional. The tow rope should be attached to the front hook only. Partial flap may be used, if required, to shorten the take-off run. In the initial stages of the take-off, the flap lever may tend to creep towards the flaps down position. The lever should be steadied, therefore, with the left hand until flying speed has been attained. Thereafter the flaps will hold whatever position is selected.

The elevator trim control should be set in a position slightly forward of neutral, and re-set on tow as required. The change of trim when flaps or wheel are retracted is negligible.

(b) CLIMBING

If partial flap has been used for take-off, the flaps should be retracted when at a safe height or before a speed of 60 knots (110 km hr.) IAS is reached.

(c) LEVEL FLIGHT

The maximum speed for aero-towing is 76 knots (140 km hr.).

(d) DESCENDING

A satisfactory rate of descent (approx. 200 ft. min. or 2 m sec.) can be obtained when the towing aircraft is flown at a speed of 54 knots (100 km/hr.).

4. MANOEUVRING

Partial flap should be used when turning in weak thermals so as to reduce the radius of turn and improve handling characteristics at low indicated airspeed.

5. OPERATION OF THE LUN 1262 ARTIFICIAL HORIZON

(see Figs. 1 and 2)

To operate the LUN 1262 Artificial Horizon, switch on the main circuit breaker (22 or 22a as appropriate) and press the push button (19). This should be carried out prior to take-off with the instrument caged (i. e. red warning flag showing).

When the gyro is functioning correctly, a light will appear in a slot in the dial approximately 1½ minutes after the instrument is switched on. To uncage, pull the right hand knob (16) when the warning flag will disappear. The instrument should not be uncaged until the sailplane is in level flight, and the gyro always should be caged before switching off. The left hand knob (15) may be used to adjust the height of the aircraft silhouette.

In an emergency, the gyro may be uncaged **in level flight** only 15 seconds after it has been switched on but, in this case, indications may not be very accurate and reliable indications will not be obtained until the glow discharge tube lights up.

6. STALLING AND SPINNING

Pre-stall/spin checks (refer to Figs. 1 and 2):

Height: sufficient for recovery.
Look-out: no other aircraft in the vicinity, especially below.
Trim (5): neutral
Air Brakes and Flaps (3 and 4): retracted and secured.

Cockpit Hood: locked and secured, ventilation shut.
Rudder Pedals (25): properly adjusted to allow full movement.
Safety Harness: fastened and tight.
Cockpit: loose objects removed and secured.

(a) STALLING

The stall is entirely conventional, and the normal recovery action immediately effective. If the sailplanes is stalled with the flaps down, recovery must be effected before a speed of 60 knots (110 km hr.) IAS is exceeded. Pre-stall warning takes the form of slight buffetting from the tail surfaces.

(b) SPINNING

The spin is steep but normal recovery action is effective. Entry is achieved by applying full rudder in the required direction of spin at about 32 knots (60 km/hr.) while the control column is held fully back. Loss of height occurs at about 320 feet (100 m.) per revolution when flown dual. The rate of spin is approximately 3.5 secs. per revolutions, and the attitude 60° to 70° nose down.
Because a speed of 60 knots (110 km hr.) may be exceeded when spinning, especially during the recovery, it is **particularly important to ensure that the flaps are up and secured before entering a spin.**

WARNING – IAS errors. Because of interference with the airflow in the vicinity of the static vents, especially when a "pot" pitot head is fitted, errors in the airspeed indicator system may be considerable, both when spinning and when side-slipping.

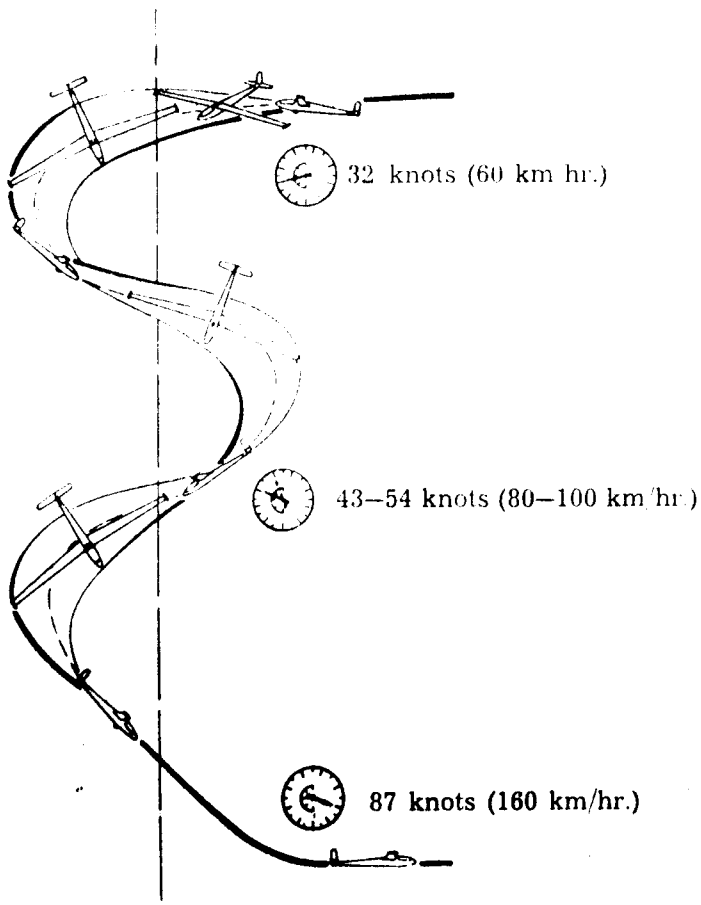


Fig. 3. Spin

7. SIDE SLIPPING

If a constant heading is to be maintained during a side slip, the maximum angle of bank will be between 10° and 20°. As a result, the side slip is not very effective means of loosing height in this sailplane. However, the rate of descent may be increased by the simultaneous application of flaps and air brakes.

The optimum speed for entry into a side slip is 41 knots (75 km/hr.) with flaps and air brakes retracted.

