

Katana - On The Ground

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PreFlight Check	
AC Docs	Checked
Master Switch	OFF
Magnetos	OFF
All Avionics	OFF
All Electric	OFF
Foreign Objects	none
Flight controls	Check free
Main bolts / Temp. Indic.	Check (DV20 / DA20)
Master switch	ON
-- Fuel Pump	ON+OFF
-- Fuel Indication	check
-- External Lights	check
-- All electric	OFF
Master switch	OFF
ELT	Check auto
Chocks + tie down	REMOVE
Nose gear	Check (1,8 bar)
Cowling	check
Engine oil + coolant	check
Air intakes – check	check
Propeller + spinner	check
Stall warning	check
Pitot static probe	check
Fuel sump	drain
Fuel cap	check
Left main gear & breaks	Check (2,3 bar)
Left wing, aileron, flaps	check
Tail section	check
Elevator + rudder	check
Right wing, aileron, flaps	check
Right main gear & breaks	Check (2,3 bar)

Before Engine Start	
Pedals	Adjust
Fuel valve	Check ON
Circuit breakers	Check IN
HobbsTime	Note
SeatBelts	Fastened
Canopy	Closed & latched; R & L

Engine Start	
Parking Break	Set
Propeller control	Check full RPM
Carburetor heat	Check OFF
Avionics	Check OFF
Master switch	ON
Warning Lights	Check ON
ACL / Strobes	ON
Fuel Pump	On / check fuel pressure
-- cold start	-- Throttle – closed -- Choke – ON
-- warm start	-- Throttle – 2cm open -- Choke – OFF
Check Area	Clear!!!
Magnetos	Start
Throttle	1000 rpm
Oil pressure	Green
Choke	OFF
Fuel pump	OFF
All Warning Lights	OFF

Before Taxi	
Avionics/Electrics	ON+set for dep.
Flaps	Full travel; then T/O
Elevator trim	Set neutral
Altimeters	Set QNH
Horizon	Check G5
Directional Gyro	Check G5
Fuel indication	Check

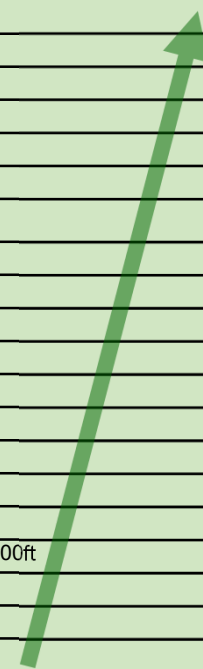
Taxi	
Taxi / Landing Light	ON
Brakes	Check
Flight instruments	Check

Before Take Off	
Parking Break	SET
Taxi / Landing Light	OFF
Engine Instruments	Green range
Throttle	1900 rpm
Propeller	Exercise 3x
Magnetos	L/Both/R/Both (max drop 150/50)
Carb heat	ON / OFF
Ammeter	Check (Pos/Flaps)
Throttle	1000 rpm
Flaps	TO position
Flight Controls	Check Free
Canopy	Latched re+le
Seat Belts	Tighten

Departure Briefing	
ATC clearance	
RWY in use	
Departure Route	
Contingency Procedure	
COM / NAV prepared	

Take Off Briefing	
Rotate @ 51 kts	
Initial climb (TO)	
Vx (TO) – 58 kts -> 50ft	
Vy (TO) – 65 kts	
In case of any malfunction	
- Idle + breaks	
Engine fail after rotate	
RWY sufficient – reland	
RWY not sufficient	
Speed (TO) 59 kts	
Throttle – FULL	
Propeller Control – FULL	
Carburetor Heat – OFF	
Choke – OFF	
Max 30° heading change	
Not turn back below AGL+1000ft	
IF TIME PERMITS	
Fuel Valve – ON	
Fuel Pump – ON	
Ignition – BOTH	
Emergency Landing	
Fuel Valve – CLOSED	
Ignition – OFF	
Flaps – FULL	
Electric Master – OFF	
Seatbelts - TIGHTEN	

