

**PREFLIGHT**

Aircraft Documents.....ON BOARD  
 Fire Extinguisher.....CHARGED & SECURE  
 Structural Temperature Indicator.....CHECK  
 Tie Downs.....REMOVED/ON-BOARD  
 Flight Control Lock.....REMOVE  
 Rudder Pedals.....ADJUSTED & LOCKED  
 Parking Brake.....ON  
 Magnetos.....OFF  
 Avionics Master Switch & Electrics.....OFF  
 GEN/BAT Master Switch.....ON  
 Fuel Quantity.....CHECK  
 Flaps.....LDG  
 Warning Lights.....ON  
 GEN/BAT Master Switch.....OFF

**EXTERIOR INSPECTION**

**LEFT WING**  
 Left Main Landing Gear.....CHECK  
 Stall Warning.....CHECK  
 Pitot-Static Probe.....CLEAN, HOLES-OPEN  
 Lights.....VISUAL CHECK  
 Aileron, Wing Flap.....VISUAL CHECK

**FUSELAGE**  
 Fuel Tank Vent.....CHECK  
 Fuel Drains.....DRAIN WATER  
 Maintenance Fuel Drains.....NO LEAKS  
 Fuel Quantity.....VISUAL INSPECTION  
 Antennas.....VISUAL INSPECTION

**TAIL**  
 Stabilizers and Control Surfaces.....CHECK

**RIGHT WING**  
 Aileron, Wing Flap.....VISUAL CHECK  
 Lights.....VISUAL CHECK  
 Left Main Landing Gear.....CHECK

**NOSE**  
 Oil.....CHECK LEVEL ( 6-4 QUARTS)  
 Cowling.....VISUAL INSPECTION  
 Air Intakes.....CLEAR  
 Propeller.....CLEARANCE MIN 25 CM  
 Propeller Blades.....CHECK  
 Spinner.....VISUAL INSPECTION  
 Nose Gear.....CHECK

**BEFORE STARTING ENGINE**

Parking Brake.....ON  
 Brake Pressure.....CHECK  
 Baggage.....STOWED & SECURED  
 Seatbelts.....FASTENED & ADJUSTED  
 Flight Controls.....FREE & CORRECT  
 Canopy.....CLOSED & SECURE  
 Circuit Breakers.....CHECK  
 Fuel Shut-off Valve.....ON ( PUSH IN & LOCK)  
 Throttle.....FREE/IDLE  
 Throttle Friction.....CHECK  
 Alternate Air.....OFF  
 GEN/BAT Master Switch.....ON  
 Avionics Master Switch & Radio.....ON  
 ATC Clearance.....RECEIVED  
 Avionics Master Switch & Radio.....OFF  
 Altimeter.....SET QNH  
 Generator Warning Light.....ILUMINATE  
 Canopy Warn. Light.....OFF (PRESS/CHECK)

**ENGINE START**

Strobe/Position Lights.....ON  
 Throttle.....IDLE  
 Mixture.....FULL RICH  
 Brakes.....HOLD  
 Fuel Pump.....ON  
 Fuel Prime.....ON  
 Throttle.....FULL (3-7 SEC) THEN IDLE ¼ INCH  
 Propeller Area.....CLEAR  
 Starter.....ENGAGE (MAX 30 SEC)  
 Throttle.....800 - 1000 RPM  
 Oil Pressure.....CHECK  
 Fuel Prime.....OFF  
 Avionics Master Switch.....ON  
 Engine instruments.....CHECK

**FLOODED/WARM ENGINE START**

Strobe/Position Lights.....ON  
 Mixture.....FULL RICH  
 Brakes.....HOLD  
 Fuel Pump.....OFF  
 Fuel Prime.....OFF  
 Throttle.....HALF OPEN  
 Propeller Area.....CLEAR  
 Starter.....ENGAGE  
 Throttle.....ADJUST 1000 RPM  
 Oil Pressure.....CHECK  
 Avionics Master Switch.....ON  
 Engine instruments.....CHECK

**AFTER STARTING ENGINE**

Cabin Heat and Defrost.....AS REQUIRED  
 Flaps.....CHECK/CRUISE  
 Transponder.....STBY  
 Radios/NAV/GPS.....SET  
 Fuel Pump.....ON  
 Fuel Pressure.....CHECK > 3.5 PSI  
 Engine Instruments.....CHECK  
 Trim Indicator.....NEUTRAL

**TAXI**

Parking Brake/Taxi light.....OFF/ON  
 Brakes/Flight Instruments.....CHECK

**RUN UP POSITION**

Parking Brake/Taxi light.....ON/OFF  
 Mixture.....FULL RICH  
 Throttle.....1700 RPM  
 Oil Temp.....GREEN (170° - 220°F)  
 Oil Pressure.....NORMAL (30-60 PSI)  
 Alternator Load (Ammeter).....CHECK  
 Vacuum Gauge (KPX/KWH only).....CHECK  
 Mixture Lean Function.....CHECK  
 Magnetos.....CHECK (150 RPM ± 50 each)  
 Alternate Air.....ON/OFF ( NO RPM DROP)  
 Throttle.....MAX/IDLE THEN 1000 PRM  
 Engine instruments.....GREEN  
 Warning Lights.....NO ILUMINATE  
 Take-Off Briefing.....COMPLETED

