Duo Discus Briefing N678GB

10/15/2024

Configuration

The Duo Discus XL is a two place carbon fiber and fiberglass glider with a wingspan of 20 meters (65.62 ft). The aircraft is equipped with a retractable main wheel, and fixed non-steerable nose and tail wheels.

Rear flaps are only connected to the spoilers and extend downward with spoiler extension.

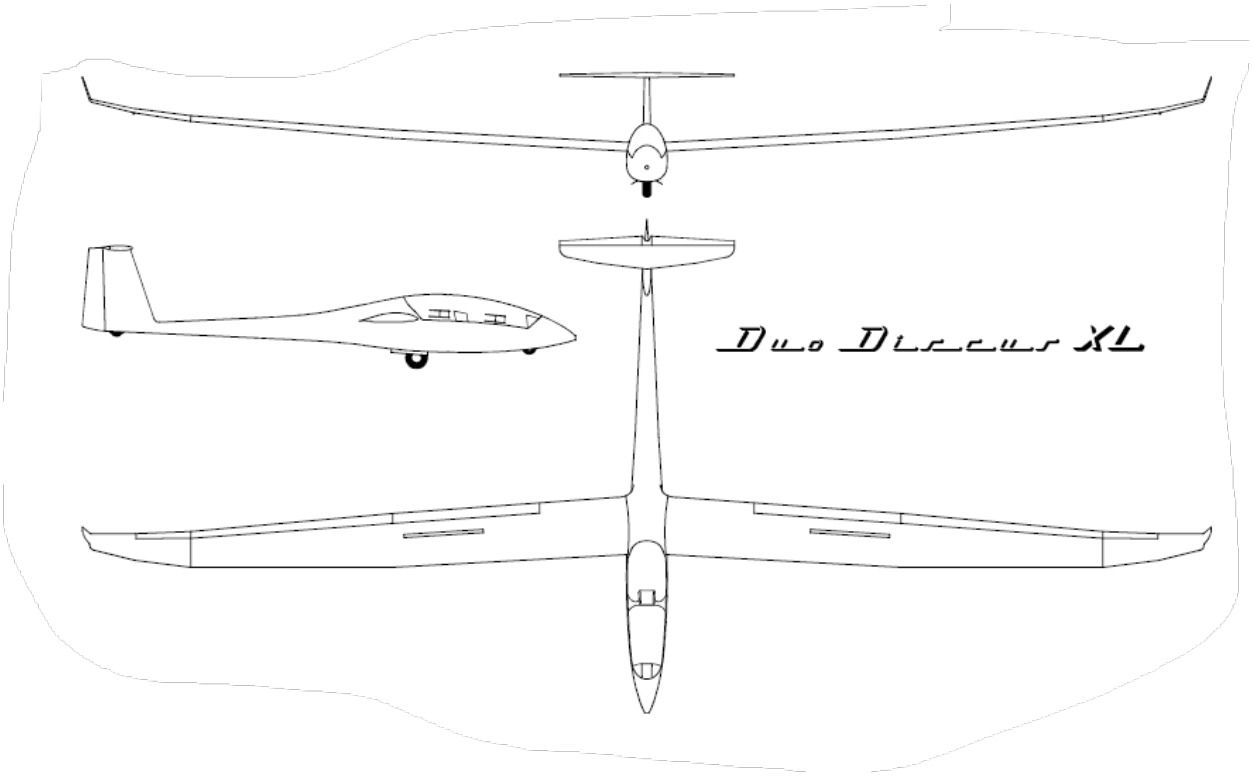
The canopy hinges on the right side of the fuselage.

The wing is four-stage trapezoid in planform, consists of two main panels with tip extension with winglets (having a swept-back leading edge) and features double-panel „Schempp-Hirth“ type airbrakes on the upper surface and connected to a trailing edge flap. Ailerons are internally driven.

The integral water ballast tanks have a total capacity of approx. 198 Liters (52.3 US Gal., 43.5 IMP Gal.).

The wing shells are a glass and carbon fiber/foam-sandwich construction with spar flanges of carbon fiber rovings and shear webs made as a GFRP/foam sandwich.

All controls are automatically hooked up when the sailplane is rigged.



Forward Cockpit

Controls:

Rudder pedals are adjustable with a black handle forward of the control stick.

Seat back is adjustable with a handle along the right side of the cockpit.

Blue handle on left side: Spoiler

Yellow T handle: tow release

Wheel brake handle on control stick

Green knob on left side: elevator trim: The spring-operated elevator trim is gradually adjustable by swinging the knob slightly inwards, sliding it to the desired position and swinging it outwards to lock.

Black lever on right side: water ballast dump – operates both wing and tail ballast dump valves

- Forward: valves close
- Aft position: valves open

Black handle on right side: Landing Gear Control. Locks in either position.

- Aft: gear retracted
- Forward: Gear extended

ACL – Anti- Collision Light

The ACL switch controls the LED strobe light.