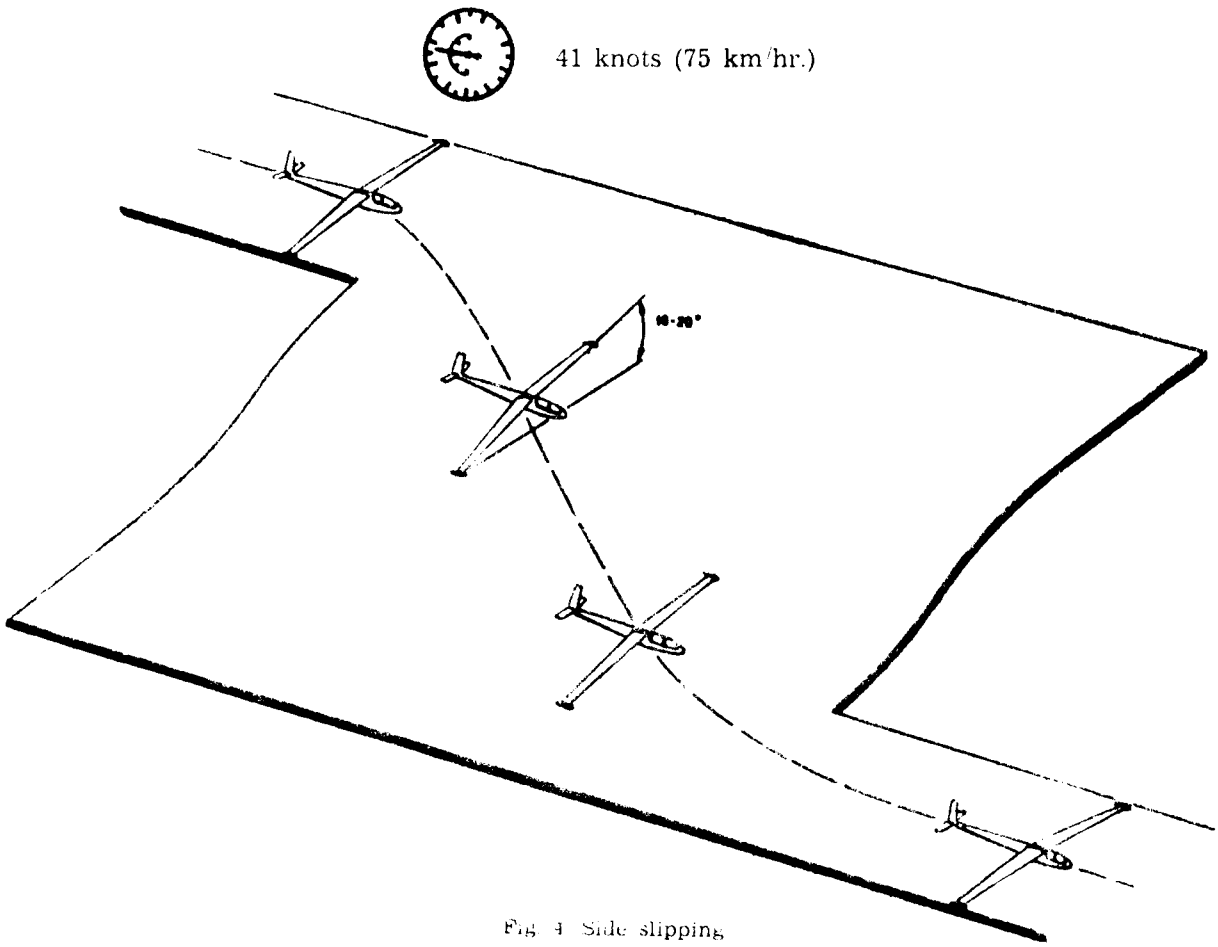


Fig. 4 Side slipping

8. AEROBATICS

(a) LIMITATIONS

When flown solo, loops, stall turns, rolls off the top of a loop, half rolls and loops, slow rolls, and inverted flight are permitted in the L 13 sailplane.

When flown dual, loops, stall turns, rolls off the top of a loop, and half rolls and loops only are permitted. Slow rolls and inverted flight must not be attempted dual.

In a dive, the rate of acceleration of this sailplane is high and, therefore, great care must be taken not to exceed the placarded limitations or to pull excessive "g". To this end, **the air brakes must be applied early in a dive so as to prevent excessive speed building up.**

(b) RECOMMENDED SPEEDS

The recommended indicated airspeeds for attempting the various aerobatic manoeuvres are as follows:

	Indicated Airspeed			
	Solo		Dual	
	knots	km hr.	knots	km hr.
Loop	87	160	97	180
Stall Turn	92	170	97	180
Roll off the top	97–103	180–190	103–108	190–200
Half roll and loop	70	130	76	140
Slow roll	81	150	—	—
Inverted flight	70	130	—	—

(c) LOOP

Choose some line feature on the ground by which to keep straight during the manoeuvre. From level flight, put the sailplane into a moderate dive along the line of this feature. During the dive, do not re-trim column. Having gained an airspeed of 87 knots (160 km/hr.) if flying solo or 97 knots (180 km/hr.) if flying dual, gently raise the nose of the sailplane by slight backward movement of the control column taking care not to apply excessive "g" forces, and maintain this rate of backward stick movement throughout the whole of the loop, but not making use of more than about 60% of the control column full travel. When the inverted position has been reached, the speed will be low and care should be taken not to stall the sailplane. After passing the inverted position, the control column should not be moved until the sailplane is vertical when it should be eased forward gradually as speed increases until the sailplane is flying level again.

During the whole of this manoeuvre rudder should be used to prevent yaw, and ailerons to keep the wings level laterally. The stick forces required to maintain the loop decrease to a minimum at the top when the speed is low, and increase again as the speed increases in the ensuing dive.

