

# Diamond DA40

## Preflight Inspection Cockpit

Flight Control Lock	Remove
Airplane Documents	On Board
Ignition Key	pulled out
Front canopy / rear door	Check
Electrical Equipment	Off
Mixture	Idle Cutoff
Circuit Breakers	Check
Master Switch	On
Annunciator Panel Lights	Check
Fuel Quantity	Check
Flaps	Extend to Ldg
Lights	Check
Master Switch	Off
Fire Extinguisher	charged/secure
Rescue Hammer	On Board

\*Minimize time the Master Switch is left on\*

## Left wing

Entire Wing	Inspect
Fuel Drain	Sample
Stall warning	Check
Fuel Qt	Check & Cap Secure
Pitot-Static Probe	Inspect
Tie Down	Disconnect
Static Wicks	2
Aileron	Inspect
Flap	Inspect
Tire	Inspect
Brakes & Brake Line	Inspect

## Fuselage and Empennage

Skin	Inspect
Stabilizer	Inspect
Rudder	Inspect
Elevator	Inspect
Elevator Hardware	Yellow Marks Aligned
Trim Tab	Inspect
Static Wicks	3
Antennas	Check Security

## Right Wing

Flap	Inspect
Aileron	Inspect
Static Wicks	2
Entire Wing	Inspect
Tie Down	Disconnect
Fuel Qt	Check & Cap Secure
Tire	Inspect
Brakes & Brake Line	Inspect
Fuel Drain	Sample

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## Nose

Right Step	Inspect
Oil Quantity	Min 4, Max 6
Propeller and spinner	Inspect
Air intakes	Clear
Nose Gear	Inspect
Cowling	Inspect
Fuel Drain	Sample
Left Step	Inspect

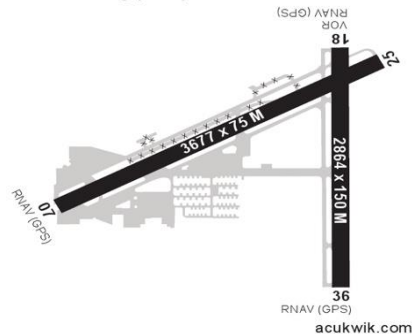
## Before starting engine

Preflight inspection	Complete
Passenger Briefing	Complete
Seats, belts	Adjust & Lock
Rudder Pedals	adjusted
Electrical Equipment	Off
Avionics Power Switch	Off
Essential Bus	Off
Horizon Emergency Switch	Off
Circuit breakers	Check In
Fuel Selector	Fullest tank
Alternate Air	Off
Alternate Static	Closed (pointing FWD)
Trim	Neutral
Throttle	Free & Idle Position
Propeller	Full Forward
Mixture	Idle Cut-off
Throttle friction	Set
Master Switch	On
G1000	Powered and Acknowledged
Fuel quantity	check/updated
Strobes	On
Rear Door	Closed & Latched
Canopy	Pos 1 or 2 & Latched

## KSPG Frequencies:

ASOS	118.87
Ground	121.80
Tower	127.40
TPA Dept/Appr	119.65

St. Petersburg (SPG)



# Diamond DA40

## Starting Engine

### Warm Start (Oil Temp > 100°F)

Canopy	pos 1 or 2 & Latched
Brakes	HOLD
Strobes	On
Battery Master	On
Throttle	Open 1/4"
Mixture	Idle Cut-off
Propeller area	Clear
Ignition	Start
Mixture	full rich when engine fires
Throttle	Adjust 1000 rpm
*CONTINUE to AFTER STARTING below	

### Cold Start (Oil Temp < 100°F)

Canopy	Pos 1 or 2 & Latched
Brakes	Hold
Strobes	On
Battery Master	On
Fuel Pump	On
Throttle	Open halfway
Mixture	rich 3-5 sec, then idle cutoff
Throttle	Open 1/4 inch
Propeller area	Clear
Ignition	Start
Mixture	full rich when engine fires
Throttle	Adjust 1000 rpm
*CONTINUE to AFTER STARTING below	

## After Starting

Oil Pressure	Check Green within 15 sec
Avionics Master Switch	On
Ammeter	Check charge
Flaps	Up
Fuel Pump	Off
Radios	Set
Annunciators	Check
Transponder	Alt and 1200
ATIS/AWOS/ASOS	Obtain
Altimeter	Set
Clearance/Ground	Contact
Parking Brake	Released

## Run-Up

Brakes	Set
Flight Controls	Free and Correct
Standby Instruments	Set
Fuel Selector Valve	Switch Tanks
Mixture	Rich
Propeller	Full FWD
Throttle	2000RPM
Engine Gauges	Check (Green)
Propeller	Cycle 3 times
Magnetos	max 175rpm drop /50rpm diff
Alternate Air	Off
Throttle	Idle, then 1000rpm
Engine Gauges	Check (Green)
Circuit Breakers	In
Electric Trim	Check
PFD/MFD/Avionics	Set

