

## DA20-C1 AIRCRAFT PERFORMANCE

N \_\_\_\_\_ Katana DA20-C1 Year: \_\_\_\_\_ HP: \_\_\_\_\_

<b>Inspections</b>	<b>Weight Limits</b>
Annual _____ ELT Batt _____	Gross Wt. _____
100 Hr. _____ Xpndr _____	Useful Load _____
(tach) _____	Max Baggage _____
AD Cur yes / no Squawk go / nogo	

<b>Weight and Balance Calculation</b>			
ITEM	WEIGHT	ARM	MOMENT
EMPTY WEIGHT	_____	----	_____
Pilot & Co-Pilot	_____	5.63	_____
Baggage Area (44 lbs.)	_____	32.44	_____
Fuel (_____ gal usable)	_____	32.44	_____
Takeoff Weight (1720 lbs.)	_____		_____
Takeoff C.G. (8.03-12.24)	_____		_____
Estimated Fuel Burn	_____	32.44	_____
Landing Weight	_____		_____
Landing C.G. (8.03-12.24)	_____		_____

<b>Performance Calculation</b>	
ATIS wind: _____@_____ ?C/dew: _____/_____ Alt: _____ Rwy: _____	
Press Alt: _____ Density Alt: _____ X-Wind: _____ H-Wind: _____	
Takeoff Distance – Short Field (Ground Run) _____	
Takeoff Distance – Short Field (50' Obstacle) _____	
Landing Distance – Short Field (50' Obstacle) _____	
<b>Headwind – decrease distance by 10% for each 9 kts</b>	
<b>Tailwind – increase distance by 10% for each 2 kts</b>	

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## KATANA DA20-C1 PRE-FLIGHT CHECKLIST

### FLIGHT PLANNING

Airplane ..... CHECK MAINTENANCE RECORDS  
Route & Navigation Planning ..... COMPLETE  
Weather ..... BRIEFING COMPLETE  
Baggage ..... WEIGHED  
Weight & Balance / CG ..... CALCULATED / WITHIN LIMITS  
Performance Planning ..... COMPLETE  
Flight Plan ..... FILED

### INSIDE CABIN

Aircraft Papers ..... ARROW  
Aircraft Hobbs & Tachometer ..... VERIFY  
Headset, Charts, Lapboard ..... ON BOARD  
Baggage ..... STOWED & SECURE  
Structural Temperature Indicator ..... LESS THAN 131° F / 54.5° C  
Flight Control Lock ..... REMOVED  
Ignition Switch ..... OFF  
Avionics Master Switch ..... OFF  
Circuit Breakers ..... IN  
Compass Deviation Card ..... CHECKED  
Cabin Heat ..... OFF  
Parking Brake ..... OFF  
Throttle ..... IDLE  
Mixture ..... IDLE CUTOFF  
GEN/BAT Switch ..... ON  
Warning Lights ..... ILLUMINATED  
Fuel Quantity Indicators ..... CHECK QUANTITY  
Engine Gauges ..... CHECK  
Map Light ..... OPERATIONAL  
Instrument Lights ..... OPERATIONAL and DIMMABLE  
Trim ..... NEUTRAL  
Wing Flaps ..... EXTEND and RETRACT FULLY  
Trim and Flap Indicator Lights ..... OPERATIONAL  
Landing Light / All Other Lights ..... CHECK OPERATION  
GEN/BAT Switch ..... OFF  
Emergency Locator Transmitter ..... ARM  
Fire Extinguisher ..... CHECK  
Rescue Hammer ..... CHECK  
Canopy ..... CLEAN and UNDAMAGED

## KATANA DA20-C1 PRE-FLIGHT CHECKLIST

### LEFT WING

Stall Warning ..... CHECK, SUCK ON OPENING  
Pitot Static Probe ..... CLEAN, HOLES OPEN  
Tie Down / Chocks ..... REMOVE  
Left Main Gear (33 psi) ..... CHECK  
Taxi and Landing Lights ..... CHECK  
Wing Tip, Position Lights, Strobe ..... CHECK  
Aileron Balancing Weight ..... CHECK  
Aileron Including Inspection Panel ..... CHECK  
Wing Flap Including Inspection Panel ..... CHECK