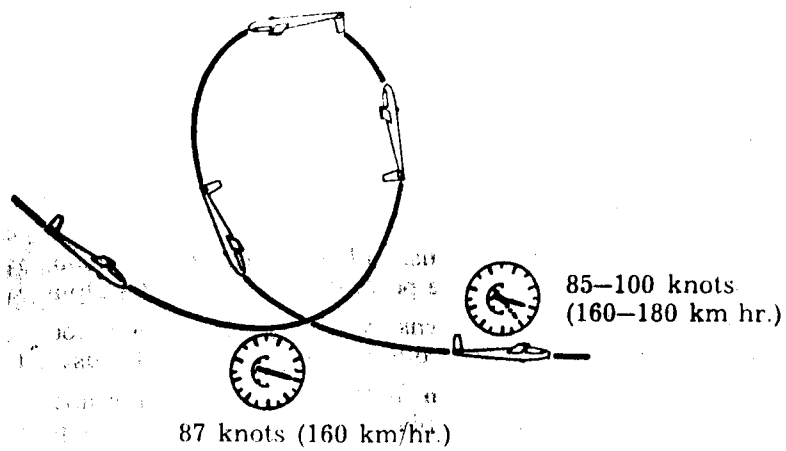


Fig. 5. Loop

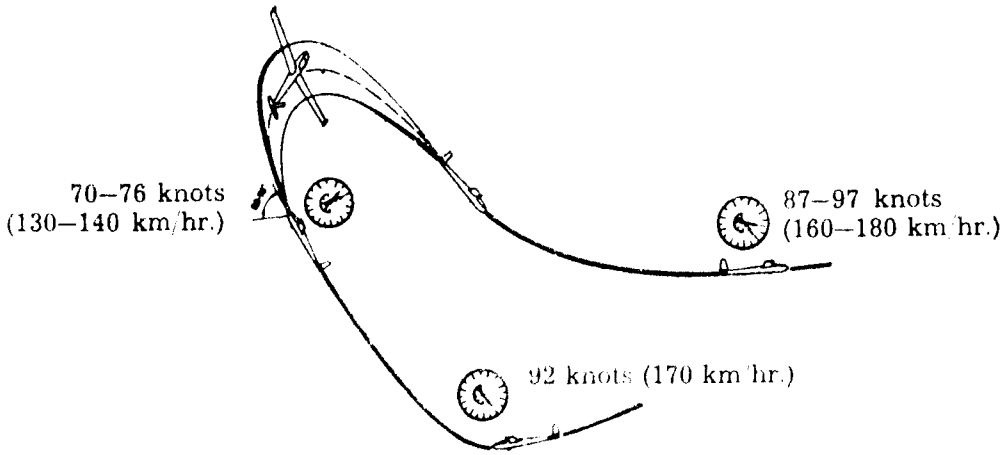


Fig. 6. Stall Turn

(d) STALL TURN

Chose a line feature on the ground and fly along it in a shallow dive until a speed of 92 knots (170 km/hr.) is attained if flying solo or 97 knots (180 km/hr.) if flying dual. Ease the control column back to bring the nose up into an almost vertical climb, keeping the wings level by use of ailerons. Check the attitude by reference to the angle made by the wing tips with the horizon, and ease the control column forward slightly to maintain this attitude. As the speed falls to 70–76 knots (130–140 km/hr.), apply gradually full rudder in the required direction of turn so that the sailplane appears to rotate on the wing tip. 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, centralize the rudder and, keeping the wings level laterally by use of ailerons, ease out of the resulting dive, taking care not to apply excessive "g".

(e) ROLL OFF THE TOP OF A LOOP

Begin this manoeuvre as in the first half of a loop but at the higher initial speed of between 97 and 103 knots (180–190 km/hr.) when flying solo, and between 103 and 108 knots (190–200 km/hr.) when flying dual. Because of the higher speed, the control column must be eased back very gently at the beginning of this manoeuvre.

As the inverted position is reached, check the loop by moving the control column gently forward and then apply full aileron so as to roll the sailplane into the normal level flight attitude. When the vertically banked position is reached, a considerable amount of top rudder may be necessary in order to prevent the nose falling below the horizon and further forward pressure on the control column may be necessary to maintain direction.

