SEA LAND AIR
FLIGHT CENTRE

Normal Checklist

Diamond DA 20-A1 100BHP

Airspeeds for normal operation

Unless stated otherwise, following are the applicable airspeeds for maximum take-off and landing weight. The airspeeds may also be used for lower flight weights.

(All speeds at sea level)

Takeoff

KIAS

Climb over 50 ft obstacle……57
Best Rate-of-Climb (VY); Flaps: T/O……65
Best Angle-of-Climb (VX); Flaps: T/O…… 57

Landing

Recommended Approach; Flaps: LDG……60
Minimum Approach Speed; Flaps: LDG……57
Balked Landing Climb Speed; Flaps: T/O……..57

Max demonstrated X-wind speed, T/O & LDG…...15

Cruise

Maximum rough-air speed (VNO)……118
Maximum full control-surface deflection (VA)….104
Max Flaps Extended Speed …….……....81

Best Glide Speed (1653 lbs)**……With T/O flaps 73**
(1322 lbs)**……With T/O flaps 66**

Preparation

- Navigation……..Planned
- Performance & Range……Computed & Safe
- Weight & Balance……..Within Limits
- Weather…….Suitable
- Airplane Documents…….Airworthy, onboard
- Baggage……Weighed & Stowed
- Charts & Nav. Equipment…….…..Onboard

Preflight Inspection

Cabin Checks

- **Windshield…….Clean**
- Flight Control Lock……..……Remove
- Ignition Switch……Off
- Fuel valve…….....Open
- Throttle free……. IDLE
- Props…….…….Max. RPM
- Carburetor Heat……..…… Free, OFF
- Cabin Heat …….…….Free & OFF
- Choke ……..…..Free & self-resetting
- Master Switch…….On
- Warning Lights……..On
- Fuel Quantity……..Check
- Circuit Breakers……..Check
- Trim Indicator……Up / Down / Neutral
- Flaps……Extend in stages: T/O & LDG
- Lights……..Check / Off
- Master Switch……..Off
- Fire Extinguisher……..Charged & Secure
- First Aid Kit……On Board
- ELT……Plugged in, Secure & Armed

  (Contact SLA Staff if ELT needs to be adjusted)

Left Wing

- Main Gear ..... ……Inspect
- Entire Wing..... ……Inspect
- Stall Warning ..... ……Test
- Pitot-Static Probe ..... ……Inspect
- Taxi & Landing Lights ..... ……Inspect
- Wing Tip ..... ……Inspect
- Position Lights & Strobe ..... ……Inspect
- Aileron Balancing Weight ..... ……Inspect
- Aileron including inspection panel……Inspect
- Wing Flap including inspection panel …….Inspect
- Main Gear ..... ……Inspect from aft

Fuselage & Empennage

- Fuel Quantity ..... ……..Dip tank; min. ½
- Skin ..... ……Inspect
- Fuel Tank Vent ..... ……Inspect
- Fuel Drain ..... ……Drain
- Maintenance Fuel Drains..... ……Inspect
- Antennae ..... ……Inspect
- Stabilizer ..... ……Inspect
- Rudder..... ……Inspect
- Skid Plate……...…Inspect

Right Wing

- Main Gear……Inspect from aft
- Wing Flap including inspection panel …Inspect
- Aileron, including inspection panel……Inspect
- Aileron Balancing Weight……...Inspect
- Position Lights & Strobe…….Inspect
- Wing Tip……..Inspect
- Main Gear……Inspect
- Entire Wing……..….Inspect

Nose

- Right Step……Inspect
- Air Intake (right)…….Clear
- Oil Quantity…….Check
  (Min. 3.0qt; Max 3.4qt)
- Cowling……Inspect
- Nose Gear…….Inspect
- Tire Pressure ……Check
- Tire and Wheel ……..Visual Inspection
- Propeller & Spinner…….Inspect
- Propeller Blades perform Pitch Check by Hand
- Engine Cowling Air Inlets…….Clear
- Engine Air/Cabin Heat Vents ...…….Inspect
- Air Intake (left)……..Clear
- Temperature Probe…….....Check
- Left Step…….……..…..Inspect