Line Up	
Fuel Pump	ON
Landing Light	ON
Transponder	ALT – 7000
Approach Sector	Clear
Runway	Identified
Time	noted



Katana - In the Air

Climb Check

Set RPM	Max. green range
Throttle	FULL
Carb heat	OFF
Flaps	UP
Fuel Pump	OFF
Landing Light	OFF
Speed	70 kts

Cruise Check

Altimeters	Set
Power	Set
Directional Gyro	Check G5
Fuel Quantity	Check

Approach Briefing

ATIS
VHF – Frequency
RWY in use
AD altitude / QNH
Altitude Traffic Pattern
Go Around Procedure
COM / NAV set
Vfe = 81 kts
Approach = 70 kts (TO)
Final = 65 kts (LDG)
Short final = 60 kts (LDG)

Descent / Approach Check

Approach Briefing	Complete
Altimeter	SET
Directional Gyro	Check G5
Carb heat	As required

Approach

Carb heat	ON
Manifold	14"
Flaps	TO (check speed)
Landing Light	ON
Fuel Pump	ON
Speed	70 kts

Final

Flaps	FULL
Prop	High RPM
Speed	65 / 59 kts

Go Around

Throttle / Prop	FULL Forward
Carb heat	OFF
Flaps	TO
Climb speed	65 kts

Touch / Go

Flaps	TO
Carb heat	OFF
Throttle / Prop	FULL Forward
Rotate	51 kts
Initial (50ft)	58 kts
Climb speed	65 kts

Katana - In the Air

Speeds

Rotate – 51 kts
Vx (TO) – 58 kts (50ft)
Vy (TO) – 65 kts
Vy (UP) – 70 kts
Va – 104 kts
Vno – 117 kts
Vne – 161 kts
Final Approach (LDG) – 59 kts
Flapless (UP) +5 kts
Glide after TO (TO) – 59 kts
Glide (TO) – 70 kts (730kg)
Glide (TO) – 64 kts (600kg)
Glide = 2,5NM / 1000ft
Vso = 38 kts
Vs = 43 kts
Vfe = 81 kts

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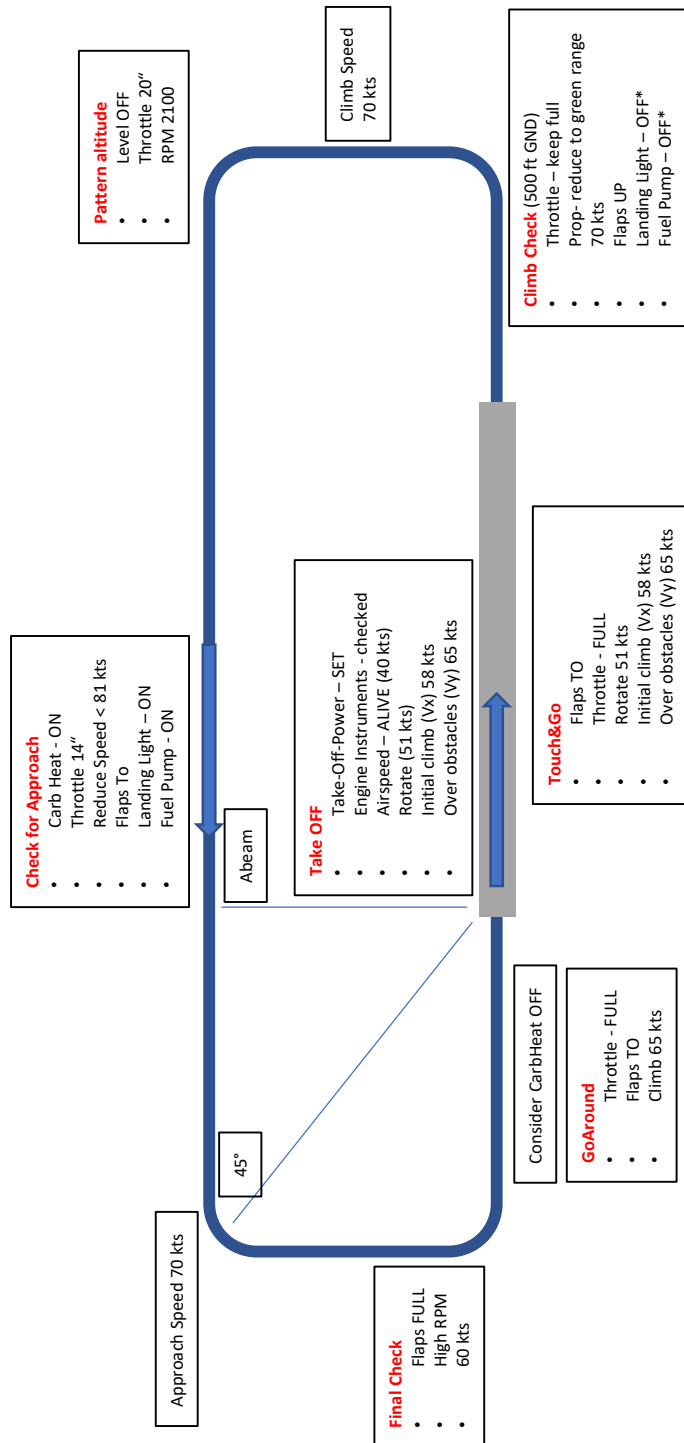
After Landing