Instrumentation

Instrument power switches.

Power switches are provided for the Clear Nav and E-Vario

ClearNavII Display

The glider is equipped with a ClearNav II navigation system. More information on the features and operation of this computer can be found at http://clearnav.net

ClearNav Vario

See appendix for operation

Borgelt Variometer

The Bogelt vario has a CLIMB/CRUISE switch.

In Climb mode it reads the average climb rate over the last 23 seconds (about 1 thermal turn).

In CRUISE mode the round meter becomes a RELATIVE NETTO variometer.(Sometimes called SUPER NETTO)

You will see the rate of climb which would be achieved if the sailplane was circled at its normal circling speed regardless of the actual airspeed at the time. (The airspeed and hence glider sink rate is compensated for in the RELATIVE NETTO computation)This is useful when deciding whether or not to circle. The cruise audio will change to climb sound if the indication exceeds the current Macready setting

ELT

(required for more than one occupant more than 50NM from departure airport)

AK451 ELT mounted on the spar-stub panel

ELT controls are mounted on the forward panel as well as on the unit.

The ELT can be activated automatically by means of a G-load switch during sudden deceleration or manually using the ON switch on the unit or the ON button on the remote control panel. When activated the green ON light is illuminated on the remote control panel. Pushing the RESET button on the remote control panel stops the operation.

Additional information: http://avsport.org/docs/AK451%20ELT%20Manual.pdf

Electrical System

Batteries 2 20.5ah lithium ion batteries are installed on the rear stick mounting frame.

Battery power is controlled by a red MAIN switch and a battery selector.

A rotary switch on the forward paned allows selection between battery C1 and C2.

Circuit breakers for labeled components are below the main switch.

Oxygen System

A two-place Mountain High pulse delivery Oxygen System is installed. The tank and pressure guage are located in the stowage area behind the rear seat.

Communications

A Becker Avionics AR 6201 VHF comm radio is installed.

Additional information: https://www.becker-avionics.com/wp-content/uploads/2017/08/AR6201_OI.pdf

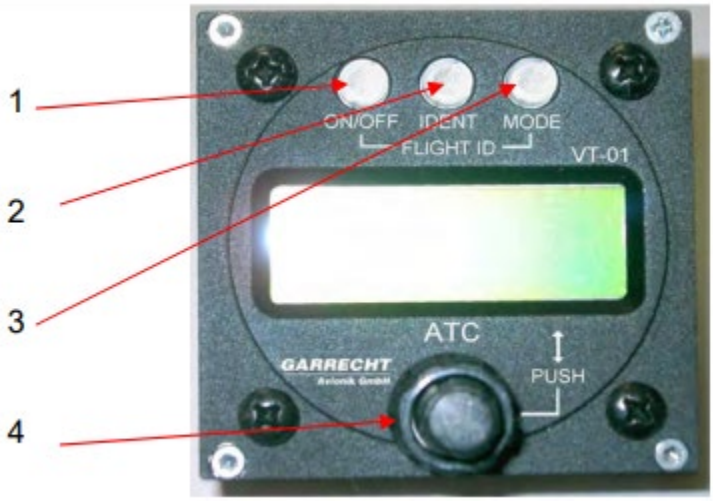
	Symbol	Description	Main Function
1	I C S Q L	IC/SQL (Intercom/Squelch)	"Short press" during normal operation toggles the RX -SQL ON/OFF. "Long press" during normal operation activates Intercom Menu.
2	MDE	MDE (Mode)	"Short press" during normal operation changes the frequency selection mode. "Long press" during normal operation activates the pilots menu.
3	STO	STO (Store)	"Short press" during normal operation activates storage procedure.
	8/25	Change of Channel Spacing	Keeping the MOD and STO button pressed simultaneously for more than 2 seconds changes from 8.33 kHz to 25 kHz channel spacing and vice versa.
4	S C N	↕/SCN (Exchange/SCAN)	"Short press" during standard mode or scan mode toggles between preset active frequency. "Long press" activates scan mode.
5		Volume Knob	Turning the transceiver ON/OFF and adjusts volume level of received signal.
6		„ROTARY ENCODER"	Turning "ROTARY ENCODER" changes the settings of several parameters (frequency, IC-volume, VOX …). Pushing the "ROTARY ENCODER" toggles between the digits and acts as an enter key.
7		Display	

Intercom:

TBD

Transponder

A Garrecht transponder is installed.



Nr. Description Function

1 On/Off key Switches the system On or Off.

For switching off, press key 1 for at least 3 seconds Release the key, when the LCD becomes blank

2 Ident – key Invokes the Ident Mode for 18 sec.

3 Mode – key Selects the operating mode

- SBY Standby - System is switched on, no replies or squitters will be sent.
- ON Selected reply code will be replied for Mode-A/C interrogations, altitude information is set to zero, squittering is enabled, Mode-S interrogations will be replied
- ALT Selected reply code will be replied for Mode-A/C interrogations, altitude information is set to indicated value, squittering is enabled, Mode-S interrogations will be replied

4 Double shaft Encoder with Push on capability Enters or modifies values

Main input device for setting values is the double shaft encoder.