Before Starting Engine

- Preflight inspection..... ……Complete
- Chocks…….Removed
- Aircraft Documents ..... ……..On board
- Baggage ..... ……...Stowed & Secured
- Rudder Pedals ..... ……...Adjusted & Locked
- Hobbs Time ..... …….Record
- Flight Controls…….Free & Correct (Visual Check)
- Seatbelts..... Fastened & adjusted
- Passenger Safety Review..... ……..Complete
  * Canopy * Emergency Exit * Seatbelt* Emergency Procedures
  * Fire Extinguisher * First Aid Kit * ELT * Flight Control
  * Radio * Traffic * No Smoking

- Canopy..... …..Closed & Secure
- Parking Brake ....Set
- Brake Pressure ……...Check
- Fuel Shutoff Valve ..... ……..On
- Throttle Friction……..…….Check
- Throttle ..... ….Free & Idle Position
- Props ……Fine (Max RPM)
- Carburetor Heat ..... ……Off
- Electrics / Avionics Master Switch…….Off
- Key..... …… In Ignition
- Master Switch (Both Battery/Generator)… On
- Fuel Quantity…….Check sufficient
- Fuel Pressure Warning Light…….Illuminated
- Generator Warning Light ..... ……Illuminated
- Canopy Warning Light ..... …….Off (press to check)
- Exterior Lights..... ……As required
- Instrument Lighting (night)..... ……As required

Starting Engine

NOTE
Extreme low temperatures require that the engine be preheated prior to engine start.

- Electric Fuel Pump ……ON (noise of pump audible)
- Fuel Pressure Warning Light……OFF

- **Cold Engine Start**
  - Throttle …….IDLE *(If Carb ice suspected, crack throttle open)*
  - Choke ……. ON, fully pulled and hold

(After start: slowly advance throttle while slowly releasing choke)

- **Warm Engine Start**
  - Throttle……..MAX 1/2 in forward
  - Choke…….OFF

- Toe Brakes…….. Hold
- Propeller Area……..Clear
- Ignition Key ……..START(max. 10 sec)

NOTE
During extreme cold weather starts, hold the choke on until the engine starts to warm up.

- Choke ……..OFF
- Throttle……..……..1100-1500RPM
- Oil Pressure……Green (Within 10 sec)
- Master (Generator side)…..……Check On

CAUTION
If Oil Pressure is below 12 psi (0.8 bar) shut down engine immediately (max. 10 seconds delay)

NOTE
Oil Pressure may advance to the yellow arc until Oil Temp. reaches normal operating temperatures.

- Generator Warning Light……OFF
- Exterior Lights ……As required
- Fuel Pump……..Off

Pre-Taxi

- Cabin Heat and Defrost……As Required
- Flaps…….……Check Retracted
- Dead Mag Check……..Both - Left - Right - Both
- Avionics Master Switch……..On
- Transponder…….Standby
- ATIS…….…..……Copy
- Taxi Clearance……Obtain
- Altimeter .....……Set
- Heading Indicator…….Set
- Engine Gauges…….Check (Green)
- Voltmeter…….Green
- Parking Brake……..….Off
- Brakes…….……Check
- Flight Instruments..... Check while rolling

Use Rudder First and Brakes Sparingly

Run-up

- Aircraft …….……Into Wind (nose wheel straight)
- Area Behind A/C…….…..……Clear
- Parking Brake…….……On
- Brakes ……On
- Fuel Pressure Warning Light……..….. OFF
    - **If light illuminates, maintenance action is required and flight should not be initiated**
- Throttle……..1700 - 1800 RPM
- Ammeter …….…….……. Check Charging

CAUTION

Propeller Lever move slowly especially fine to coarse

- Propeller Lever ……...Cycle 3 times
    - ***RPM drop: 50 - 250 RPM***

- Ignition Switch ……Cycle L - BOTH - R – BOTH

    - ***Max. RPM drop: 150 RPM) Max. RPM difference (L/R): 50 RPM) Min. RPM difference (L/R): none, but RPM drop must be noticeable***

- Throttle……1500 RPM
- Carburetor Heat…….ON
    - ***RPM drop: max. 50 RPM***
- Throttle……IDLE
- Carburetor Heat……OFF
- Throttle……1000 RPM
- Oil **Temperature ...**……Check Out of Bottom Red

NOTE

Throttle 1700 - 1800 RPM during Pre-Takeoff Check when Oil Temperature lower or at the bottom red

