Katana DV 20

Operator: **Fliegergruppe Wien** im österreichischen AERO- Club **A -2540 Flugplatz Bad Vöslau** www.fliegergruppe.at

OE-AFG: BJ. 1994 WerkNr: 20071
Eingebaut am 10.4.2006 in Hofkirchen Motornummer: Rotax 912 Baureihe A3 WerkNr. 4,410664 Bj 2005
Prop. Hoffmann Baumuster H=VHO-V352F/C170FQ; WerkNr H306A

OE-AFG

KATANA DV 20

BORDEXEMPLAR

PREFLIGHT INTERIOR

Remove flight control lock
Ignition key on trim knob
Circuit breakers all in
Battery/Master switch on
Check fuel quantity
Exterior lights on
Check exterior lights
Exterior lights off
Battery/Master switch off
Fuel shut off-valve open
Main spar pin secured

PREFLIGHT EXTERIOR

Left main gear
Strut
Wheel fairing
Tire condition, pressure, position mark
Brake, hydraulic line

Left wing
Wing leading edge, top- and bottom surface
Stall warning
Pitot-static probe
Wingtip, lights
Aileron (freedom of movement, hinges, counterweights, control linkage, security)
Wing flap

Fuselage belly
Fuel vent
Fuel drain

Tail
Elevator & rudder (freedom of movement, hinges, cable condition, security)
Trim tab

Right wing
Wing flap
Aileron (freedom of movement, hinges, counterweights, control linkage, security)
Wingtip, lights
Wing leading edge, top- and bottom surface

Right main gear
Strut
Wheel fairing
Tire condition, pressure, position mark
Brake, hydraulic line

Nose section
Propeller and spinner
Air inlets (6)

Nose gear
Strut
Wheel fairing
Tire condition, pressure, position mark

Engine bay
Oil level
Coolant level

Coolant: use only EVANS NPG+
do not add water to the system !!!

Bugradegabel entfernt ??? !!!

CHECK BEFORE ENGINE START

1	Preflight check	COMPLETED	1
2	Baggage and tow bar	SECURED	2
3	Fuel shut-off valve	OPEN	3
4	Rudder pedals	ADJUSTED	4
5	Seat belts	FASTENED	5
6	Canopy	CLOSED + LATCHED	6
7	Parking brake	SET	7
8	Flight controls	CHECKED	8
9	Altimeter	SET	9
10	All switches	OFF	10
11	Circuit breakers	CHECKED IN	11
12	Ignition	OFF	12
13	Avionics master switch	OFF	13
14	Battery/Master switch	ON	14
15	Fuel quantity	CHECKED	15
16	Gen. & LowV light	CHECKED ON	16
17	Fuel pressure low light	CHECKED ON	17
18	Engine counter reading	NOTED	18
19	ACL	ON	19
20	Fuel pump	ON, CHECK NOISE	20
21	Fuel pressure low light	CHECKED OUT	21
22	Carburettor heat	COLD	22
23	Propeller	HIGH RPM	23

ENGINE START PROCEDURE

Throttle..... AS REQUIRED
Choke..... AS REQUIRED
Prop area ..... CLEAR
Starter..... ENGAGE
Oil pressure..... GREEN ARC within 10 sec
Throttle..... 1200 RPM

CHECK AFTER ENGINE START

1	Oil pressure	CHECKED	1
2	Gen. & LowV light	CHECKED OUT	2
3	Avionics master switch	ON	3
4	Fuel pump	OFF	4
5	Fuel pressure low light	CHECKED OUT	5
6	Fuel pump	ON	6
7	Radios and GPS	ON	7
8	Gyros & altimeter	SET	8
9	Instruments	CHECKED	9
10	Ampere meter	LOADING	10
11	Flaps	CHECKED FULL TRAVEL	11
12	Trim	SET	12
13	Nav aids and frequencies	SET	13
14	Transponder	ALT (if required)	14

DURING TAXI

Check brakes
Check flight instruments

BEFORE TAKE OFF CHECK

1	Parking brake	SET	1
2	Gyros & altimeter	RECHECKED	2
3	Engine instruments	CHECKED	3

RUN UP PROCEDURE

Throttle..... 1700 RPM
Magnetos ..... checked 175 / 50 RPM
Propeller governor.....3 times
Carburettor heat .....checked

