

Normal Checklist Diamond DA 40

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

Flight Control Lock.....Remove
Ignition Switch.....Off
Mixture.....Idle Cutoff
Circuit Breakers.....Check
Master Switch.....On
Warning Lights.....On
Fuel Quantity.....Check
Flaps.....Extend to LDG
Lights.....Check
Lights.....Off
Master Switch.....Off
Fire Extinguisher.....Charged & Secure
First Aid Kit.....On Board
Rescue Hammer.....On Board

Fuselage & Empennage

Skin.....Inspect
Fuel Tank Vent.....Inspect
Fuel Drain.....Drain
Maintenance Fuel Drains.....Inspect
Antennae.....Inspect
Stabilizer.....Inspect
Rudder.....Inspect

Left Wing

Fuel Quantity.....Check
Main Gear.....Inspect
Entire Wing.....Inspect
Stall Warning.....Inspect
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.....Inspect

Right Wing

Fuel Quantity.....Check
Main Gear.....Inspect
Entire Wing.....Inspect
Wing Tip.....Inspect
Position Lights & Strobe.....Inspect
Aileron Balancing Weight.....Inspect
Aileron including inspection panel.....Inspect
Wing Flap.....Inspect

Nose

Right Step.....Inspect
Temperature Probe.....Check
Air Intake (right).....Clear
Oil Quantity.....Check
(Min. 4qt; Max 6qt)
Cowling.....Inspect
Nose Gear.....Inspect
Propeller & Spinner.....Inspect
Engine Cowling Air Inlets.....Clear
Engine Air/Cabin Heat Vents.....Inspect
Air Intake (left).....Clear
Left StepInspect

Before Starting Engine

Preflight inspection.....Complete
Aircraft Documents.....On board
Baggage.....Stowed & Secured
Passenger Briefing.....Complete
* Canopy *Emergency Exit *Seatbelt *Emergency Procedure
*Fire Extinguisher *First Aid Kit *ELT *Flight Controls
* Radio *Traffic

Rudder Pedals.....Adjusted & Locked
Hobbs Time.....Record
Flight Controls..... Free & Correct (Visual Check)
Front Canopy & Rear doorClosed & latched
Seatbelts.....Fastened & adjusted
Circuit Breakers.....Check
Parking Brake.....Set
Brake PressureCheck
Throttle.....Free & Idle Position
Throttle Friction.....Check
Alternate Air.....Off
Alternate static..... CLOSED
Avionics Master Switch & Electrics.....Off
Essential bus.....Off
Horizon emergency switch.....Off
Cockpit Check.....Keys In Ignition
Master Switch (Battery side ONLY).....On
G1000.....Powered & acknowledged
Fuel quantity.....Check / update
Fuel Tank SelectorLower tank or Right tank
TrimNeutral
Strobe(day).....On
Position Lights (night).....On
Instrument Lighting (night).....As required

Starting Engine

Do not operate the starter motor for more than 10 seconds.

After operating the starter motor, let it cool off for 20 seconds.

Oil TempLess than 100°F follow Cold Start

Oil Temp...Greater than 100°F follow Warm / Hot Start

Cold Start

Brakes.....Hold
ThrottleOpen half way
Fuel Pump.....On
MixtureOpen 3 - 5 sec, then cut off
Fuel Pump.....Off
Throttle 1/2 inch open
Propeller Area.....Clear (call "Clear")
Ignition Switch.....Start
Mixture.....Full rich when engine fires
Throttle.....1000 RPM
Oil Pressure.....Check green within 15sec
Generator side.....On
AmmeterCheck Charging
Mixture.....lean as required

Warm Engine Start

Brakes.....Hold
Throttle1/2 inch open
Fuel Pump.....On
MixtureOpen 1sec, then idle cut off
Throttle 1/2 inch open
Propeller Area.....Clear (call "Clear")
Ignition Switch.....Start
Mixture.....Full rich when engine fires
Throttle.....1000 RPM
Oil Pressure.....Check green within 15sec
Fuel Pump.....Off
Generator side.....On
AmmeterCheck Charging
Mixture.....lean as required

Hot Engine Start

Parking Brakes.....ON
Brakes.....Hold
Fuel Pump.....Check off
Mixture.....Idle cut off
Throttle..... Half - close to full open
Propeller Area.....Clear (call "Clear")
Ignition Switch.....Start
Mixture.....Full rich when engine fires
Throttle.....Briskly aft to 1000 RPM
Oil Pressure.....Check green within 15sec
Generator side.....On
AmmeterCheck Charging
Mixture.....lean as required