Pre-Takeoff

- Safety Belts…….……Fastened
- Master Switch…….On (Both Sides)
- Ignition Switch……Both
- Carburetor Heat……Check Off
- Prop…….Full Fine(Max RPM)
- Flaps…….……T/O
- Flight Instruments……..Set & Check
- Voltmeter……..….Green
- Circuit Breakers…… IN
- Warning Lights…….……..…….Push to Test
- Trim……Up / Down check and NEUTRAL
- Controls……Free
- ***Crew ……Take Off Safety Briefing***
- Avionics……..……..Check & Set as Required
- Fuel Pump……..……On
- Parking Brake…….……Off

Crew Take Off Briefing

This will be a Normal/Soft Field/Short Field Take Off

- If the **Engine Fails On the runwa**y I will **close the Throttle** and **Stop Right Ahead**
- If the **Engine Fails After Take Off** with ***Sufficient runway remaining*** I will **close the Throttle** and **Land Straight Ahead**
- If the **Engine Fails After Take Off** with ***Insufficient runway remaining*** I will **Lowe**r the ***Nose (60KIAS)*** pick a **Landing place within 45º either side of the nose**
- **My Go / No Go** point will be **abeam _____**
  If I am not airborne by this point, I will **close the Throttle** and **Stop Right Ahead**
- **In the event of an Emergency _____ will have control.**

If altitude permits I will attempt to rectify the problem

Hold Short

- Landing and Taxi Light……...On
- Transponder……..Alt
- T/O Time…….Record

Verify Approach path, Runway & Departure path is clear

- Take off Clearance……..Obtain

Runway Checks

- Heading Indicator……Agrees with Rwy Heading
- Tachometer ……... Full Throttle(2260RPM to 2385RPM)
- Engine Gauges……Green & Normal
- Airspeed……..……..…….. Alive

After Takeoff /Climb Checks

- Throttle……..Full
- Oil Temp & Pressure……Normal (Green)
- VSI……Positive rate of climb
- 200ft Checks
    - Prop…….…2260RPM
    - Flaps ……..…Up (cruise config.)

Level Off

- Throttle……..……..….Set
- Prop……1900-2260 RPM
- Engine Gauges……..…….....Green & Normal
- Lights……..As required
- Fuel Pump…….……..…...…Off
- Heading Indicator……...….Set

En-route Check

- Fuel……Sufficient
- Radio……..……..Set
- Throttle……..……..….Set
- Props……..1900-2260 RPM
- Oil Pressure & Temp……..……Normal
- Heading Indicator…….Set
- Altimeter……...……Set

Pre Landing

- Warning Lights…….……..…….....…..Off
- Circuit Breakers…….…….....Check in
- Engine Gauges…….....Check
- Fuel Quantity…….....Check
- Magnetos…….…….....Both
- Master Switch…….…….....On (Both On)
- Flight Instruments…….....Set (HDG & ALT)
- Fuel Pump…….……..…….On
- Fuel Shut Off valve…….……..……..…...…Open
- Parking Brakes…….....Off
- Brakes…….....Check pressure
- Seatbelts…….....Fastened
- Baggage …….....Secure
- Passenger Safety Briefing…….....Complete

Crew Briefing on Airport Elevation, Runway, Circuit Ht, Approach Landing & Go Around Procedures

Approach

- Carburetor Heat…….. As required
- Airspeed……65 KIAS (T/O Flaps)
- Airspeed……60 KIAS(LDG Flaps)
- Prop……Full Fine

Go Around

- Prop…….……Check Full Fine
- Throttle…….…..……Full
- Carburetor Heat…….……Off
- Flaps ……...……...…T/O
- Airspeed……57KIAS …….…….Start Climb

After Landing

- Taxi Clearance……..…..……Obtain
- Throttle ……..…….1000 RPM for taxing
- Transponder……...…...……..Standby
- Flaps……...…Up(Cruise)
- Fuel Pump…….……..…Off
- Landing or Taxi Light…….……As required
- Landing Time…….……Record

Shut Down

- Throttle……**1000 RPM for 2 minutes**
- Radio……....Check ELT(121.50)
- Avionics Master Switch……Off
- Electrics…….Off
- Throttle…….**Idle (~700RPM)**
- Ignition Switch……**L – R – Off in stages slowly**
- Master Switch……Off
- Hobbs Time……...Record
- Flight Control Lock…….....Install
- Aircraft ……Chocked & Secure
- Flight Plan……..Closed