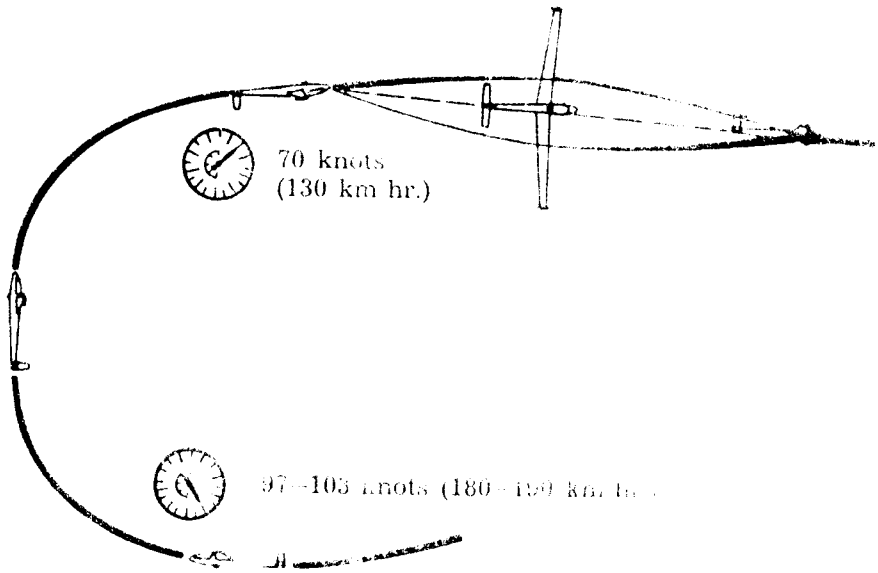


Fig. 7. Roll off the top of a Loop

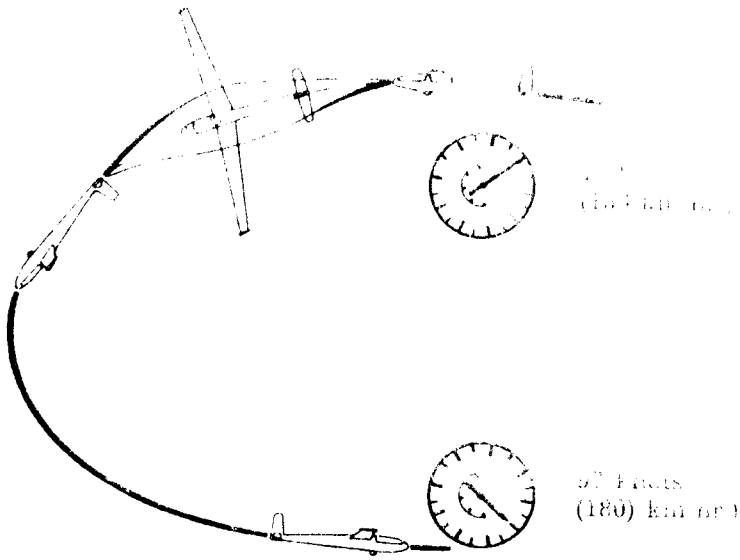


Fig. 8. Half roll and Loop

(f) HALF ROLL AND LOOP

This manoeuvre should be begun at a speed of not more than 70 knots (130 km hr.) when flying solo, or 76 knots (140 km/hr.) when flying dual. Raise the nose to a position 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 column 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 column eased back so as to complete the second half of a loop.

It is important to ensure that the initial airspeed limitation is strictly observed or the maximum permissible speed of 138 knots (253 km hr.) may be exceeded during the dive from the inverted position.

(g) INVERTED FLIGHT

Inverted flight may be attempted only when the sailplane is being flown solo. The manoeuvre should be begun at a speed of 70 knots (130 km hr.) in the same manner as a half roll and loop, a speed of 70 knots (130 km hr.) being maintained when inverted.

It is recommended that the inexperienced pilot should recover from the inverted position by first easing the control column forward until the speed has dropped to 55 knots (100 km hr.), and then back so as to complete the second half of a loop.

When recovering by means of a half roll, however, the speed should be increased first to 75–80 knots (140 - 150 km hr.), and then the stick eased forward until the nose is about 25° above the horizon and held there. Full aileron then should be applied in the required direction. When banked vertically, it will be necessary to apply full top rudder and, as the sailplane rolls into the level flight position, any tendency to turn should be checked with rudder and elevator.

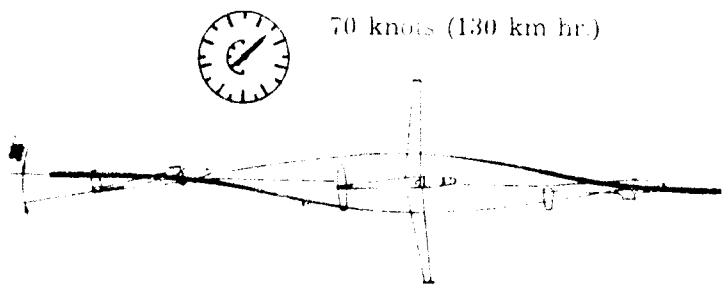


Fig. 9 Inverted [illegible]

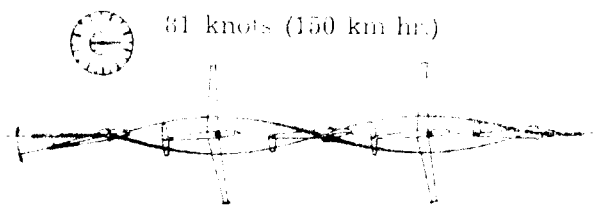


Fig. 10 Slow Roll (solo only)

(h) SLOW ROLL

The slow roll may be attempted only when the sailplane is being flown solo and, being one of the most difficult aerobatic manoeuvres, should not be attempted until the pilot is fully proficient in the half roll and loop, roll off the top of a loop, and inverted flying.

Choose a point on the horizon on which to keep straight and, having attained a speed of 81 knots (150 km hr.), raise the nose to a position about 25° above the horizon and hold it there. Apply full aileron in the required direction with a touch of rudder in the same direction. Use the aileron to maintain a constant rate of roll and the elevator and rudder as required to keep the nose on the datum point. As the vertically banked position is reached, it will be necessary to apply some top

rudder (generally not more than 25 % of its full travel) [illegible] to prevent the nose from dropping. As the inverted position is reached, the control column should be eased forward to maintain the attitude, and the sailplane kept straight with rudder. Top rudder again will be required as the sailplane rolls once more into the vertical, banked position, and the controls should be centralized smoothly as level flight is regained. Usually the nose will be about 15° below the horizon on completion of this manoeuvre.

9. AIR BRAKES

The air brakes should be selected if at any time the pilot feels [illegible] of its other time there is a possibility that the maximum permitted speed relative to its particular circumstances may be exceeded.

10. LIMITATIONS

(a) AIRSPEEDS

Design diving speed (V_D) EAS	[illegible]	[illegible]
Never-exceed speed (V_{NE}) IAS	136 kts	253 km/h
Aero-towing speed (V_T) IAS	76 kts	140 km/h
Maximum winch-launching speed (V_W) IAS	[illegible]	[illegible]
Maximum wing-flaps extended speed (V_F) IAS	[illegible]	110 km/h
Design manoeuvring speed (V_A) EAS	[illegible]	[illegible]
Stalling speed with extended wing flaps at 1040 lb (472 kp) AUW, IAS	[illegible]	[illegible]
Stalling speed with retracted wing flaps at 1040 lb (472 kp) AUW, IAS	[illegible]	[illegible]
Minimum rate of descent at 1040 lb (472 kp) AUW	[illegible]	[illegible]
Maximum gliding ratio at 1040 lb (472 kp) AUW	[illegible]	

(b) LIMIT LOAD FACTORS

Category	Load factor		
	n_1	n_2	n_3
Aerobatic 400 kp	6	5	−3
Aerobatic 500 kp	5	4	−2,5
Cloud-Flying	5	4	[illegible]

(c) MAXIMUM CROSS WIND COMPONENT

Maximum cross wind component for safe approach and landing is 10 kts (5,5 m/sec.).