Rotating the outer knob selects the position to be modified.

Rotating the inner knob changes the selected value.

The edit mode will be started rotating the inner or outer knob of the double shaft encoder. Pushing the inner knob confirms the selected value and cancels the edit mode (cursor stops blinking)

FLARM Display

The FLARM display illuminates to show threat traffic in both lateral and vertical axes

Limitations

Airspeed Limitations and Markings

V_{NE}	142 kts up to 6500ft (decreasing with altitude to: 137 at 9800 130 at 13100 123 at 16400
V_A, V_{Ra} Max aerotow, V_{LO}	97 kts
Max Winch Launch	81 kts
Airspeed green arc	49-97 kts
Airspeed Yellow arc	97-142
Yellow triangle (max gross approach speed with no ballast	51 kts
Max crosswind component	11 kts

Load Limits:

Airbrakes closed at VA: +5.3 -2.65

Airbrakes closed at VNE +4.0 -1.5

Airbrakes open: +3.5 – 0.0

Placards:

Weight limits on these placards are typical and are not accurate for this serial number

MAX. PERMITTED A.U. WEIGHT (MASS): 1654 lb / 750 kg			
MAXIMUM PERMITTED SPEEDS (IAS) :	**km/h**	**kt**	**mph**
Never exceed speed	262.8	142	163
Rough air speed	180	97	112
Maneuvering speed	180	97	112
Aerotowing speed	180	97	112
Winch launching speed	150	81	93
Landing gear operating speed	180	97	112

Max. permitted speed				
Altitude [m]	Altitude [ft]	V_{NE}(IAS) km/h	kt	mph
0-2000	0-2000	262.8	142	163
3000	9843	253	137	157
4000	13123	241	130	150
5000	16404	228	123	142
6000	19685	215	116	134
7000	22966	204	110	127
8000	26247	192	104	119
9000	29528	180	97	112
10000	32808	170	92	106

AEROBATICS

WITH MAX. PERMITTED A.U. WEIGHT OF 630 kg / 1389 lb AND WITHOUT WATER BALLAST THE FOLLOWING MANEUVERS ARE PERMITTED:

(A) Inside loops
(B) Stalled turns
(C) Lazy eight
(D) Spinning

Operating Conditions: See Flight Manual

WEAK LINK FOR TOWING

for Aerotow: **max. 850 daN (1910 lb)**
for Winch launch: **max. 950 daN (2135 lb)**

TIRE PRESSURE

Nose wheel : **3.0 bar (43 psi)**
Main wheel : **4.0 bar (57 psi)**
Tail wheel : (if installed) **3.0 bar (43 psi)**

LOAD ON THE SEATS (crew incl. parachutes)

SEAT LOAD	TWO PERSONS min.	TWO PERSONS max.	ONE PERSON min.	ONE PERSON max.
front seat load	**100** kg **220** lb **(70** kg**)** **(154** lb**)**	**110** kg **243** lb	**100** kg **220** lb **(70** kg**)** **(154** lb**)**	**110** kg **243** lb
rear seat load	at choice	**110** kg **243** lb	———	———

valid for the following battery location(s):

2 batteries	in front of rear stick mounting frame (C1, C2)

Maximum cockpit seat load: **210** kg / **463** lb

Maximum cockpit load (load on both seats) may not be exceeded. For seat loads below the placarded minimum refer to Flight manual - section 6.2.
The value shown in parenthesis may be used after having thoroughly checked the ballast quantity in the fin tank an appropriate loading chart.

WITH NOSE SKID:
Minimum cockpit load raised by 3 kg / 6.61 lb!

Note: Further placards are shown in the Maintenance Manual.

Weight and Balance

	Kg	Lbs	Arm
Empty Weight	440.7	971.5	508.56 mm 20.02”
Empty wt of non-lifting parts	229.7	506.4	
Maximum weight of non-lifting parts - loaded	440.0	970.0	
Maximum Payload	210.3	463.6	
Max takeoff weight without ballast	660.0	1455.0	
Maximum takeoff and landing weight with ballast	750.0	1653.7	
Minimum front seat load solo	100	220	-1440mm / -56.69”
Minimum front seat load – dual	70	154	
Maximum combined front and rear seat load	210.3	463.6	
Rear pilot seat max load		242	-280mm/-11.02”
Trim ballast plates (max 3)	3.9	8.6	-1925 mm
Water Ballast wing CG : max 198 ltr/ 52.3 US gal			65 mm/ 2.56”
Water Ballast tail fin – max 11 ltr / 2.91 US gal			5320 mm/ 209.45”