Carb heat	OFF
Transponder	STBY
Flaps	UP
Taxi / Landing Light	As required
Fuel pump	OFF
Time	noted

Parking Check

Parking break	Set
Taxi / Landing Light	OFF
Block ON	Noted
Avionics & electrics	OFF
Throttle	Closed
Magnetos	OFF
ACL / Strobes	OFF
Electric Master	OFF
FlightPlan	Close
Hobbs Time	noted

Katana - In the Air



* Consider Fuel Pump and Landing light in Pattern only

100PS - Power 55%

	RPM	MP	L/h
MSL	1900	24,7	13,6
2000	1900	24	14,4
4000	1900	23,3	15,6
6000	2000	22	16,8
8000	2100	21	18
10000	2200	19,7	19,2
12000	2260	18	20,4

100PS - Power 65%

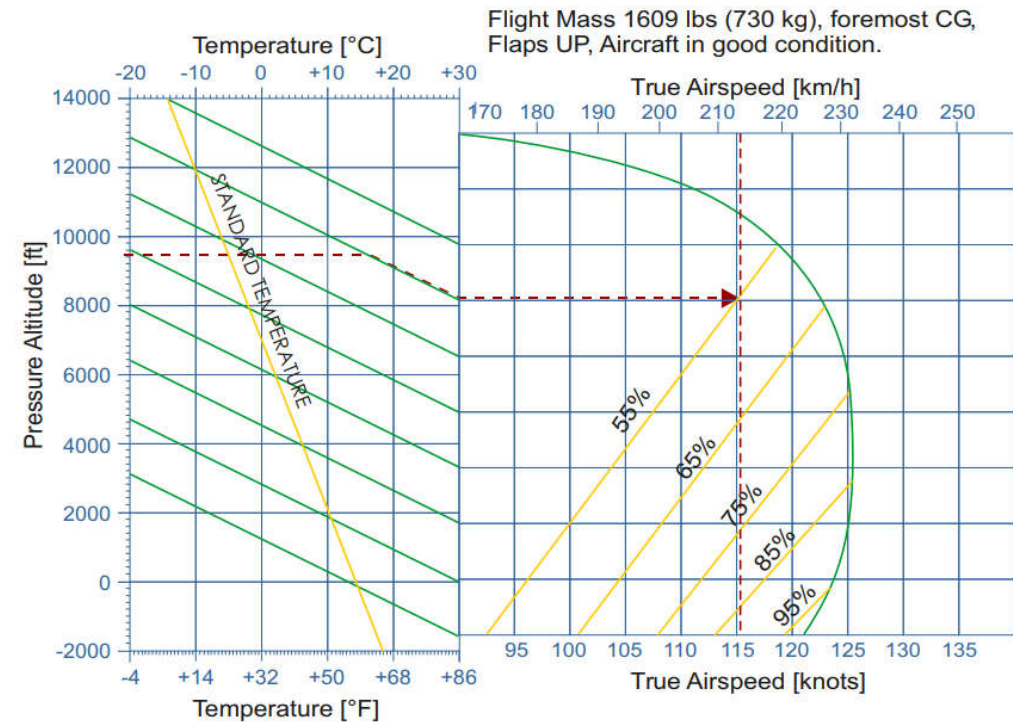
	RPM	MP	L/h
MSL	2000	25,7	15,6
2000	2000	24,7	16
4000	2100	23,3	16,8
6000	2200	22,7	19,6
8000	2200	21,7	21,2
10000	2260	20,3	22,4