(d) MAXIMUM PERMISSIBLE ALL-UP WEIGHT AND APPROVED MANOEUVRES

Category	Maximum permissible all-up weight	Crew	Approved manoeuvres
Aerobatic	880 lbs (400 kp)	1 person*)	Spin, loop, roll off the top of a loop, tail turn, half roll and loop, slow roll, inverted flight.
Aerobatic	1100 lbs (500 kp)	2 persons	Spin, loop, roll off the top of a loop, stall turn, half roll and loop
Cloud-Flying	1100 lbs (500 kp)	2 persons	

*) See Para. (e) - SOLO FLIGHTS.

(e) SOLO FLIGHTS

If the sailplane is to be flown solo, the pilot must be sitting on the front seat, and his weight must be minimum 150 lbs (68 kp).
The rear seat cushions and safety harness must be secured.

(f) MINIMUM ROPE LENGTH FOR THE AERO-TOW

Minimum rope length for the aero-tow is 50 ft (15 metres), but it is recommended to use a rope with a length of about 80 to 100 ft (25–30 metres)

11. LANDING

Normally the landing should be made with the landing wheel down. After selection, check for correct locking by a firm reaward pull on the operating lever without turning the handle inboard. However, no damage should occur if the landing is made with the wheel up and, indeed, this procedure is recommended when landing on very soft ground. **The wheel may be extended after landing by lifting up the tail surfficiently high to allow the wheel to be extended fully, and this should be done before taking off again or it will not be possible to obtain the optimum take-off angle during the ground run.**

The normal approach speed with air brakes retracted and flaps down is 75–85 km/hr. (40–45 knots) but if air brakes are used during the approach, the speed should be 80–95 km/hr. (43–51 knots) to allow for the increase in stalling speed. For a steep approach, full flap and full air brake should be selected and the approach made at a speed of 95–110 km/hr (51–60 knots). In this case a longer float must be taken into account.

The wheel brake should be used with care after touch down. If applied too harshly at high ground speeds, it will lock the wheel and cause damage to grass surfaces. In order to prevent nose down pitching, the control column should be moved back progressively as the wheel brake is applied.

12. WEIGHT, CENTRE OF GRAVITY AND LOADING

(a) EMPTY WEIGHT WITH STANDARD EQUIPMENT

(includes on each instrument panel: — airspeed indicator, electric turn and bank, 5 m/sec. variometer, compass and altimeter. Also on front panel only: — 15 m/sec. variometer . . . . . 644 lb. (292.0 kp)

(b) WEIGHT OF OPTIONAL EXTRA EQUIPMENT

(i. e. artificial horizon on both instrument panels; on rear panel only, 15 m/sec. variometer; AVRM watch, 12 A10 battery, PAG 154 inverter, instrument flying curtains) . . . . . 50 lb. (22.5 kp)

(c) MAXIMUM PERMISSIBLE ALL UP WEIGHT 1102 lb. (500 kp)

(d) CENTRE OF GRAVITY LIMITS 23 % to 38 % MAC

(e) LOADING CHART WITH STANDARD EQUIPMENT ONLY

Item No.	Item	Occupants lb. (kp)								
		2 persons				1 person				
1.	Pilot in front seat	176	176	154	154	176	154	154	154	lb.
		80.0	80.0	70.0	70.0	80.0	70.0	70.0	70.0	kp
2.	Front parachute or cushion	22	22	22	4	22	22	22	4	lb.
		10.0	10.0	10.0	1.8	10.0	10.0	10.0	1.8	kp
3.	Pilot in rear seat	176	176	154	154					lb.
		80.0	80.0	70.0	70.0					kp
4.	Rear parachute or cushion	22	22	22	4					lb.
		10.0	10.0	10.0	1.8					kp
5.	Baggage or equipment	61	—	—	—	61	61		—	lb.
		27.5				27.5	27.5			kp
Variable load		**457**	**396**	**352**	**316**	**259**	**237**	**176**	**158**	**lb.**
		207.5	**180.0**	**160.0**	**143.6**	**117.5**	**107.5**	**80.0**	**71.8**	**kp**
Sailplane empty weight		**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**lb.**
		292.0	**292.0**	**292.0**	**292.0**	**292.0**	**292.0**	**292.0**	**292.0**	**kp**
Operational weight		**1101**	**1040**	**996**	**960**	**903**	**881**	**820**	**802**	**lb.**
		499.5	**472.0**	**452.0**	**435.6**	**409.5**	**399.5**	**372.0**	**363.8**	**kp**
Centre of Gravity position (% of MAC)		27.5	25.8	28.7	30.7	32.4	35.3	33.7	36.2	%

(f) LOADING CHART WITH STANDARD AND OPTIONAL EQUIPMENT:

Item No.	Item	Occupants lb. (Kp)							
		2 persons				1 person			
1.	Pilot in front seat	176	154	154	176	154	154	128	lb.
		80.0	70.0	70.0	80.0	70.0	70.0	58.0	kp
2.	Front parachute or cushion	22	22	4	22	22	4	22	lb.
		10.0	10.0	1.8	10.0	10.0	1.8	10.0	kp
3.	Pilot in rear seat	176	154	154					lb.
		80.0	70.0	70.0					kp
4.	Rear parachute or cushion	22	22	4					lb.
		10.0	10.0	1.8	--				kp
	Variable load	396	352	316	198	176	158	150*	lb.
		180.0	160.0	143.6	90.0	80.0	71.8	*68.0	kp
	Sailplane empty weight	694	694	694	694	694	694	694	lb.
		314.9	314.9	314.9	314.9	314.9	314.9	314.9	kp
	Operational weight	109.0	104.6	101.0	892	870	852	844	lb.
		494.9	474.9	458.5	404.9	394.9	386.7	382.9	kp
	Centre of Gravity position (% of MAC)	22.5	25.5	28.3	29.5	32.7	35.5	37.6	%

*** Minimum load on front seat when flown solo.**

13. ABANDONING THE SAILPLANE

(a) Cockpit hood installations not fitted with an emergency release lever (refer to Fig. 11).