### FUSELAGE

Skin ..... CHECK  
Fuel Tank Vent ..... CHECK  
Fuel Drains (tank sump and filter bowl) ..... DRAIN / SAMPLE  
Fuel Quantity ..... VISUAL (use pipette)  
Antennas ..... CHECK

### EMPENNAGE

Stabilizers and Control Surfaces ..... CHECK  
Tie Down ..... REMOVE  
Fixed Tab on Rudder ..... CHECK

### RIGHT WING

Wing Flap Including Inspection Panel ..... CHECK  
Aileron Balancing Weight ..... CHECK  
Aileron Including Inspection Panel ..... CHECK  
Wing Tip, Position Lights, Strobe ..... CHECK  
Tie Down / Chocks ..... REMOVE  
Right Main Gear (33 psi) ..... CHECK

### NOSE

Engine Oil Level ..... CHECK (4 – 6 quarts)  
Cowling ..... CHECK SECURE  
Air Intakes ..... CLEAR  
Propeller & Spinner ..... CHECK FOR NICKS & SECURITY  
Alternator Belt ..... CHECK  
Nose Gear (26 psi) ..... CHECK  
Wheel Chocks ..... REMOVE

\*\*\* Push aircraft across tie-down cable if applicable \*\*\*

**BEFORE ENGINE START**

Preflight Inspection .....COMPLETE  
 Cell Phones and Pagers ..... OFF  
 Rudder Pedals ..... ADJUST & LOCK  
 Seats, Belts, and Shoulder Harnesses ..... ADJUST & LOCK  
 Passenger Briefing .....COMPLETE

Flight Plan – Seat Belts – Door & Window Operation – Exit to Rear – Meet at Tail

Parking Brake ..... SET, PEDALS PUMPED FOR PRESSURE  
 Flight Controls ..... FREE  
 Fuel Shut-off Valve ..... OPEN  
 Avionics Master Switch ..... OFF  
 GEN/BAT Switch ..... ON  
 Generator Warning Light ..... ILLUMINATED  
 Nav Lights / Strobes ..... ON  
 Instrument Panel Lighting ..... AS REQUIRED  
 Canopy ..... CLOSE and SECURE  
 Canopy Unlock Warning Light ..... OFF  
 ATIS ..... OBTAIN / SET ALTIMETER

**READY FOR ENGINE START****STARTING ENGINE**

Mixture ..... FULL RICH  
 Throttle ..... IDLE  
 Brakes ..... HOLD  
 Propeller Area ..... SHOUT "CLEAR"  
 Ignition Key ..... IN  
 Fuel Pump ..... ON  
 Fuel Prime ..... ON  
 Throttle ..... FULL for 3 to 5 SECONDS  
 Ignition Switch ..... START (release when engine starts)  
 Throttle ..... 800 – 1000 RPM  
 Fuel Prime ..... OFF  
 Oil Pressure ..... GREEN  
 Fuel Pressure ..... CHECK  
 Mixture ..... FULL RICH  
 Voltmeter ..... CHECK  
 Warning Lights, Gen, Canopy, Start ..... PUSH TO TEST  
 Starter Warning Light ..... OFF  
 Wing Flaps ..... CRUISE

**ENGINE START COMPLETE****FLIGHT INSTRUMENTS**

Avionics Master Switch ..... ON  
 Intercom ..... CHECK  
 Magnetic Compass (MC) ..... CHECK  
 Airspeed Indicator (ASI) ..... CHECK  
 Attitude Indicator (AI) ..... CHECK  
 Turn Coordinator (TC) ..... CHECK  
 Heading Indicator (HI) ..... CHECK  
 Vertical Speed Indicator (VSI) ..... CHECK  
 Clock ..... CHECK

**FLIGHT INSTRUMENT CHECK COMPLETE****NAV / COMM RADIO**

Com 1 ..... TOWER / CTAF  
 Com 2 ..... GRND / FSS  
 Nav 1 ..... SET VOT / VOR & ID  
 Nav 2 ..... SET VOT / VOR & ID  
 HSI / OBS ..... COMPARE  
 Sensitivity (5? = ½ scale) ..... EACH WAY  
 Ambiguity (tune reciprocal & check sensitivity) ..... EACH WAY