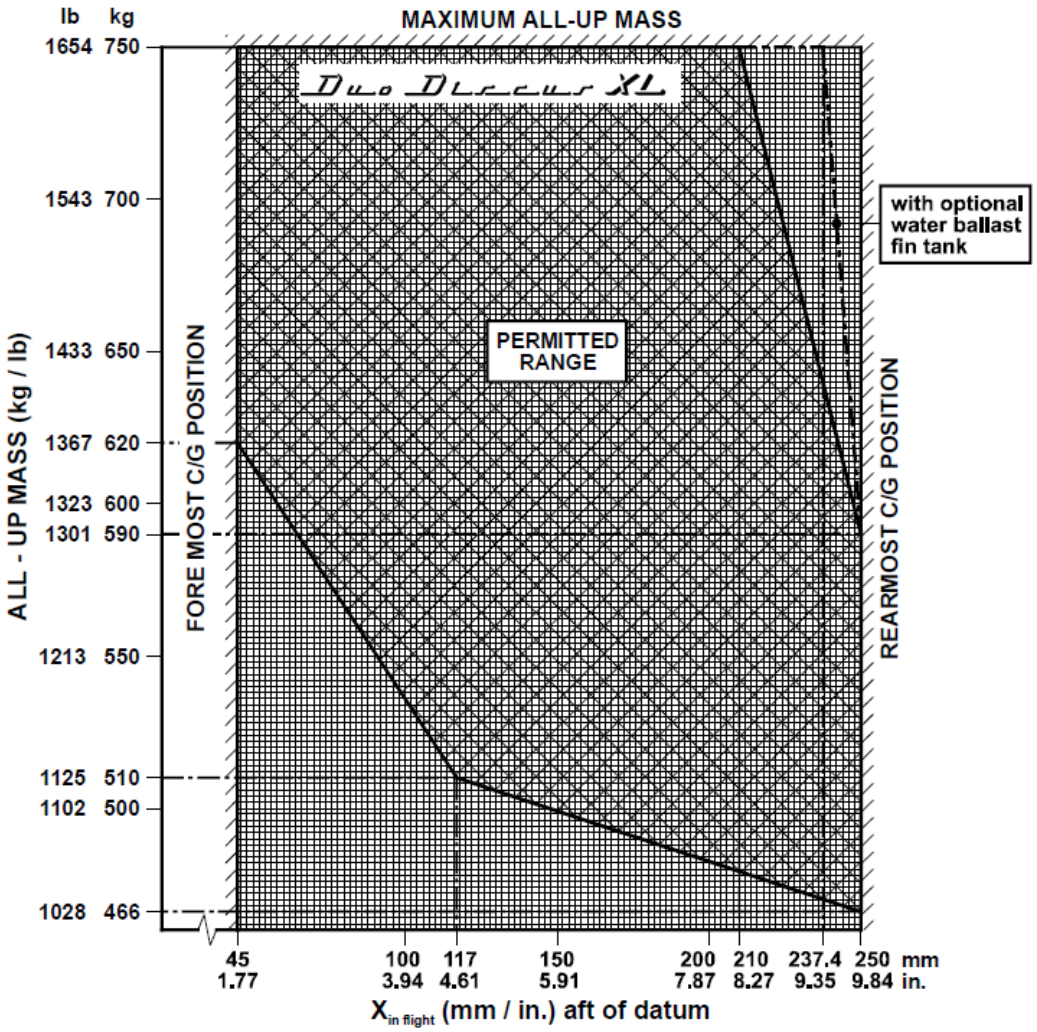
Note: datum point is the wing leading edge

Placarded weight limits see placard section

Sample weight and balance calculations:

		Weight	Arm	Moment
	Aircraft	971.5	20.02	19449.43
	Front	242	-56.69	-13718.98
	Reat	200	-11.02	-2204
Tail Ballast Liters	0	0	209.45	0
		1413.5	2.49	3526.45

		Weight	Arm	Moment
	Aircraft	971.5	20.02	19449.43
	Front	250	-56.69	-14172.5
	Reat	200	-11.02	-2204
Tail Ballast Liters	10	22	209.45	4607.9
		1443.5	5.32	7680.83



Ballast:

Ballast in the tail fin may be used to compensate for wing ballast and rear seat weight in order to maintain an aft CG for performance. If tail ballast is used to offset the forward CG of occupants, it should not be dumped before landing.

* When flown with two occupants, the minimum load on the front seat can be reduced by 25% of the load on the rear seat. This reduction of the minimum load on the front seat is allowed only if the nose heavy moment of the load in the rear seat is not compensated by water ballast in the fin. (i.e., the rear seat weight may not be used to offset a light front seat weight and then use fin ballast to offset the rear seat weight).