**CHECK LISTS MARKED WITH THE THICK VERTICAL LINE ON THE LEFT SHOULD BE MEMORIZED**

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**LINE UP**

Parking Brake/Taxi/Landing Lights.....OFF/ON  
 Gyro.....CHECK  
 Trim Indicator.....NEUTRAL  
 Fuel Pump.....ON  
 Transponder.....ALT  
 Flaps.....T/O  
 Mixture.....FULL RICH

**TAKE-OFF**

Take-off power.....SET  
 RPM.....MIN 2000  
 Engine Gauges.....CHECK  
 Rotation.....44 KIAS  
 Climb speed.....58 KIAS

**CLIMB**

Throttle.....FULL  
 Flaps.....CRUISE  
 Landing/Taxi Light.....OFF

**CRUISE**

Cruise Power.....SET  
 Fuel Pump.....OFF  
 Altimeters.....SET  
 Mixture.....ADJUST

**DESCENT**

Mixture.....FULL RICH  
 Fuel Pump.....ON  
 Throttle.....AS REQUIRED

**FINAL**

Mixture.....FULL RICH  
 Flaps.....LDG  
 Fuel Pump.....ON  
 Landing/Taxi Light.....ON  
 Approach Speed.....65 KIAS

**GO AROUND**

Throttle.....FULL POWER  
 Flaps.....T/O  
 Airspeed.....58 KIAS

**RUNWAY VACATED**

Landing Light.....OFF  
 Flaps.....CRUISE  
 Transponder.....STBY

**SHUT DOWN POSITION**

Parking Brake/Taxi light.....ON/OFF  
 Electrics & Avionics.....OFF  
 Avionics Master Switch.....OFF  
 Throttle.....IDLE  
 Fuel Pump.....OFF  
 Engine.....COOLING  
 Mixture.....CUT OFF  
 Strobe/Position Lights.....OFF  
 Magnetos.....OFF  
 GEN/BAT Master Switch.....OFF  
 Tie Downs.....AS REQUIRED

# EMERGENCY PROCEDURES

# DA-20 C1 KATANA

# SP-KWH SP-KPX SP-KWG

## ENGINE FAILURE DURING TAKE-OFF RUN

Throttle.....IDLE  
Brakes.....AS REQUIRED  
Flaps.....CRUISE  
Mixture.....CUT OFF  
Magnetos.....OFF  
GEN/BAT Master Switch.....OFF

## ENGINE FAILURE AFTER TAKE-OFF

### INSUFFICIENT ENGINE POWER

Airspeed.....60 KIAS  
Throttle.....FULL  
Mixture.....FULL RICH  
Alternate Air.....OPEN  
Fuel Shut-off Valve.....OPEN  
Magnetos.....BOTH  
Fuel Pump.....ON

### SHORTLY BEFORE LANDING

Mixture.....CUT OFF  
Fuel Shut-off Valve.....CLOSED  
Magnetos.....OFF  
Flaps.....AS REQUIRED  
GEN/BAT Master Switch.....OFF

## ENGINE FAILURE DURING FLIGHT

### ENGINE RUNNING ROUGHLY

Mixture.....FULL RICH  
Alternate Air.....OPEN  
Fuel Shut-off Valve.....OPEN  
Fuel Pump.....ON  
Magnetos.....L-BOTH-R-BOTH  
Throttle.....PRESENT POSITION  
No improvement....THROTTLE IDLE / LAND ASAP

## RESTARTING THE ENGINE WITH PROPELLER WINDMILLING

Airspeed.....73 KIAS  
Mixture.....FULL RICH  
Fuel Shut-off Valve.....OPEN  
Magnetos.....BOTH  
Fuel Pump.....ON  
Fuel Prime.....ON  
Throttle.....3/4 INCH FORWARD

### AFTER SUCCESSFUL RE-START

Oil Pressure.....CHECK  
Oil Temp.....CHECK  
Fuel Prime.....OFF  
Electrically Equipment.....ON IF REQUIRED

## RESTARTING THE ENGINE WITH PROPELLER AT FULL STOP

Airspeed.....73 KIAS  
Electrically Equipment.....OFF  
GEN/BAT Master Switch.....ON  
Mixture.....FULL RICH  
Fuel Shut-off Valve.....OPEN  
Fuel Pump.....ON  
Fuel Prime.....ON  
Throttle.....3/4 INCH FORWARD  
Magnetos.....START

### AFTER SUCCESSFUL RE-START

Oil Pressure.....CHECK

Oil Temp.....CHECK  
Fuel Prime.....OFF  
Electrically Equipment.....ON IF REQUIRED