I. Release the hood lock.

II. Open the hood fully.

III. Force the hood forward until the locking wire on the centre hinge is cut and the hood falls away.

IV. Release the safety belt and abandon the sailplane.

(b) Cockpit hood installations fitted with emergency release lever (refer to Fig. 12).

I. **Rotate through 180° in the direction marked by the arrow the emergency release lever installed on the right hand side of the cockpit hood towards the front (the emergency release lever is retained in the normal position by means of 0.5 mm locking wire fitted with a seal and an aluminium shear pin of 2 mm diameter both of which will be cut when the release lever is moved).**

II. Holding the release lever at the end of its travel with the left hand, force the right hand side of the cockpit hood upwards when the airflow will carry it away.

III. Release the safety belt and abandon the sailplane.

WARNING: After emergency release of the cockpit hood, it may damage the tailplane and so on no account should it be released while airborne unless the sailplane is about to be abandoned.

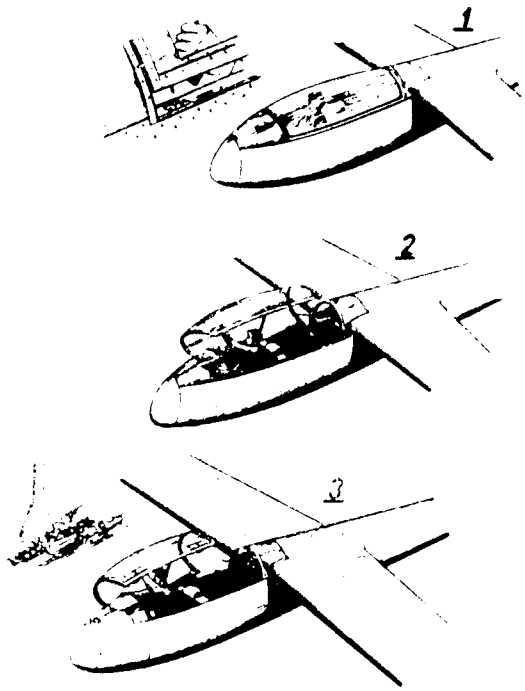


Fig. 11. Jettisoning of cockpit hood of sailplane not fitted with hood emergency release mechanism.

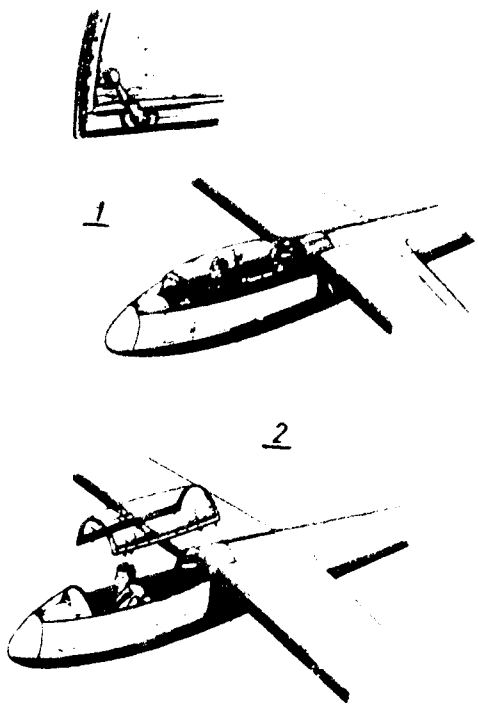


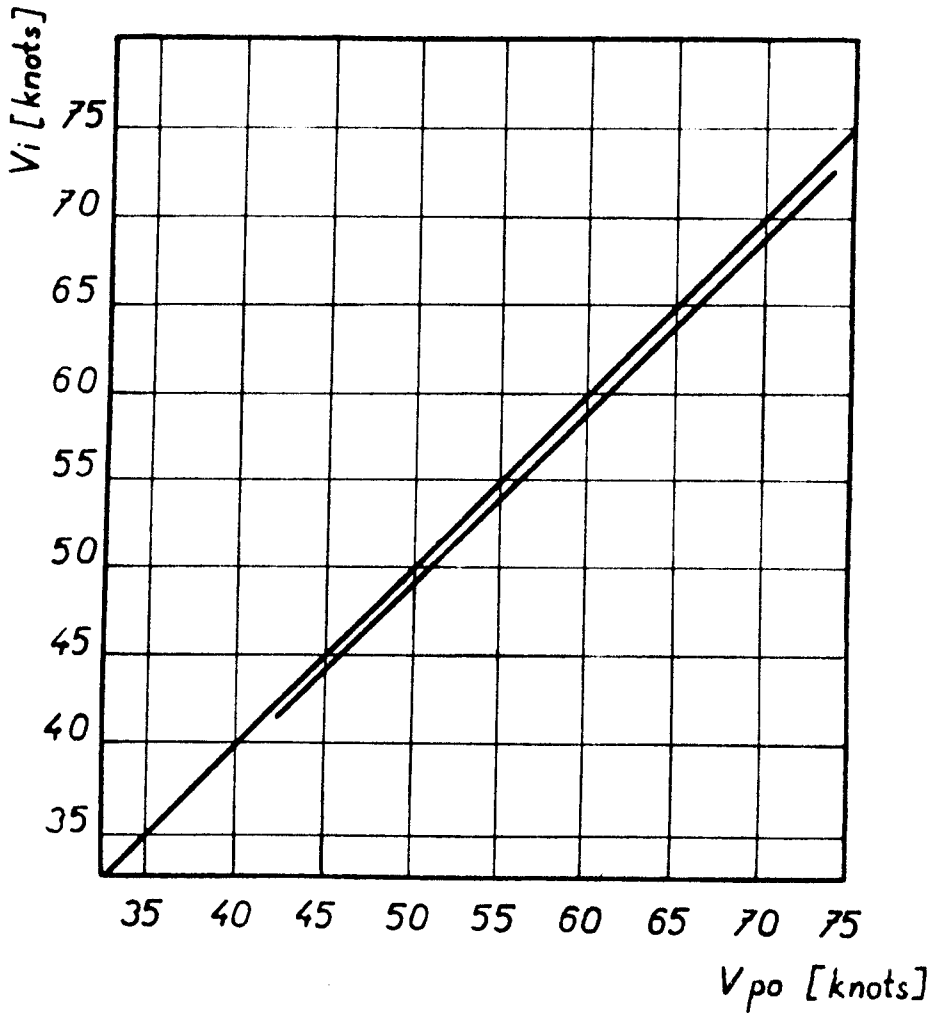
Fig. 12. Jettisoning of cockpit hood of sailplane fitted with emergency release mechanism.