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## Normal Take-Off

Canopy/ Rear Door	Latched & Closed
Mixture	Rich (or set to DA)
Prop	Full FWD
Fuel Pump	On
Fuel Selector Valve	Fullest Tank
Trim	Set
Flaps	T/O position
Magnetos	Both
Transponder	Set
Lights	As Required
Radios/Avionics	Set
Flight Instruments	Set HDG/ALT bug
Departure Brief	Briefed

## After Takeoff

Flaps (400ft)	Up
Fuel Pump	Off at safe Altitude
Engine Gauges	Green
Lights	As required

## Cruise

Fuel	Fullest Tank (max 10gal difference)
Throttle	Cruise Power
Propeller	2100 – 2400 rpm
Trim	Set
Fuel Pump	On at high altitude
Mixture	Lean for best power
CHT	Monitor & keep Below 400°

## Pre-landing checklist

Fuel selector	Fullest tank
Fuel Pump	On
Mixture	Full Rich below 3000'
Propeller	Full Forward
Seatbelts	Fasted
Engine Instruments	Green
Lights	As required
Flaps	Set T/O (108) or LDG (91kts)
Airspeed	73 KIAS (2646 lb)
	71 KIAS (2535 lb)
	63 KIAS (2205 lb)
	58 KIAS (1874 lb)

## After landing

Flaps	Up
Fuel Pump	Off
Propeller	Full Forward
Mixture	Lean for taxi
Lights	As required
Radio	Taxi Clearance

## Shut Down

Throttle	1000 RPM
Lights	Off
Avionics	Off
Magnetos	Ground check
Mixture	Cut-off
Ignition switch	Off & Keys Remove
Master switch	Off

## Short field take-off

Canopy/ Rear Door	<b>Latched &amp; Closed</b>
Mixture	<b>Rich (or set to DA)</b>
Prop	<b>Full FWD</b>
Fuel Pump	<b>On</b>
Fuel Selector Valve	<b>Fullest Tank</b>
Trim	<b>Set</b>
Flaps	<b>T/O position</b>
Magnetos	<b>Both</b>
Transponder	<b>Set</b>
Lights	<b>As Required</b>
Radios/Avionics	<b>Set</b>
Flight Instruments	<b>Set HDG/ALT bug</b>
Departure Brief	<b>Briefed</b>
Taxi	<b>Max runway</b>
Brakes	<b>Set and hold</b>
Throttle	<b>Full</b>
Engine Gauges	<b>Green</b>
Brakes	<b>Release</b>
Climb	<b>60 KIAS</b>

## Short field landing

Pre-landing check	<b>Complete</b>
Approach	<b>Slightly Slower</b>
Flaps	<b>LDG</b>
Throttle	<b>Maintain glide</b>
Touchdown	<b>Power Off</b>
Flaps	<b>Up</b>
Elevator	<b>Full up</b>
Braking	<b>Heavy as required</b>

## Soft field take-off

Canopy/ Rear Door	<b>Latched &amp; Closed</b>
Mixture	<b>Rich (or set to DA)</b>
Prop	<b>Full FWD</b>
Fuel Pump	<b>On</b>
Fuel Selector Valve	<b>Fullest Tank</b>
Trim	<b>Set</b>
Flaps	<b>T/O position</b>
Magnetos	<b>Both</b>
Transponder	<b>Set</b>
Lights	<b>As Required</b>
Radios/Avionics	<b>Set</b>
Flight Instruments	<b>Set HDG/ALT bug</b>
Departure Brief	<b>Briefed</b>
Elevator (stick)	<b>Full aft</b>
Throttle	<b>Full</b>
Rotate	<b>ASAP</b>
Accelerate	<b>In Ground Effect</b>
Climb	<b>Airspeed as Req'd</b>

## Soft field landing

Pre-landing check	<b>Complete</b>
Throttle	<b>1500 RPM</b>
Flaps	<b>LDG</b>
Airspeed	<b>Slightly Faster</b>
Touchdown	<b>Mains</b>
Landing roll	<b>Nose wheel up</b>