## GLIDING

Flaps.....CRUISE  
Airspeed.....73 KIAS  
Glide ratio.....11:1

## EMERGENCY LANDING

### INSUFFICIENT ENGINE POWER

Airspeed ( Flaps CRUISE) .....64 KIAS  
Airspeed ( Flaps T/O) .....60 KIAS  
Airspeed ( Flaps LDG) .....55 KIAS  
Fuel Shut-off Valve.....CLOSED  
Mixture.....IDLE CUT-OFF  
Magnetos.....OFF  
Safety Belts.....SECURED  
Radio.....TRANSMIT  
Flaps.....AS REQUIRED  
GEN/BAT Master Switch.....OFF

## ENGINE FIRE DURING ENGINE-START-UP ON THE GROUND

Fuel Shut-off Valve.....CLOSED  
Cabin Heat.....CLOSED  
Mixture.....IDLE CUT-OFF  
GEN/BAT Master Switch.....OFF  
Magnetos.....OFF  
Evacuation.....IMMEDIATELY

## ENGINE FIRE DURING FLIGHT

Fuel Shut-off Valve.....CLOSED  
Cabin Heat.....CLOSED  
Airspeed.....73 KIAS  
Fuel Pump.....OFF  
Emergency Landing.....PERFORM

## ELECTRICAL FIRE INCLUDING SMOKE DURING FLIGHT

GEN/BAT Master Switch.....OFF  
Cabin Air.....OPEN  
Fire Extinguisher.....USE IF SMOKE CONTIN  
Avionics Master Switch.....OFF  
Electrically Equipment.....OFF  
Circuit Breakers.....PULL ALL  
Circuit Breaker.....PUSH BATTERY  
GEN/BAT Master Switch.....ON BAT 1/2 ONLY  
Circuit Breaker.....PUSH GEN  
Circuit Breaker.....PUSH GEN CONTROL  
GEN/BAT Master Switch.....ON  
Circuit Breaker.....PUSH AVIONICS  
Circuit Breaker.....PUSH AVIONICS MASTER  
Avionics Master Switch.....ON  
Circuit Breaker.....PUSH REQUIRED SYSTEMS  
Radio.....ON

### LAND AS SOON AS POSSIBLE

CHECK LISTS MARKED WITH THE THICK VERTICAL LINE ON THE LEFT SHOULD BE MEMORAZIED

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## ELECTRICAL FIRE INCLUDING SMOKE ON THE GROUND

GEN/BAT Master Switch.....OFF  
**IF ENGINE RUNNING**  
Throttle.....IDLE  
Mixture.....CUT OFF  
Fuel Shut-off Valve.....CLOSED  
Magnetos.....OFF  
Canopy.....OPEN  
Fire Extinguisher.....USE IF REQUIRED

## CABIN FIRE DURING FLIGHT

GEN/BAT Master Switch.....OFF  
Cabin Air.....OPEN  
Cabin Heat.....CLOSED  
Fire Extinguisher.....USE IF REQUIRED

### LAND AS SOON AS POSSIBLE

## STARTER RELAY FAILURE

### STARTER LIGHT REMAINS ILLUMINATED

Throttle.....IDLE  
Mixture.....CUT OFF  
Magnetos.....OFF

### MAINTENANCE ACTION IS REQUIRED

## ELECTRICAL POWER FAILURE

Circuit Breaker.....RESET  
GEN/BAT Master Switch.....ON  
**IF POWER NOT RESTORED**  
GEN/BAT Master Switch.....OFF  
**LAND AT NEAREST SUITABLE AIRPORT**

## GENERATOR FAILURE

### GENERATOR LIGHT ILLUMINATED

GEN Master Switch.....OFF-ON  
Circuit Breaker.....GEN RESET  
Circuit Breaker.....GEN CONTROL RESET  
**IF UNSUCCESSFUL**  
Electrical load.....REDUCE  
**LAND AT NEAREST SUITABLE AIRPORT**

## AIRSPEED FOR SAFE OPERATION

Best Rate-of-Climb Sp (V<sub>y</sub>) CRUISE.....75 KIAS  
Best Angle-of-Climb Sp (V<sub>x</sub>) CRUISE.....60 KIAS  
Best Rate-of-Climb Speed (V<sub>y</sub>) T/O.....68 KIAS  
Best Angle-of-Climb Speed (V<sub>x</sub>) T/O.....57 KIAS  
Max Flaps Extended T/O Sp (V<sub>FE T/O</sub>).....100 KIAS  
Max Flaps Extended LDG Sp (V<sub>FE LDG</sub>).....78 KIAS  
Normal Operating Speed (V<sub>NO</sub>).....118 KIAS  
Landing Final App Speed LDG.....55 KIAS  
Best Glide Angle Speed.....73 KIAS  
Maneuvering Speed (V<sub>A</sub>).....106 KIAS  
Max Demo Crosswind.....20 KIAS