Loading tail fin ballast

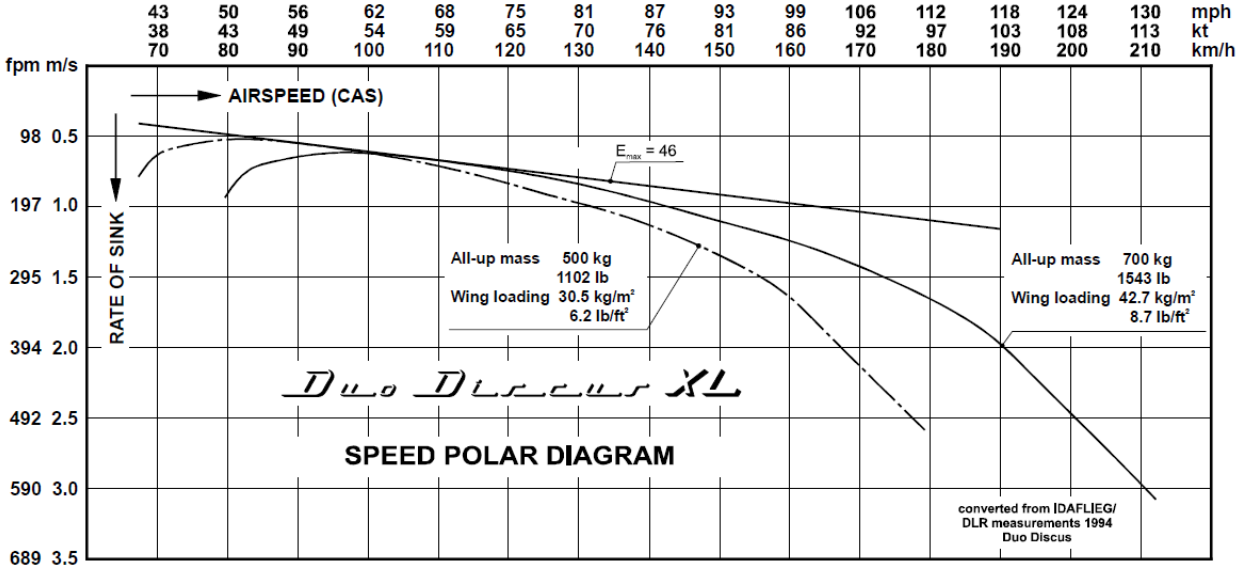
- Determine the desired tail ballast weight.
- Set the pitch trim to full nose up (this holds the elevator out of the way of he fill hlole)
- Ensure dump valve is closed
- Tape over weep holes to one below the desired level (e.g., if 10 liters is desired cover up to the holes up to and including the 9 liter level).
- Place water in bucket on top of tail surface
- Place syphon hose into small hole in between elevator and rudder.
- Allow water to flow until it seeps out of the open weep hole.
- Remove syphon hose.

Performance

Approximate performance values

	1100 lb (130 lb pilot)	**1343 lb** (2 185# pilots)	**1543 lb** (2 200# pilots + 172# /78 lts ballast)
L/D: 46:1	52 kt	55 kt	57 kt
L/D at 80 kts	30:1	32.5:1	36:1
Min Sink	45 kt 98 fpm (53@45°)	49 kts 110 fpm (58 @ 45°)	53 kts 120 fpm (63@45°)
Vs	38	42	45

Max wt with water ballast 1654 lb



Flight Characteristics

The "Duo Discus" has pleasant flight characteristics and can be flown effortlessly at all speeds, loading conditions (with or without water ballast), configurations and c/g positions.

With a mid-point c/g position the maximum speed range covered by the elevator trim is from about 70 km/h (38 kt, 43 mph) to about 200 km/h (108 kt, 124 mph).

Flying characteristics are pleasant and the controls are well harmonized.

Turn reversal from + 45° to - 45° is effected without any noticeable skidding in approximately 4½ seconds. Ailerons and rudder may be used to the limits of their travel.

High speed flying

At high speeds up to VNE = 262,8 km/h (142 kt, 163 mph) the “Duo Discus” is easily controllable.

Full deflections of control surfaces may only be applied up to VA = 180 km/h (97 kt, 112 mph).

At VNE = 262,8 km/h (142 kt, 163 mph) only one third (1/3) of the full deflection range is permissible. Avoid especially sudden elevator control movements.

It strong turbulence, i.e. in wave rotors, thunderclouds, visible whirlwinds or when crossing mountain ridges, the speed in rough air VRA = 180 km/h (97 kt, 112 mph) must not be exceeded.

With the c/g at an aft position, the control stick movement from the point of stall to maximum permissible speed is relatively small, though the change in speed will be noticed through a perceptible change in control stick loads.

The airbrakes may be extended up to VNE = 262,8 km/h (142 kt, 163 mph). However, they should only be used at such high speeds in emergency or if the maximum permitted speeds are being exceeded inadvertently. When extending the airbrakes suddenly, the deceleration forces are noticeable.