**NAV / COMM CHECK COMPLETE****GPS / COMM RADIO**

Power ..... ON  
 Self Test OK? ..... ENT  
 Initialization (date, time, Ref) OK? ..... ENT  
 Database (North American) Acknowledge? ..... ENT  
 Waypoint Page ..... CURR AIRPORT  
 Comm Freq Set ..... LEFT KNOBS  
 NAV 2 Page (Present Position) ..... RIGHT KNOBS  
 Direct To ..... INITIATE  
 Enter Waypoint Identifier ..... RIGHT KNOBS  
 Display Waypoint Page ..... ENT  
 Approve Waypoint Page ..... ENT  
 NAV 1 Page (

**GPS CHECK COMPLETE**

Transponder ..... SET 1200 / TEST / STANDBY  
 Taxi Light ..... ON  
 Parking Brake ..... RELEASED

\*\*\* Obtain Permission to Taxi \*\*\*

**KATANA DA20-C1****Before Takeoff / Runup****RUNUP CHECK**

Parking Brake ..... SET, PEDALS PUMPED FOR PRESSURE  
 Canopy ..... CLOSED and LOCKED  
 Canopy Unlock Warning Light ..... OFF  
 Flight Controls ..... FREE & CORRECT  
 Elevator Trim ..... NEUTRAL  
 Fuel Shutoff Valve ..... OPEN  
 Fuel Quantity ..... CHECK  
 Fuel Pressure ..... CHECK  
 Fuel Prime ..... OFF  
 Fuel Pump ..... ON

Throttle ..... 1700 RPM  
 Mixture ..... FULL RICH  
 Magnetos ..... CHECK  
 Oil Pressure ..... CHECK  
 Oil Temperature ..... 75° min  
 Alternator Load ..... CHECK  
 Vacuum Gauge ..... CHECK  
 Throttle ..... IDLE (engine does not falter)  
 Throttle ..... 1000 RPM

Circuit Breakers ..... CHECK PUSHED IN  
 Flight Instruments ..... CHECK & SET  
 Radios ..... SET  
 Transponder ..... ON ALTITUDE  
 Landing Light ..... ON  
 Wing Flaps ..... TAKEOFF  
 Takeoff Briefing ..... COMPLETE

Rotation Speed: \_\_\_\_\_ KIAS

Takeoff Distance: \_\_\_\_\_ feet

Runway Length: \_\_\_\_\_ feet

Parking Brake ..... RELEASED

**\*\*\* Obtain Permission to Take Off \*\*\***

**KATANA DA20-C1****Normal Flight Checklist****NORMAL TAKEOFF**

Wing Flaps ..... TAKEOFF  
 Throttle ..... FULL OPEN  
 Rotate ..... 44 KIAS  
 Climb Speed ..... 70 KIAS

**CLIMB**

Flaps (400 ft AGL) ..... CRUISE  
 Airspeed ..... 70-80 KIAS  
 Throttle ..... FULL OPEN  
 Mixture ..... FULL RICH  
 Elevator Trim ..... ADJUST  
 Landing Light ..... OFF (or as required)

**CRUISE**

Fuel Pump ..... OFF  
 Throttle ..... (no more than 75% recommended)  
 Mixture ..... LEAN TO 25 deg F RICH OF PEAK  
 Elevator Trim ..... ADJUST  
 Engine Instruments ..... CHECK

**DESCENT**

Fuel Pump ..... ON  
 Mixture ..... FULL RICH  
 Power ..... AS DESIRED  
 CHT (240 deg F min – not below 300°F for more than 5 min) ..... MONITOR

**APPROACH**

Gas (fuel pump) ..... ON  
 Undercarriage ..... CHECK  
 Mixture ..... FULL RICH  
 Propeller ..... CHECK  
 Safety (seats, belts, and shoulder harnesses) ..... SECURE  
 Landing Light ..... ON