100PS - Power 75%

	RPM	MP	L/h
MSL	2100	27	18
2000	2200	25,7	18,4
4000	2260	24,3	19,6
6000	2260	23,3	23,2
8000	2260	22	23,6

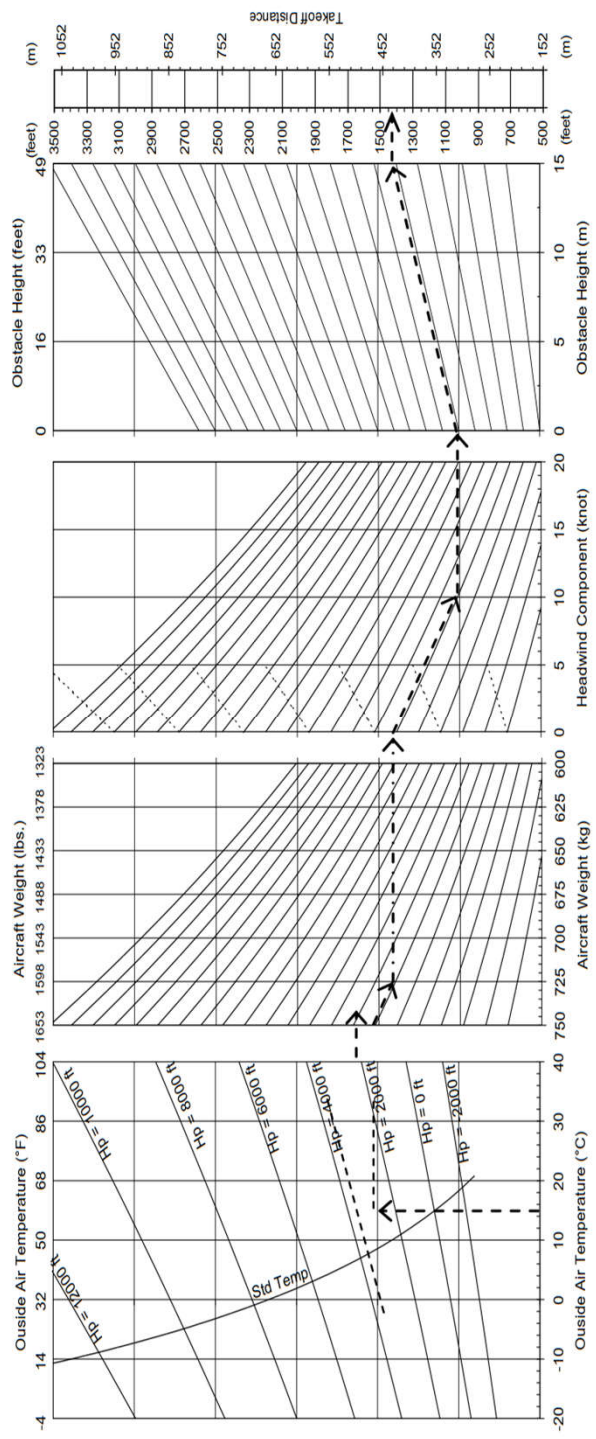
100PS - Power 85%

	RPM	MP	L/h
MSL	2260	27,7	22
2000	2260	26,7	22,4
4000	2260	25,7	25,2



Emergency Speeds Engine Fail after TO – 59 kts (TO) Maneuvering Speed – 104 kts Best Glide (TO) 70 kts – 730 kg 64 kts – 600 kg Glide 2,5 NM / 1000ft Power off landing – 59 kts (LDG)	Cabin Fire / Smoke during flight Master Switch – OFF Cabin Heat – OFF Cabin Air – OPEN Fire Extinguisher - USE Land as soon as possible	Engine restart (prop full stop) Electric Consumers – OFF Master Switch – ON Prop High RPM Fuel Valve - OPEN Fuel Pump – ON Throttle - Cold – closed; Choke ON - Warm – 2cm open; Choke OFF Ignition Switch - START	Electrical Fire on Ground Master Switch – OFF Throttle – IDLE Fuel Valve – CLOSED Ignition Switch – OFF EVACUATE Fire Extinguisher - USE
Engine Fail After TakeOff (=TO Briefing) Speed 59 (TO) Throttle - FULL Propeller Control – FULL Carburetor Heat – OFF Choke - OFF If time permits Fuel Valve – ON Fuel Pump ON Magnetos – BOTH	Engine Troubleshooting Caburator Heat – ON Throttle – present position Speed 70 – TO Flaps Fuel Pump – ON Fuel Valve - ON Magnetos - CHECK	Oil Pressure Oil Temp – check Oil Temp normal Land at nearest Airfield Oil Temp high / rising Reduce power to min. Land at nearest Airfield Prepare for emergency landing	Generator Warning Ammeter – check Switch off all non essential equipment