At speeds above 180 km/h (97 kt, 112 mph) extend the airbrakes only gradually (allow 2 seconds).

Maximum pitch down with airbrakes fully extended:

1654 lb: 34°

1388 lb: > 45°

Spin Tendency

With the center of gravity in the foremost position, a steady spinning motion is not possible. The “Duo Discus” stops rotating after a half or a full turn and usually enters a spiral dive

Procedures

Normal Procedures

Assembly

Unlock airbrake lever and set water ballast control to closed for rigging and de-rigging.

Left wing first. Wing tip rigger must lift trailing edge for proper alignment of wing attachment pin

Insert main pin 1.2”to prevent wing panel from sliding out. Place wing stand under left wing

Insert right wing. When airbrakes extend, push fully home with some pressure.

Push wing pin fully in and secure handle with locking pin engaged in metal fitting on fuselage inner skin.

Insert spar of wing tip extension – with locking pin pushed down and aileron deflected upwards – into the spar tunnel of the inboard wing panel(s). When fully home, the spring-loaded pin must have engaged (snapped up) in the corresponding opening on the inboard wing panel(s). Make sure that the coupling lap on the lower side of the inner aileron has correctly slid under the adjacent outer aileron.

Take the round-headed rigging tool (to be stored in the side-pocket) and screw into the front tailplane locating pin on the leading edge of the fin. Thereafter slide the tailplane aft onto the two elevator actuating pins, pull rigging tool and its pin forward, seat stabilizer nose and push locating pin home into the front tailplane attachment fitting.

Remove rigging tool – locating pin must not protrude in front of the leading edge of the fin. Check whether the elevator actuating pins are really located (by moving the elevator) and check that the nose of the stabilizer is properly mated with the top of the fin.

Pitot and Total Energy probes go in the labled holes on the tail leading edge.

Before Takeoff Checklist

CHECK LIST BEFORE TAKE-OFF
O Water ballast in fin tank ? (if installed)
O Loading charts checked ?
O Parachute securely fastened ?
O Safety harness secured and tight ?
O Seat back, head rest and pedals in comfortable position ?
O All controls and instruments easily accessible ?
O Airbrakes checked and locked ?
O All control surfaces checked with assistant for full and free movement in correct sense ?
O Elevator trim correctly set ?
O Canopy closed and locked ?

Takeoff

Prior to take-off set elevator trim as follows:

• Rearward c/g positions: Lever forward to first third of its travel

• Other c/g positions: Lever to the middle of its travel

As the tow rope tightens, apply the wheel brake gently (by actuating the stick-mounted lever) to prevent the “Duo Discus" from overrunning the rope.

In crosswind conditions the aileron control should be held towards the downwind wing, i.e. in winds from the left the stick should be displaced to the right. This is to counteract the lift increase on the right wing generated by the tug's prop wake, which the crosswind forces to drift to the right.

For intermediate to forward c/g positions the elevator should be neutral for the ground run; in the case of rearward c/g positions it is recommended that down elevator is applied until the tail lifts.

Approach

Normal approach speed with airbrakes fully extended and wheel down is

90 km/h (49 kt, 56 mph) without water ballast and flown solo, or 105 km/h (57 kt, 65 mph) at maximum permitted all-up mass. The yellow triangle on the ASI at the 95 km/h mark (51 kt, 59 mph) is the recommended approach speed for the maximum all-up mass without water ballast (660 kg / 1455 lb). The airbrakes open smoothly.

The approach to the ground can be done slowly with airbrakes fully extended because no pancaking occur when flaring out - also when retracting the airbrakes. Side slipping is also fine aid for landing. It is possible in a straight line with the rudder deflected up to about 90 % of its travel and results in a yaw angle of about 30° and a bank angle of about 10° to 15°. The control force reversal perceptible is low. To return to level flight, normal opposite controls are required.

CAUTION: With rudder fully deflected, side slips in a straight flight path are not possible - the sailplane will slowly turn in the direction of the displaced rudder.

- Side slipping causes the ASI to read less.

- During side slip with water ballast some water escapes through the vent hole of the water tank filler cap of the lower wing. Prolonged slips with water ballast are therefore not recommended.

Landing

For off-field landings the undercarriage should always be extended, as the protection of the crew is much better, especially from vertical impacts on landing.

Main wheel and tail wheel should touch down simultaneously.

To avoid a long ground run, make sure that the sailplane touches down at minimum speed.

A touch-down at a speed of 90 km/h (49 kt, 56 mph) instead of 70 km/h (38 kt, 43 mph) means that the kinetic energy to be dissipated by braking is increased by a factor of 1.65 and therefore the ground run is lengthened considerably. As the effectiveness of the wheel brake is good, the landing run is considerably shortened (the elevator control should be kept fully back).

Abnormal and Emergency Procedures

Flying with uneven water ballast

If, on dumping water ballast, the wing tanks are emptying unevenly or only one side – which is recognized at lower speeds by having to apply opposite aileron for normal flying attitude – entering a stall must be avoided.

