



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

Landing

<i>Recommended Approach; Flaps: LDG</i>	60
<i>Minimum Approach Speed; Flaps: LDG</i>	57
<i>Balked Landing Climb Speed; Flaps: T/O</i>	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 Speed81

Best Glide Speed (1653 lbs).....**With T/O fraps 73**

(1322 lbs).....**With T/O fraps 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.....On
- Throttle free..... IDLE
- Props.....Max. RPM
- Carburetor Heat..... Free, OFF
- Cabin HeatFree and resetting
- ChokeFree, self-resetting
- Master Switch.....On
- Warning Lights.....On
- Fuel Quantity.....Check
- Circuit Breakers.....Check
- Trim Indicator.....Up / Down / Neutral
- Flaps.....Check
- Lights.....Check / Off
- Master Switch.....Off
- Fire Extinguisher.....Charged & Secure
- First Aid Kit.....On Board

Left Wing

- Main GearInspect
- Entire Wing.....Inspect
- Stall WarningInspect
- Pitot-Static ProbeInspect
- Taxi & Landing LightsInspect
- Wing TipInspect
- Position Lights & StrobeInspect
- Aileron Balancing WeightInspect
- Aileron including inspection panelInspect
- Wing FlapInspect
- Main GearInspect from aft

Fuselage & Empennage

- Fuel QuantityDip tank; min. ½
- SkinInspect
- Fuel Tank VentInspect
- Fuel DrainDrain
- Maintenance Fuel DrainsInspect
- AntennaeInspect
- StabilizerInspect
- Rudder.....Inspect

Right Wing

- Main Gear.....Inspect from aft
- Wing Flap.....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
- Wheel FairingVisual Inspection
- Tire PressureCheck
- Tire and WheelVisual Inspection
- Wheel Chocks.....Remove
- Propeller & Spinner.....Inspect
- Propeller Blades perform Pitch Check by Hand
- Engine Cowling Air Inlets.....Clear
- Engine Air/Cabin Heat VentsInspect
- Air Intake (left).....Clear
- Temperature Probe.....Check
- Left Step.....Inspect

Before Starting Engine

- Preflight inspection.....Complete
- Aircraft DocumentsOn board
- BaggageStowed & Secured
- Rudder PedalsAdjusted & Locked
- Hobbs TimeRecord
- 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

- Canopy.....Closed & Secure
- Parking BrakeSet
- Brake PressureCheck
- Fuel Shutoff ValveOn
- Throttle Friction.....Check
- ThrottleFree & Idle Position
- PropsFine (Max RPM)
- Carburetor HeatOff
- 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 LightIlluminated
- Canopy Warning LightOff (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 PumpON (noise of pump audible)
- Fuel Pressure Warning Light.....OFF
- Throttle
 - Cold Start..... IDLE
 - Warm Engine.....Max.3/4 in (2 cm) forward
- Choke
 - Cold Start..... ON, fully pulled and hold
 - Warm Engine.....OFF

- Toe Brakes..... Hold
- Propeller Area.....Clear
- Ignition KeySTART(max. 10 sec)

NOTE

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

- ChokeOFF
- 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 LightsAs 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
- Radios/Nav/GPS.....Set
- Taxi Clearance.....Obtain
- Flight Instruments.....Set
- Engine Gauges.....Check (Green)
- Voltmeter.....Green
- Heading Indicator.....Set
- Parking Brake.....Off
- Brakes.....Check
- Flight Instruments..... Check while rolling

Use Rudder First and Brakes Sparingly

CAUTION

**Warm-up engine to a minimum Oil Temperature of 122° F (50° C)
at 1100 to 1500 RPM (also possible during taxi).**

Run-up

NOTE

For OAT's less than -5° F (-20° C) turn cabin heat on for at least 10 minutes prior to take-off.

- AircraftInto Wind (nose wheel straight)
- Area Behind A/C.....Clear
- Parking Brake.....On
- BrakesOn
- Fuel Pressure Warning Light..... OFF
 - **If light illuminates, maintenance action is required and flight should not be initiated**
- Throttle.....1700 - 1800 RPM
- Propeller LeverCycle 3 times
 - ***RPM drop: 50 - 250 RPM***

- Ignition SwitchCycle 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

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
- Engine GaugesGreen
- 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 runway** 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 **Lower the Nose (60KIAS) pick a Landing place within 45° either side of the nose**

If altitude permits I will attempt to rectify the problem

Hold Short

- T/O Time.....Record
- Take off Clearance.....Obtain

Runway Checks

- Landing or Taxi Light.....On
- Transponder.....Alt
- Heading Indicator.....Agrees with Rwy Heading
- Prop.....Full Fine
- 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
- Prop (200ft).....2260RPM
- Flaps (200ft)Up (cruise config)
- Fuel Pump.....Off

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

Before Descent Check

- Canopy.....Closed
- Canopy Warning Light.....Off
- Seatbelts.....Fastened
- Carburetor Heat.....Required
- Landing Light.....On
- Flight Instruments.....Set (HDG & ALT)
- Passenger Safety Briefing.....Complete

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

Descent

- Fuel Shut Off.....On
- Carburetor Heat.....Required
- Throttle.....As desired
- Prop.....1700 - 2260 RPM
- Oil Temp & Pressure.....Green

Warm up Engine Every 500 ft on a Power Off Descent

Approach

- 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
- FlapsT/O
- Airspeed... Best Rate(V_x).....57KIAS (T/O Flaps)
- Airspeed... Best Rate(V_y).....65KIAS (T/O Flaps)

After Landing

- Taxi Clearance.....Obtain
- Throttle1000 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**
- Radio.....Check ELT(121.50)
- Avionics Master Switch.....Off
- Electrics.....Off
- Throttle.....**1000 RPM for 2 minutes then Idle (700RPM)**
- Ignition Switch.....**L – R – Off in stages slowly**
- Master Switch.....Off
- Hobbs Time.....Record
- Flight Control Lock.....Install
- AircraftChocked & Secure
- Flight Plan.....Closed