Engine Fire during flight Fuel Valve – CLOSED IAS – 70 kts (TO) Throttle - FULL Fuel Pump – OFF Cabin Heat – OFF Master Switch – OFF Prepare for emergency landing	Prepare Emergency Landing Mayday Call - Consider Squawk - 7700 Final Approach Fuel Valve – Closed Ignition – OFF Flaps – LDG - Speed 59 Master Switch - OFF Seatbelts - Fastened Flaps UP Landing: +5kt	Fuel Pressure Fuel Pump – ON Fuel Pressure Warning light is still on Land at nearest Airfield Prepare for emergency landing	Electrical Failure Battery C/B - check Master Switch – check Alternator Master Switch – OFF/ON Reduce electrical load Land at nearest Airfield
Electrical Fire during flight Master Switch – OFF Cabin Heat – OFF Cabin Air – OPEN Fire Extinguisher – USE If extinguished Avionics Master – OFF ...Electrical Consumer – OFF ...Master Switch – ON Avionics Master – ON ...Land as soon as possible	Engine resart (windmilling) IAS > 54 kts -> Prop windmills IAS 70 kts (TO) Prop High RPM Fuel Valve – OPEN Fuel Pump – ON Ignition – BOTH Throttle 2 cm open If engine does not start within 10 sec. – cold start Throttle – IDLE Choke – ON Ignition Switch - START	Engine Fire during startup Fuel Valve – CLOSED Throttle - FULL Master Switch OFF Ignition – OFF EVACUATE	

Take off Distance



Conditions:

- Maximum take-off power
- Lift-off speed 53 KIAS and speed for climb over obstacles 57 KIAS
- Level runway, paved
- Wing Flaps in T/O

Example:

- Pressure Alt 3000 ft
 - OAT 15°C
 - Mass 725 kg
 - Headwind 10 kts
- Result:**
- Take off Roll 312m
 - Take off Distance (50ft) Obstacle 434m

Landing Distance

Figure 5.11: Landing and Rolling Distances for Heights Above MSL

Height above MSL	ft.	0	1000	2000	3000	4000	5000
	(m)	(0)	(305)	(610)	(914)	(1219)	(1524)
Landing Distance	ft.	1532	1593	1653	1714	1775	1836
	(m)	(467)	(486)	(504)	(522)	(541)	(560)
Landing Roll Distance	ft.	790	813	837	862	889	916
	(m)	(241)	(248)	(255)	(263)	(271)	(279)