When landing in this condition, the touch down speed must be increased by about 10 km/h (5 kt, 6 mph) and the pilot must be prepared for the “Duo Discus” to veer off course as the heavier wing tends to drop somewhat sooner than normal (apply opposite aileron).

Jettisoning the canopy

The canopy is to be jettisoned as follows:

- Swing back one of the red locking levers –
- provided on the port side of the canopy frame –
- up to the stop (approx. 90°) and swing canopy sideways fully open.
- The canopy will then be torn out from its hinges by the airstream and gets carried away.

Bailing Out

For leaving the cockpit, the person on the front seat should bend upper part of the body slightly forward, grap the canopy coaming frame of the fuselage with both hands and lift the body.

The person on the rear seat should grap the cut-out on either side of the instrument panel and use the canopy coaming frame or the arm rest of the seat pan for support.

Emergency water landing

From experience gained on the occasion of a composite sailplane landing on water with its undercarriage retracted, the crew must take into consideration that, in the case of the “Duo Discus”, the entire cockpit might get forced under water.

Therefore an emergency landing on water should only be chosen as a last resort and the main wheel should always be extended.

Clear Nav Vario operation

CNv Quick Start Card - Club Software - Version 2.6.2362

CNv Encoder Operation

Upper Left (UL) Encoder
Navigates left/right to desired screen.
Normal rotation scrolls through all screens sequentially.
A fast CCW spin always displays the Cruise/Climb screen.
A fast CW spin always displays the Settings Screen

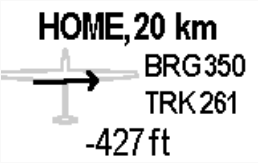
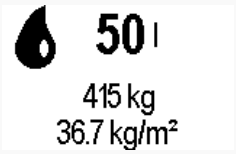
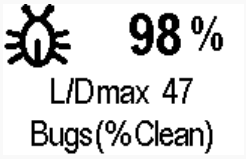
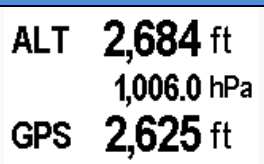
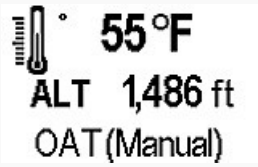
Lower Right (LR) Encoder
Controls vario volume in Cruise/Climb Screen.
Changes Flight parameters (MC, Bugs, Audio Volume, etc.).
Supports Setup parameters (Glider Model, Weight, Constants, etc.).
Selects Display Screen Set (Flight, Settings, or Info).

Flight Screens

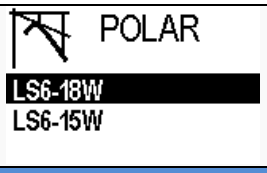
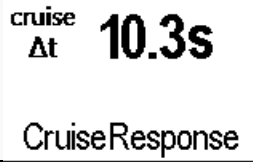
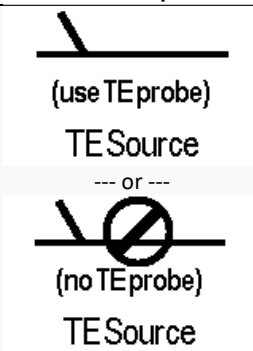
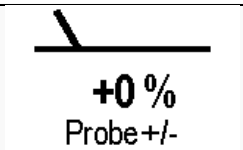
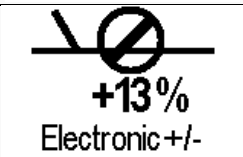
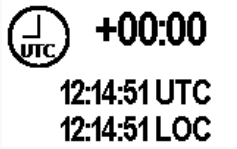
Climb Screen
- 20 Second Climb Average - The top row displays the average climb rate for the last 1,2 .. 20 seconds
- Total Climb Average - The lower row shows the average climb rate for the total climb duration. Max duration is one hour.
- Both values are reset to zero when the manual cruise/climb switch is cycled.
- When automatic C/C switching is in use the screen typically switches to Climb at about 45 degrees or one eighth of a turn. The two averages and the timers however are reset after the first few degrees of any turn so that if/when the vario goes into climb mode the averages (and the timers) display values from the first point at which turning was detected.

Cruise Screen
- The Netto value is the calculated vertical speed of the airmass based on the last 1 – n seconds of cruise flight where n = cruise time constant. The timer shows duration from the start of the current glide.
- Average can be N or RN, depending on option chosen in Utility.
- The STF is dynamic using selected flight parameters (polar, ballast, bugs and MC) and vertical air mass motion.
- Each chevron corresponds to a five knot difference between the indicated airspeed and the speed-to-fly
- Wind direction and velocity are displayed lower right.

Mac Cready Screen
- The MC Value is adjusted using the LR encoder.
- The STF is calculated using the MC setting, ship polar, dry weight, ballast, and bug % entered by the pilot. This is the STF in neutral air.

