

# 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

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

## Left Wing

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  
Main Gear.....Inspect from aft

## 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  
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 Step .....Inspect

## Before Starting Engine

Preflight inspection.....Complete  
Aircraft Documents.....On board  
Baggage.....Stowed & Secured  
Passenger Briefing.....Complete  
Rudder Pedals.....Adjusted & Locked  
Hobbs Time.....Record  
Flight Controls..... Free & Correct (Visual Check)  
Front Canopy & Reardoor .....Closed & latched  
Seatbelts.....Fastened & adjusted  
Circuit Breakers.....Check  
Parking Brake.....Set  
Brake Pressure .....Check  
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.....Checked / updated  
Fuel Tank Selector .....Lower tank or Right tank  
Trim .....Neutral  
Strobe(day).....On  
Position Lights (night).....On  
Instrument Lighting (night).....As required

## Starting Engine

**Oil Temp .....Less than 100°F follow Cold Start**  
**Oil Temp...Greater than 100°F follow Warm Start**

### Cold Start

Brakes.....Hold  
Throttle .....Open half way  
Fuel Pump.....On  
Mixture .....Open 5-10sec, then idle 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  
Ammeter .....Check Charging  
Mixture.....lean as required

### Warm Start

Brakes.....Hold  
Throttle .....1/2 inch open  
Fuel Pump.....On  
Mixture .....Open 1sec, then idle 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  
Ammeter .....Check Charging  
Mixture.....lean as required

### Hot Engine Start

Brakes.....Hold  
Fuel Pump.....Check off  
Throttle .....1/2 inch open  
Mixture .....Idle cut off  
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  
Ammeter .....Check Charging  
Mixture.....lean as required

### Flooded Start

Brakes.....Hold  
Fuel Pump.....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  
Ammeter .....Check 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  
**Avionics** .....Test/Set  
Fuel Pump.....Check Off  
Pitot Heat.....test (ammeter rise)  
Alerts.....Appropriate  
Engine Gauges.....Check (Green)  
Throttle idle .....Check 600-800 RPM  
Parking Brakes.....Off  
Flight Instruments & Brake.....Check while rolling

**Use Rudder First and Brakes Sparingly For Turning**

## Run-up

Aircraft .....Into Wind (nose wheel straight)  
Area Behind A/C.....Clear  
Parking Brake.....On  
Brakes .....Hold  
Fuel Tank Selector .....Fullest tank  
Mixture .....Rich  
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 door .....Closed & latched  
Flaps.....T/O  
Fuel Quantity.....Check sufficient  
Master Switch.....On ( Both Sides)  
Magnetos.....Both  
Flight Instruments.....Set Hdg and Altitude Bugs  
Auto Pilot .....Test as required, then OFF  
Trim.....Set (neutral)  
Flight Controls.....Free & Correct  
Propeller.....Full Fine  
Passenger Safety Review.....Complete  
Crew.....Departure & Take Off Safety Briefing  
Avionics .....Check & Set as Required  
Parking Brake ..... Off

### Hold Short/Runway Checks

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

**Lean Mixture for Best Power on T/O  
from field at or above 3000ft AGL**

### After Takeoff /Climb Checks

Power.....Normal  
Oil Temp & Pressure.....Normal(Green)  
Propeller.....2400RPM  
Flaps (400ft).....Up (cruise config)  
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  
Time .....Set

### 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 Sides .....On  
Fuel Pump .....On  
Engine Gauges.....Normal  
Circuit Breakers.....In  
Canopy .....Locked  
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

Throttle .....1000 RPM  
Fuel Pump .....Off  
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 Check .....Both-Off-Both  
Mixture.....Idle Cut Off  
Ignition Switch.....Off  
Master Switch.....Off  
Hobbs Time.....Record  
Flight Control Lock.....Install  
Aircraft .....Chocked & Secure  
Flight Plan.....Closed