Conditions:

- Idle
- Max. T/O mass
- Max. RPM
- Approach Speed 59 kts
- Level runway, paved
- Flaps LDG
- Standard setting, MSL

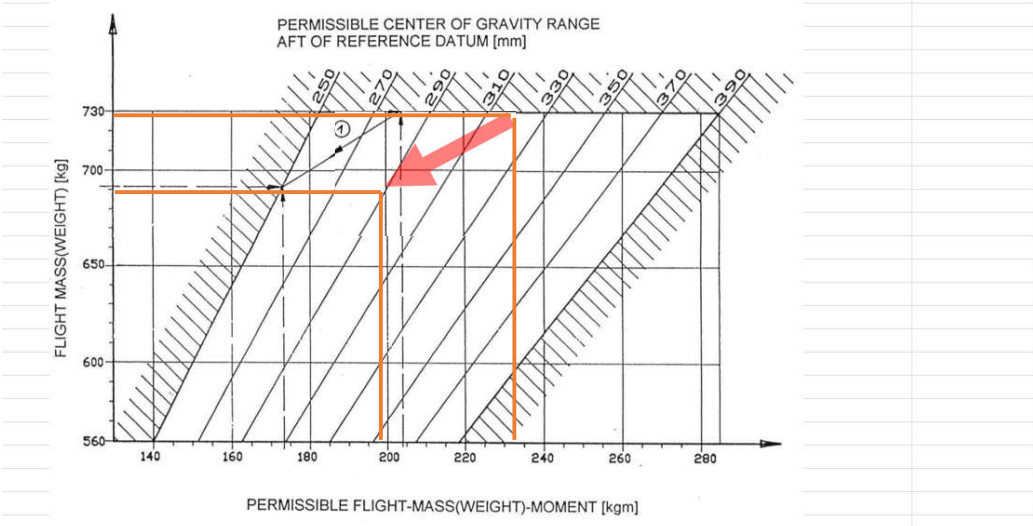
Example:

- Over 50 ft obstacle: 454m
 - Landing roll: 228m
- For each 2500 ft additional height above MSL add 10%

Mass & Balance OE-CDV

Weight report 2021-03-10

OE-CDV	Center of Gravity			MTOM	730,0 kg
	lever arm	kg	kgm		
empty mass	0,319	508,10 kg	162,23	Tank: 79l max (77l usable)	
Crew (max. 110kg/seat)	0,143	170,00 kg	24,31	Mogas: 0,75kg/l; 79l = 59,25kg	
Baggage (max. 20kg)	0,824	10,00 kg	8,24	Avgas: 0,72kg/l; 79l = 56,9kg	
ZFM		688,10 kg	194,78		
Fuel (kg)	0,824	37,50 kg	30,90	Take Off Fuel (usable)	50 l
Summe		725,60 kg	225,68		
CG after plain in mm			311,025	max usable load left	221,9 kg
				crew / baggage left	184,4 kg
				allowable CG range	250 - 390 mm



Mass & Balance OE-ARW

Weight report 2019-09-23

OE-ARW	Center of Gravity			MTOM	750,0 kg
	lever arm	kg	kgm		
empty mass	0,311	511,30 kg	159,14	Tank: 76l max (74l usable)	
Crew (max. 110kg/seat)	0,143	170,00 kg	24,31	Mogas: 0,75kg/l; 76l = 57kg	
Baggage (max. 20kg)	0,824	10,00 kg	8,24	Avgas: 0,72kg/l; 76l = 54,72kg	
ZFM		691,30 kg	191,69		
Fuel (kg)	0,824	55,50 kg	45,73	Take Off Fuel (usable)	74 l
Summe		746,80 kg	237,42		
CG after plain in mm			317,919	max usable load left	238,7 kg
				crew / baggage left	183,2 kg
				allowable CG range	250 - 390 mm