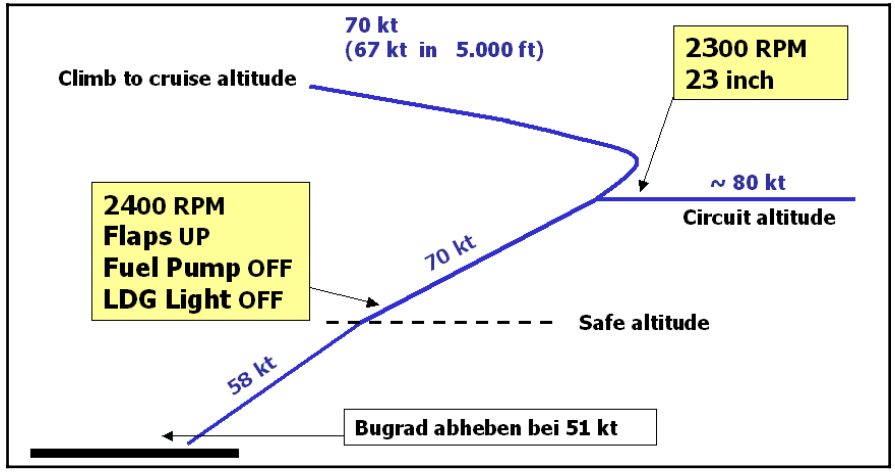
4	Flaps	SET FOR TAKE-OFF	4
5	Transponder	ALT	5
6	Parking brake	RELEASED	6

LINE UP PROCEDURE

Landing light..... on
Approach sector ..... clear
Runway..... identified
Gyro.....check rwy hdg

AFTER TAKE-OFF PROCEDURE

After passing safe altitude:
RPM.....2400
Flaps ..... up
Fuel pump ..... off
Landing light..... off



CLIMB TO CRUISE CHECK

1	Landing Light	CHECKED OFF	1
2	Flaps.....	CHECKED UP	2
3	Fuel pump	CHECKED OFF	3
4	RPM	2400	4

PERIODICALLY DURING CRUISE

***F**uel **R**adio **E**ngine **D**irection **A**ltitude*

DESCENT / APPROACH CHECK

1	Landing data	RECEIVED	1
2	Altimeter	SET	2
3	COM / NAV.....	SET	3
4	Gyro	SET	4
5	Carburettor heat	AS REQUIRED	5

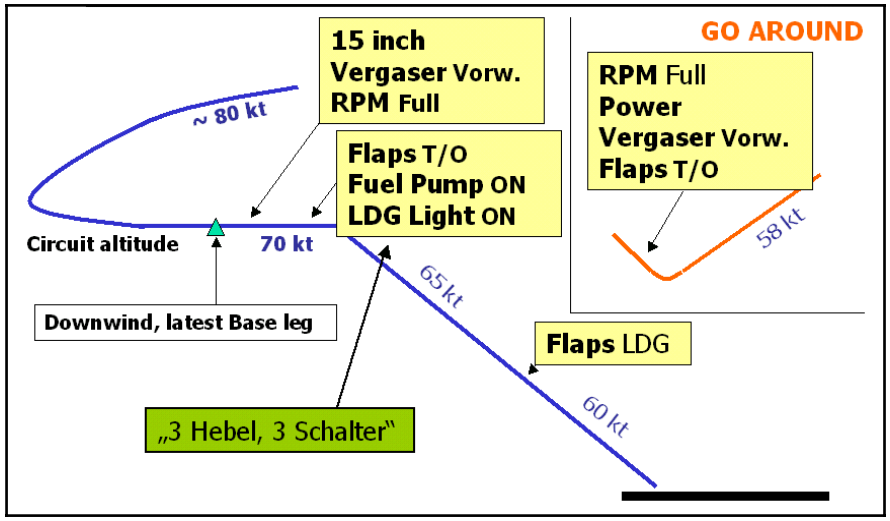
BEFORE LANDING PROCEDURE

"3 levers – 3 switches"
1. *Throttle .....15 inch*
2. *Carburettor heat ..... on*
3. *RPM .....full*
1. *Flaps .....T/O*
2. *Fuel pump..... on*
3. *Landing light ..... on*