Annex 1

AERODYNAMIC CORRECTION TO AIRSPEED INDICATOR

(British System of Units)

NOTE: This chart is not applicable when a pot pitot is fitted.



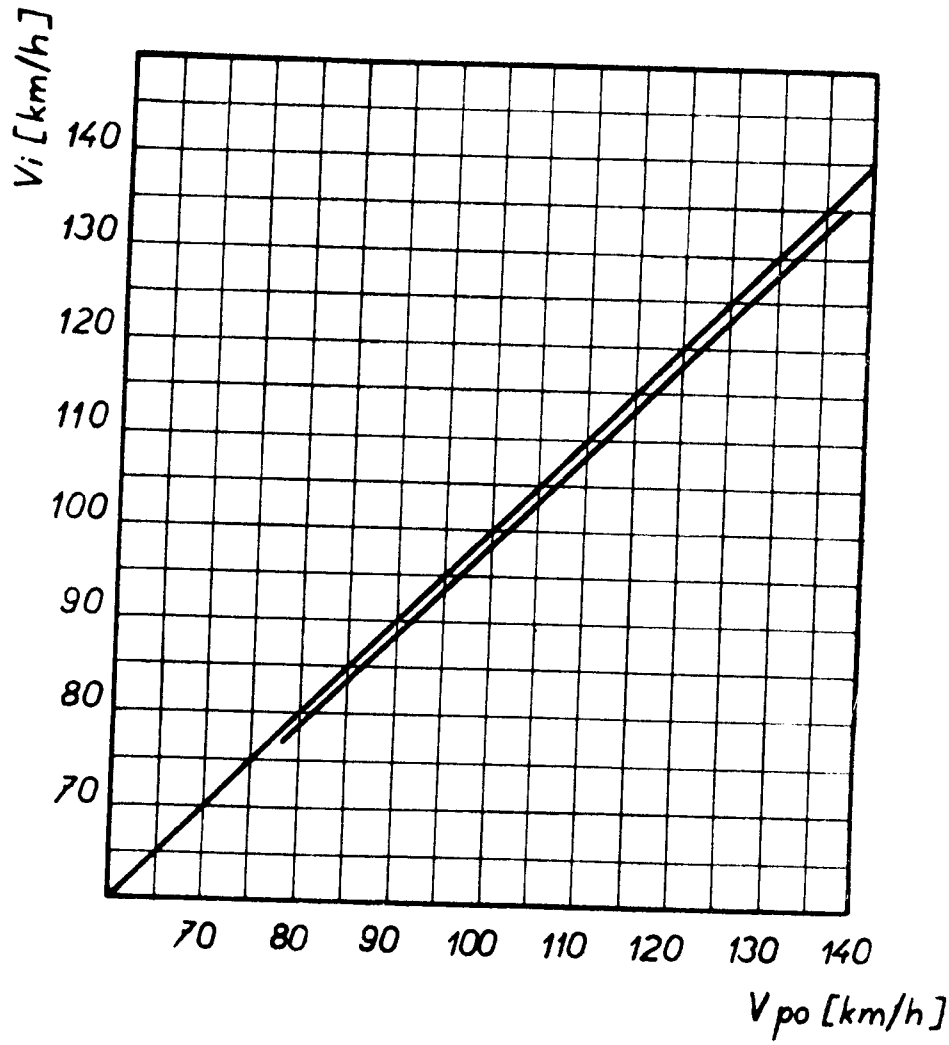
Vi . . . . . indicated airspeed
Vpo . . . . . corrected airspeed

Annex 1

AERODYNAMIC CORRECTION TO AIRSPEED INDICATOR

(Metric System of Units)

NOTE: This chart is not applicable when a pot pitot is fitted.