## V-Speeds

Rotate	V <sub>r</sub>	59
Best Rate of climb	V <sub>y</sub>	<b>67 KIAS (2646lb) 66 KIAS (2535 lb) 60 KIAS (2205 lb) 54 KIAS (1874 lb)</b>
Max angle (Sea Level)	V <sub>x</sub>	60
Cruise Climb		75
Maneuver	V <sub>a</sub>	111 KIAS > 2288 lb 94 KIAS < 2284 lb
Norm. oper. range		<b>52-129</b>
Flaps	V <sub>fe</sub>	108 T/O 91 LDG
Maneuver max	V <sub>no</sub>	<b>129</b>
Never exceed	V <sub>ne</sub>	<b>178</b>
Stall (clean)	V <sub>s</sub>	52
Stall (land)	V <sub>so</sub>	49
Glide	V <sub>g</sub>	<b>76 KIAS (2646 lb) 73 KIAS (2535 lb) 68 KIAS (2205 lb) 60 KIAS (1874 lb)</b>
Final Approach	Flaps	<b>73 KIAS (2646 lb) 71 KIAS (2535 lb) 63 KIAS (2205 lb) 58 KIAS (1874 lb)</b>
	No flaps	<b>76 KIAS (2646 lb) 73 KIAS (2535 lb) 68 KIAS (2205 lb) 60 KIAS (1874 lb)</b>
<b>Light Gun Signals</b>		
Signal	On Ground	<b>In Flight</b>
Steady <b>Green</b>	Takeoff	Land
Flashing <b>Green</b>	Taxi	Return to land
Steady <b>Red</b>	Stop	Give way
Flashing <b>Red</b>	Clear runway	Do not land
Flashing <b>white</b>	Return to ramp	--
<b>Red/Green alternating</b>	Warning Use Caution	

## Emergency Procedures

### ENGINE FAILURE IN FLIGHT

Airspeed	<b>76 KIAS (2646 lb) 73 KIAS (2535 lb) 68 KIAS (2205 lb) 60 KIAS (1874 lb)</b>
<b>LOOK FOR A FIELD</b>	
Fuel selector valve	<b>Switch Tanks</b>
Mixture	<b>Rich</b>
Fuel Pump	<b>On</b>
Alt Air	<b>Open</b>
Ignition	<b>BOTH</b>

### If no engine restart possible then:

Mayday	<b>Squawk 7700</b>
Mayday	<b>Transmit 121.5</b>
Fuel selector valve	<b>Off</b>
Mixture	<b>Idle Cut-off</b>
Ignition	<b>Off</b>
Flaps	<b>As Required</b>
Master switch	<b>Off</b>
Seatbelts	<b>Secure</b>
Touchdown	<b>Min Safe KIAS</b>

### ON TAKEOFF

Power	<b>IDLE</b>
Brakes	<b>APPLY</b>
Centerline	<b>MAINTAIN</b>
Mixture	<b>CUT OFF if necessary</b>
Mags	<b>OFF</b>
Ignition	<b>OFF</b>

### AFTER TAKEOFF

Stick	<b>push forward</b>
Airspeed	<b>59-74 KIAS (flaps UP) 60-67 KIAS (flaps DN)</b>
Mixture	<b>Idle Cut-off</b>
Ignition	<b>Off</b>
Flaps	<b>As Required</b>
Master switch	<b>Off</b>
Land (below 800' AGL)	<b>Straight head</b>

### Emergency Decent

Throttle	<b>IDLE</b>
Bank	<b>30°- 40°</b>
Speed	<b>125</b>

## High Manifold

Throttle	<b>reduce</b>
Mixture	<b>Adjust</b>

## Engine Roughness

Fuel Pump	<b>On</b>
Fuel Selector	<b>Switch Tanks</b>
Engine Instruments	<b>Check</b>
Throttle	<b>Check</b>
Propeller	<b>Check</b>
Mixture	<b>Set For Smooth</b>
Alternate Air	<b>Open</b>
Magnetos	<b>Check</b>

## Engine Fire on ground

Fuel Selector	<b>Off</b>
Cabin Heat	<b>Off</b>
Brakes	<b>Apply</b>
Throttle	<b>Full</b>
Master Bat	<b>Off</b>
Ignition	<b>Off</b>
Airplane	<b>Evacuate</b>

## Engine Fire during flight

Cabin Heat/Air	<b>Off</b>
Fuel selector valve	<b>Off</b>
Fuel Pump	<b>Off</b>
Master Switch	<b>On</b>
Airspeed	<b>100 KIAS</b>

## Electrical failure

Load meter	<b>Verify</b>
Alternator	<b>Off</b>
<b>Reduce load to minimum</b>	
Breaker/alt	<b>Check &amp; Reset</b>
Alternator	<b>On</b>
If still no power:	<b>Off</b>
Alternator	<b>Off</b>
<b>Reduce load and land</b>	

## Electrical overload

Master Switch	<b>Off</b>
All on/off appliances	<b>Off</b>
Master Switch	<b>On</b>
turn on appliances one at a time	
Over-voltage light	<b>Off</b>
<b>or TERMINATE flight ASAP</b>	