Flooded Start

Brakes.....Hold
Fuel Pump.....Check off
Mixture.....Idle cut off
Throttle.....Half open
Propeller Area.....Clear (call "Clear")
Ignition Switch.....Start
Mixture.....Full rich when engine fires
Throttle.....briskly aft -1000 RPM
Oil Pressure.....Check green within 15sec
Generator side.....On
AmmeterCheck Charging
Mixture.....lean as required

Pre-Taxi

Cabin Heat and Defrost.....As Required
Flaps.....Check and Retract in Stages
Dead Mag Check.....Both - Left - Right – Both
Avionics Master Switch.....On
Transponder.....GND/Standby
ATIS.....Copy
Taxi Clearance.....Obtain
AvionicsTest/Set
Fuel Pump.....Check Off
Pitot Heat.....test (ammeter rise)
Alerts.....Appropriate
Engine Gauges.....Check (Green)
Throttle idleCheck 600-800 RPM
Parking Brakes.....Off
Flight Instruments & Brake.....Check while rolling

Use Rudder First and Brakes Sparingly For Turning.

Run-up

AircraftInto Wind (nose wheel straight)
Area Behind A/C.....Clear
Parking Brake.....On
BrakesHold
Fuel Tank SelectorFullest tank
MixtureRich
Propeller.....Max RPM
Throttle.....2000 RPM
Mixture.....Soft key (Engine-Lean-Assist) for best power
Throttle.....Reset 2000 RPM
Engine Gauges.....Check (Green)
Propeller.....Cycle 3 times(Max. drop 500RPM)
Magnetos Check.....(Both-Left-Both-Right Both)

(Max drop: 150 RPM; Max difference: 50 RPM)

Alternate Air.....On / Off (check no RPM Drop)
Throttle.....Idle, then 1000 RPM
Engine Gauges.....Check (Green)
Circuit Breakers.....In

Pre-Take off

Safety Belts.....Fastened
Front Canopy & Rear doorClosed & latched
Flaps.....T/O
Fuel Quantity.....Check sufficient
Master Switch.....On (Both Sides)
Magnetos.....Both
Flight Instruments.....Set Hdg and Altitude Bugs
Auto PilotTest as required, then OFF
Trim.....Set (neutral)
Flight Controls.....Free & Correct
Propeller.....Full Fine
Crew.....Departure & Take Off Safety Briefing
AvionicsCheck & Set as Required
Parking Brake Off

Lean Mixture for Best Power for T/O when Density Altitude is 5000ft or above.

Hold Short/Runway Checks

T/O Time.....Record
Landing /Taxi Lights.....On
Mixture.....Rich/Set
Fuel Pump.....On
Heading Indicator.....Agrees with Rwy Heading

After Takeoff /Climb Checks

Power.....Normal
Oil Temp & Pressure.....Normal(Green)
Propeller.....2400RPM
Flaps (400ft).....Up (cruise)
Fuel Pump.....Off
Transponder.....Confirm ALT

En-route Check

Fuel.....Sufficient
Radio.....Set
Engine Power.....Set
Mixture.....Soft key (Engine-Lean-Assist) for best power
Oil Pressure & Temp.....Normal
Heading Indicator.....Set against Compass
Altimeter.....Set
TimeSet

Before Descent Check

ATIS.....Copy
Light.....As required
Flight Instruments..... Set HDG & ALT Bugs
Power.....As desired
Mixture.....Rich (as required)
Oil Temp & Pressure.....Green
Passenger Safety Briefing.....Complete

Before Landing

Brake.....Pressure Good
Parking Brake.....Off
Mixture.....Rich
Magnetos.....Both
Master Both SidesOn
Fuel PumpOn
Engine Gauges.....Normal
Circuit Breakers.....In
CanopyLocked
Seatbelts.....Fastened

Confirm Runway Heading, Altitude and Circuit Height

Approach

Normal approach.....70-75 KIAS(LDG Flaps)
Propeller.....Full Fine

Go Around

Propeller.....Check Full Fine
Power.....Full
Airspeed.....65 KIAS with T/O Flaps
Climb..... check ALT & VSI

After Landing

Throttle1000 RPM
Fuel PumpOff
Taxi Clearance.....Obtain
Mixture.....Lean as required
Transponder.....Standby
Flaps.....Up(Cruise)
Lights.....As required
Landing Time.....Record

Shut Down

Throttle.....1000 RPM
Radio.....Check ELT(121.50)
Avionics Master Switch.....Off
Electrics & Fuel Pump.....Off
Live Magneto CheckBoth-Off-Both
Mixture.....Idle Cut Off
Ignition Switch.....Off
Time In Service - Soft key (Engine - System).....Record
Master Switch.....Off
Map Lights.....Check Off
Hobbs Time.....Record
Flight Control Lock.....Install
AircraftChocked & Secure
Flight Plan.....Closed

Passenger Safety Review.....Complete