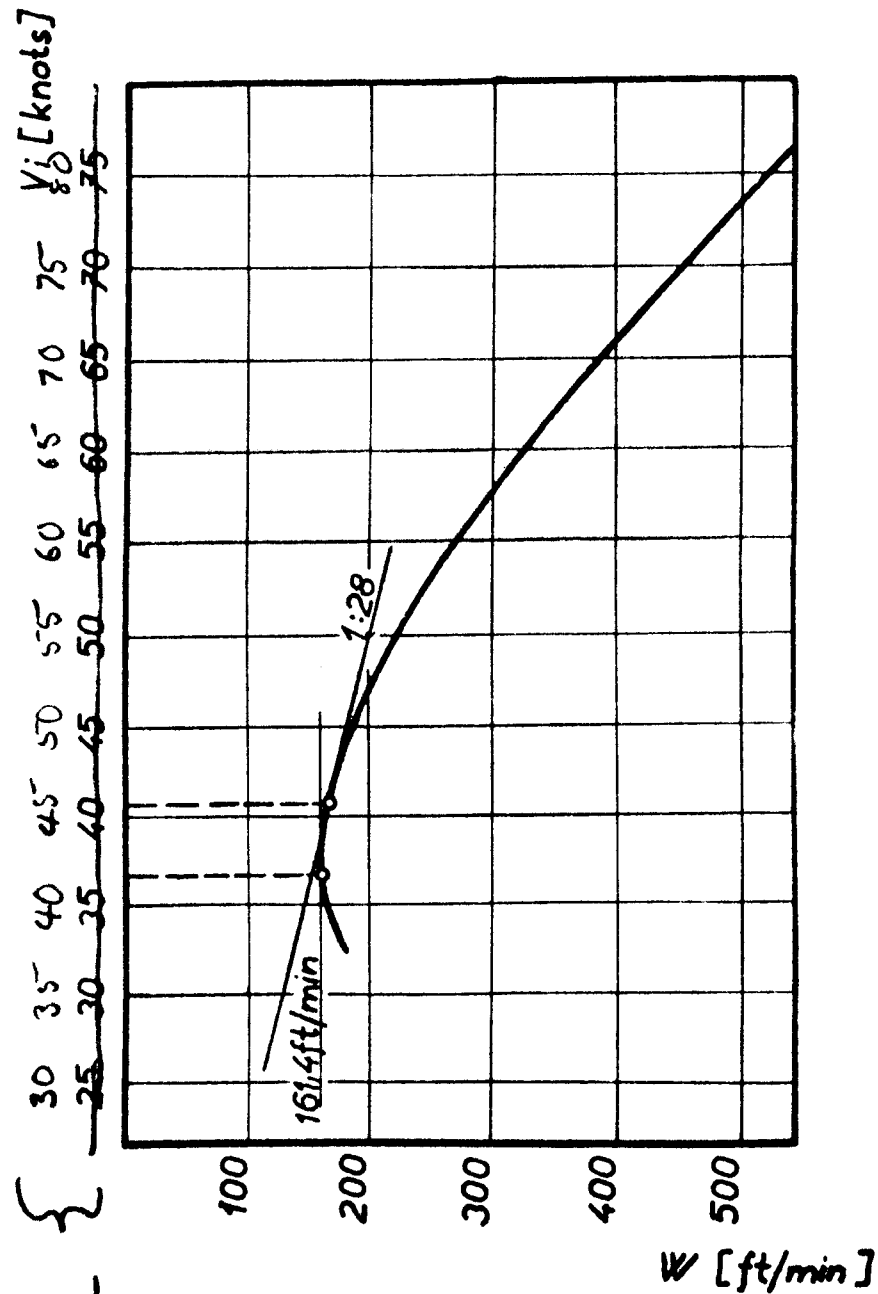


Vi . . . . . indicated airspeed
Vpo . . . . . corrected airspeed

Annex 2

PERFORMANCE CHARACTERISTICS

(British System of Units)



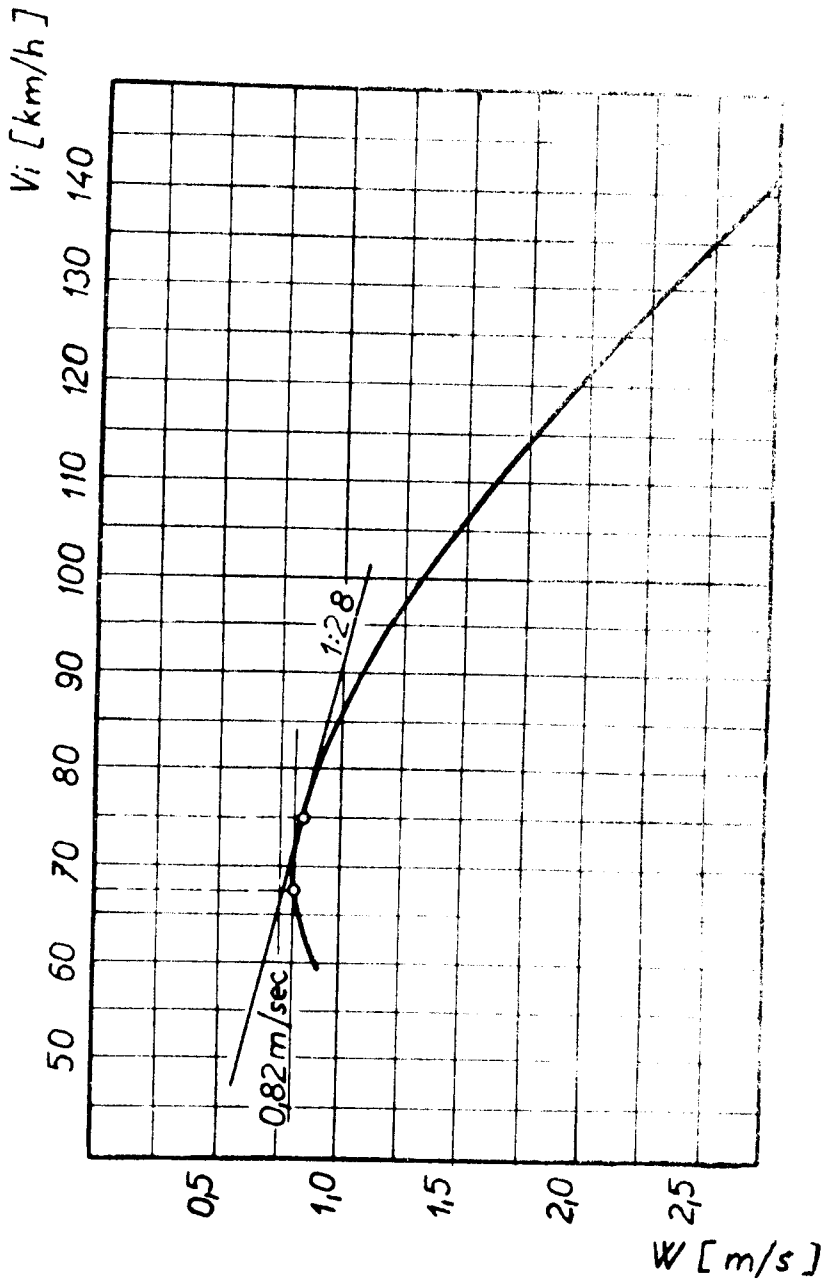
Vi . . . . . indicated airspeed
W . . . . . vertical airspeed

CORRECTED PER OPERATING BULLETIN # L 13/035

Annex 2

PERFORMANCE CHARACTERISTICS

(Metric System of Units)



Vi . . . . . indicated airspeed
W . . . . . vertical speed