	**Winds Screen** - The solid black arrow shows the direction of the wind relative to the ground track. - Tail wind is displayed on the left side of the screen - a tail wind of two knots is depicted. - The wind strength is 8 kts and is blowing from 352 degrees.
	**NAVIGATE HOME Screen** - The coordinates for HOME and the elevation of the home field must be entered using the configuration utility. - In this example, the glider has to turn right ~ 90 degrees to get home. but is 427 below the altitude required to arrive with zero margin. - The arrival height differential is the distance to ground plus the margin set in margin screen.
	**Ballast Screen** - Ballast may be liters or US gallons as set in the CNv Utility. - For US gallons the AUW of the ballasted glider is computed and displayed in lbs. - For liters the AUW of the ballasted glider is computed and displayed in kg. AUW = Dry Weight + Ballast
	**Bugs / Clean Screen** - Estimated bug coverage is adjusted using the LR encoder. - 100% = no bugs. - The impact on L/D is displayed for reference
Glider Settings	
	**ALT/ GPS Screen** - The altimeter setting can be adjusted using the LR encoder.
	**OAT** - The outside temp can be entered – if the outside temp probe is not installed.
	**Margin Height** - Altitude margin added to Get HOME calculations for a higher finish.
	***Dry Weight*** Dry weight is the manufacturer's weight of the empty ship + instruments + pilot + chute + all other baggage. i.e. the actual weight of the ship with you in it - sitting on the takeoff grid - not including ballast.

...

	***Polar*** A representative set of polars is available. Polar (glider) is selectable using the lower encoder. Any new polar may be defined using the configuration utility
Vario Settings	
	***Pointer Response*** Pointer Response is adjusted using the LR encoder. 2.5 seconds is the default. Pointer and Audio time constants are independently adjustable.
	***Audio Response*** Audio Response is adjusted using the LR encoder. 2.5 seconds is the default. Pointer and Audio time constants are independently adjustable.
	***Cruise Response*** This time constant controls the behavior of the STF chevrons and the netto (or relative netto) averages on the display.
	***TE Source*** TE Probe or Electronic TE is selected using this screen set. The LR encoder toggles between two screen options: 1/ Use TE probe 2/ No TE probe The option selected here determines which TE compensation adjustment screen (following) will be displayed.
	***TE Probe Compensation*** This screen appears next with a CW turn of the UL encoder if the 'Use TE probe' option is selected above.
	***TE Electronic Compensation*** This screen appears next with a CW turn of the UL encoder if the 'No TE probe' option is selected above.
	***UTC*** The LR encoder is used to enter the UTC offset required for a correct local time display

Volume

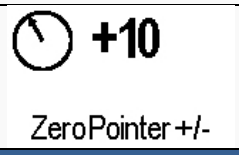
Audio Level (volume) is adjusted using the LR encoder. The Lower Right encoder always functions as a volume control on the Cruise/Climb Screen

Backlight

Backlight brightness level is adjusted using the LR encoder. Pilot can adjust the CNv screen backlight from 0 - 100%

Gear / Spoiler Warning Activation

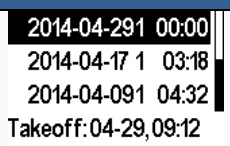
- Screen allows activation / deactivation of Gear and Spoilers Warnings.
- Switch connections from the gear and spoiler actuators must be made to the ADC.
- The warning will flash over the top of all screens until gear or spoiler retraction is completed.



ZERO POINTER

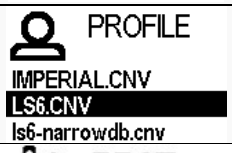
Screen allows pilot to position the mechanical pointer at the zero position.

Tools



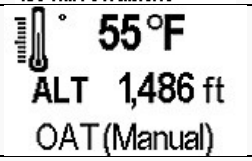
LOGBOOK

Provides view of prior flight dates, duration and take-off time.



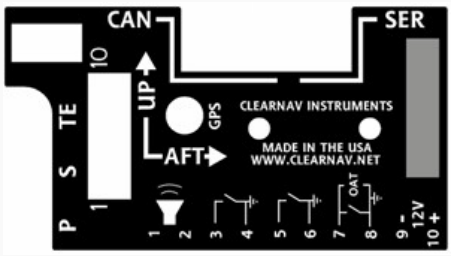
Profile

Allows selection of a profile from multiple options created in the PC utility and transferred to the CNv using the USB stick.



OAT

- The outside temp can be entered – if the outside temp probe is not installed.



ADC Connections 3/4, 5/6, and 7/8 pairs may be used for gear and spoiler warnings; manual cruise/climb switching; and an OAT. 7/8 can support both OAT and C/C control but ONLY if a momentary switch is used for C/C control.

The CNv PC Utility assigns function. Refer to release notes for details.