## Katana DA20-C1

## Airspeeds for Safe Operation

### Takeoff – Flaps Takeoff

Rotation ..... 44 KIAS  
 Short Field, Flaps Up, Clear 50 feet ..... 52 KIAS

### Enroute Climb – Flaps Cruise

Normal Climbout ..... 70-80 KIAS  
 Best Rate of Climb ..... 70 KIAS  
 Best Angle of Climb ..... 60 KIAS

### Landing Approach

Downwind – Flaps CRUISE ..... 70 KIAS  
 Base – Flaps T/O ..... 60 KIAS  
 Final – Flaps LDG ..... 55 KIAS

### Balked Landing

Maximum Power – Flaps T/O ..... 58 KIAS  
 Maximum Power – Flaps LDG ..... 53 KIAS

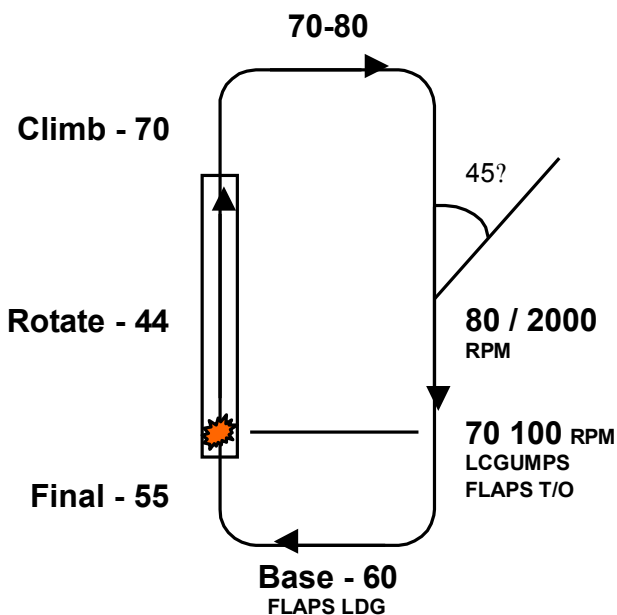
### Maximum Speed in Turbulent Conditions

1720 lbs. .... 106 KIAS

### Best Glide

Flaps CRUISE ..... 70 KIAS  
 Flaps T/O ..... 60 KIAS  
 Flaps LDG ..... 53 KIAS

Maximum Demonstrated Crosswind Velocity ..... 15 Knots



## Katana DA20-C1

## After Landing Checklist

### AFTER LANDING CHECK

Wing Flaps ..... CRUISE  
 Mixture ..... FULL RICH  
 Landing Lights / Strobes ..... AS REQUIRED  
 Transponder ..... STANDBY

### AFTER LANDING CHECK COMPLETE

### SHUTDOWN

Parking Brake ..... SET, PEDALS PUMPED FOR PRESSURE  
 Throttle ..... 1000 RPM  
 Ignition Switch ..... PERFORM MAGNETO SAFETY CHECK  
 Throttle ..... 1700 RPM  
 Mixture ..... LEAN FOR MAXIMUM RPM  
 Fuel Pump ..... OFF  
 Avionics Master Switch ..... OFF  
 Electrical Equipment, Autopilot (if installed) ..... OFF  
 Taxi / Landing Lights ..... OFF  
 Throttle ..... 1000 RPM  
 Mixture ..... IDLE CUTOFF  
 Ignition Switch ..... OFF, KEY OUT OF IGNITION  
 GEN/BAT Switch ..... OFF  
 Parking Brake ..... RELEASED

### SHUTDOWN COMPLETE

### SECURING AIRCRAFT

Chocks & Tie-downs ..... SPECIFIC TO FACILITY  
 Control Lock ..... INSTALL  
 Aircraft Hobbs & Tachometer ..... RECORD  
 Windows ..... CLOSE  
 Electrical Switches ..... VERIFY OFF  
 Ignition Switch ..... VERIFY OFF  
 GEN/BAT Switch ..... VERIFY OFF  
 Canopy ..... LOCK  
 Post Flight Inspection ..... COMPLETE

### AIRCRAFT SECURED