On final:
Flaps ..... as required

GO AROUND PROCEDURE

RPM and throttle ..... FULL
Carburettor heat ..... OFF
Flaps .....T/O
Continue with take-off profile



AFTER LANDING CHECK

(when reaching taxi speed)

1	Carburettor heat	OFF	1
2	Flaps	UP	2
3	Fuel pump	OFF	3
4	Landing light	OFF	4
5	Transponder	SBY	5

PARKING CHECK

1	Parking brake	SET	1
2	Position lights, transponder, GPS	OFF	2
3	ELT	121,5 CHECKED	3
4	Avionics master switch	OFF	4
5	Starter key	OFF	5
6	ACL	OFF	6
7	Battery/Master switch	OFF	7
8	Engine counter reading	NOTED	8

EMERGENCY LANDING

1	Carburettor heat	OFF	1
2	Flaps	T/O	2
3	Speed	70 kts	3
4	Fuel shut-off valve	CLOSED	4
5	Ignition	OFF	5
6	ATC	MAYDAY CALL	6
7	Flaps	AS REQUIRED	7
8	Battery/Master switch	OFF	8

ENGINE ROUGHNESS

1	Carburettor heat	ON	1
2	Fuel pump	ON	2
3	Choke	OFF (PUSHED IN)	3
4	Magnetos	CHECKED, then BOTH	4
5	Throttle	KEEP POSITION	5
	If no success:		
6	Throttle	REDUCE POWER	6
	Land ASAP		

WINDMILL ENGINE START

1	Minimum speed	54 kts	1
2	Recommended speed	70 kts	2
3	Flaps	TAKE-OFF	3
4	Propeller	MAX RPM	4
5	Fuel pump	ON	5
6	Ignition	BOTH	6
7	Fuel shut-off valve	OPEN	7
8	Throttle	2 cm	8
	If no start within 10 seconds:		
9	Throttle	IDLE	9
10	Choke	ON (PULLED)	10
11	Starter	ENGAGE	11

POWERED ENGINE START

1	Minimum speed	54 kts	1
2	Recommended speed	70 kts	2
3	Flaps	TAKE-OFF	3
4	All switches	OFF	4
5	Battery/Master switch	ON	5
6	Fuel shut-off valve	OPEN	6
7	Propeller	MAX RPM	7
8	Fuel pump	ON	
	Cold engine:		
9	Throttle	IDLE	9
10	Choke	ON (PULLED)	10
	Warm engine:		
11	Throttle	2 cm	11
12	Choke:	OFF (PUSHED IN)	12
13	Starter	ENGAGE	13
	When engine starts:		
14	Oil pressure	CHECKED	14
15	Choke	OFF (PUSHED IN)	15
16	Electrical systems	AS REQUIRED	16
17	Oil temperature	CHECKED	17

LOW OIL PRESSURE

1 Oil temperature ..... CHECKED 1

- If oil temperature normal:

Land ASAP

- If oil temperature is rising:

2 Throttle ..... REDUCE POWER 2

Land ASAP, be prepared for emergency landing

LOW FUEL PRESSURE

1 Fuel pump ..... ON 1

If fuel pressure low light still on:

Land ASAP, be prepared for emergency landing

GENERATOR WARNING

1 Ampere meter ..... CHECK 1

If pointer left of 0:

2 All unnecessary equipment ..... OFF 2

Land ASAP

LOW/V WARNING ON GROUND

1	RPM	1200	1
2	Landing light	OFF	2
3	Position lights	OFF	3
4	Ampere meter	CHECK	4

If LowV light still on and Ampere meter left of 0:

Discontinue operation

LOW/V WARNING IN FLIGHT

1	Landing light	OFF	1
2	Ampere meter	CHECK	2

If LowV light still on and Ampere meter left of 0:

3 All unnecessary equipment ..... OFF 3

Land ASAP

ENGINE FIRE ON GROUND

1 Fuel shut-off valve ..... CLOSED
2 Throttle ..... FULL
3 Battery/Master switch..... OFF
4 Ignition ..... OFF

Evacuate - Extinguish

ELECTRICAL FIRE / SMOKE ON GROUND

1 Battery/Master switch..... OFF
2 Throttle ..... IDLE
3 Ignition ..... OFF
4 Canopy..... OPEN

Extinguish – Evacuate

ENGINE FIRE IN FLIGHT

1 Speed ..... 70 kts
2 Flaps.....T/O
3 Fuel shut-off valve ..... CLOSED
4 Throttle ..... FULL
5 Fuel pump ..... OFF
6 Cabin heat ..... OFF
7 Emergency landing checklist.....PERFORM

ELECTRICAL FIRE / SMOKE IN FLIGHT

1 Battery/Master switch..... OFF
2 Cabin heat ..... OFF
3 Cabin ventilation.....ON
4 Fire extinguisher..... USE when smoke persistent

IMPORTANT: Ventilate cabin when using fire extinguisher

If fire extinguished and electrical supply necessary:

5 Avionics master switch ..... OFF
6 All switches..... OFF
7 Battery/Master switch.....ON
8 Avionics master switch .....ON
9 Radios.....ON

Land ASAP

OPERATING SPEEDS	
	Kt
Best gliding angle (Flaps 10°)	70
Best angle of climb (V_X)	58
Best rate of climb (V_Y)	65
Cruising climb speed	70
Rotating speed	51
Max. flap speed (V_{FE})	81
Landing speed Flaps 0°	65
Landing speed Flaps 10°-40°	60
Stalling speed (V_{S0})	38
Stalling speed (V_{S1})	43
Max. cruising speed (V_{NO})	117
Never exceed speed (V_{NE})	157
Manoeuvring speed (V_A)	104
Max. turbulence speed	117

POWERSETTING and CRUISING SPEEED							
Press Alt	Cruise TAS (kt)				65%		
	55%	65%	75%	85%	RPM	MP	ltr/hr
SL	81	92	98	106	2.100	26	13,0
2.000	84	95	102	110	2.100	25	13,3
4.000	87	100	107	115	2.200	24	14,0
6.000	90	103	110		2.300	23	16,3
8.000	92	106	114		2.300	22	17,7
10.000	94	110			2.400	20	18,7
Cons.	16 ltr/hr	18 ltr/hr	20 ltr/hr	21 ltr/hr			
Endurance	4:45 hrs	4:15 hrs	3:45 hrs	3:40 hrs			

Recommended Quick-setting		
	RPM	MP
High Speed Cruise	2.400	Maximum minus 0,7
Economical Cruise	2.300-2.200	Maximum minus 1 - 2

LIMITATIONS

Max. TKOF power	5 min. 2550 RPM
Max. cruise RPM	2420 RPM
Landing light	Max. 5 min. continuously ON Max. 6 min. per hour
Position lights	Max. 30 min. per hour
Max. fuel on board	79 Liter
Max. usable fuel	77 Liter 56 kp

Max. TKOF weight	730 kp
Empty weight	508 kp
Max. load incl. fuel	222 kp
Max. load with full tank	166 kp
Max. baggage weight	20 kp

TAKE OFF BRIEFING

NORMALSTART OF RUNWAY…….

CROSSWINDCOMPONENT……..KT FROM ……..

ROTATE BY ……KT BEFOR / AFTER MID FIELD INDICATOR

INITIAL CLIMB …..KT UNTIL …… FEET THEREAFTER ……KT

LANDINGAREA …….…….. OBSTACLES ARE……..

EMERGENCYLANDING MAX ANGLE 45° LEFT / RIGHT

IN CASE OF EMERGENCY OR FIRE **BEFOR TAKE OFF**

1. POWER IDLE
2. BREAKS FULL APPLY
3. INFORM ATC

IN CASE OF EMERGENCY **AFTER TAKE OFF**

1. SPEED 70 KNOTS OR……..
2. MIXTURE; FUELSELECTOR; IGNITION OFF
3. FLAPS FULL
4. MASTERSWITCH OFF
5. DOORS UNLOCK