

N165PS -- DIAMOND STAR DA40 CHECKLIST

PREFLIGHT - INTERIOR	
Dispatch Sheet	COMPLETE
AROW Documents	CHECK
Fire Extinguisher	ON BOARD
Control Lock	REMOVE
Ignition	OFF, KEY ON DASH
Electrical Equipment	OFF
Circuit Breakers	IN
Mixture	CUTOFF
Props	FULL FWD
Throttle	IDLE
Master Switch	ON
PFD (Alerts)	CHECK
Flaps	LANDING
Lights	ON, CHECK, OFF
Pitot Heat (IFR only)	ON, CHECK, OFF
Master Switch	OFF
Flight Controls	FREE / CORRECT
Loose Items and Baggage	STOWED / SECURED

CHECKLIST COMPLETE

PREFLIGHT - EXTERIOR	
Step	INSPECT
Left Landing Gear Strut	INSPECT
Tire(36 psi) tread,wheel,brake	INSPECT
Tank drain	CHECK
Air intake openings/lower surface	INSPECT
Stall warning and 2 strips	CHECK
Entire left wing surface	INSPECT
Tank Filler	INSPECT
Pitot Probe	CLEAN / ORIFICE CLEAR
Chocks/tie down	REMOVE
Landing/taxi light	INSPECT
Wing tip (2 static wicks)	INSPECT
Position light,strobe light (ACL)	INSPECT
Foreign objects in aileron paddle	INSPECT
Aileron,Linkage,hinges,pins	INSPECT
Flap,Linkage,hinges,pins	INSPECT
Canopy, left side	INSPECT
Rear cabin door and window	INSPECT
Antennas	INSPECT
Stabilizers and control surfaces	INSPECT
Hinges	INSPECT
Elevator trim tab (2 static wicks)	INSPECT
Rudder trim tab (1 static wick)	INSPECT
Tail skid and lower fin	INSPECT
Tail tie down	INSPECT
Towing assembly, if fitted	INSPECT
Window	INSPECT
Canopy, right side	INSPECT
Flap,Linkage,hinges,pins	INSPECT
Aileron,Linkage,hinges,pins	INSPECT
Foreign objects in aileron paddle	INSPECT
Wing tip (2 static wicks)	INSPECT
Position light,strobe light (ACL)	INSPECT
Tank Filler	INSPECT
Chocks/tie down	REMOVE
Entire right wing surface	INSPECT
2 stall strips on wing	INSPECT
Openings on lower surface	Check for traces of fuel
Tank drain	CHECK
Right Landing Gear Strut	INSPECT
Tire(36 psi) tread,wheel,brake	INSPECT
Step	INSPECT
Oil level (min. 6 qts)	CHECK
Cowling and air intakes	INSPECT - CLEAR
Nose landing gear strut	INSPECT
Tire (29 psi) tread,wheel,brake	INSPECT
Propeller (nicks/oil leaks)	INSPECT
Chocks	REMOVE

CHECKLIST COMPLETE

BEFORE ENGINE START	
Pre-flight inspection	COMPLETE
Hobbs Meter	RECORD
Passengers Brief	COMPLETE: DOOR / FIRE EXT. / EMERG EXITS / NO SMOKING / BELTS / PIC
Safety harness	ON
Rear door	CLOSED / LATCHED
Front Canopy	POS 1 OR 2
Flight Controls	FREE
Trim wheel	SET - T/O
Fuel selector	LEFT
Throttle	IDLE
Prop Lever	HIGH RPM
Mixture Control Lever	LEAN / CUTOFF
Parking Brake	ON
Cabin Heat	OFF
Defrost	OFF
Friction device, throttle quadrant	ADJUST
Alternate Air	CLOSED
Alternate Static Valve	CLOSED
Avionics master switch	OFF
All electric switches	OFF
Horizon emergency switch	OFF/GUARDED
Circuit Breakers	CHECKED / IN
Essential Bus Switch	OFF
Master Switch (BAT)	ON
Rudder Pedals	ADJUST
Beacon	ON
Interior Lights	AS REQ'D
Exterior Lights	AS REQ'D
PFD Alerts	ACKNOWLEDGE / CLEAR
MFD Database	CONFIRM CURRENT
Fuel computer	RESET

CHECKLIST COMPLETE

ENGINE START

Cold Engine:	
Electrical Fuel Pump	ON (NOTE NOISE)
Throttle	OPEN 1-2 IN
Mixture control lever	RICH 3-5 SECONDS, THEN CUTOFF
Throttle	OPEN 1/2"

Warm Engine:	
Electrical Fuel Pump	OFF
Throttle	OPEN 1.2 IN
Mixture control lever	RICH 1-3 SEC's, THEN CUTOFF
Throttle	OPEN 1/2"

Flooded Engine:

Electrical Fuel Pump	OFF
Throttle	OPEN 50%
Mixture control lever	CUTOFF

Surrounding Area	CLEAR
Brakes	HOLD
Ignition switch (max 6 sec)	START

When Engine Fires

Mixture control lever	ADVANCE - FULL RICH
Throttle	1000 RPM
Oil Pressure	IN LIMITS w/IN 15 SEC
Mixture	LEAN SLIGHTLY
Electrical Fuel Pump	OFF

CHECKLIST COMPLETE

Frequencies:	
ATIS:	120.77
Ground:	127.8
Tower:	125.1
KBVU:	122.7
OL7:	122.9

AFTER START

Master Switch (ALT)	ON
Fuel Pressure	CHECK (IN LIMITS)
Annunciator Panel	CHECK / CLEAR
Avionics master switch	ON
Headsets	ON
Electrical equipment	ON / AS REQ'D
Flaps	UP
Flight instruments and avionics	SET, TEST, AS REQ'd
Flood light	ON / TEST / OFF
Ammeter	CHECK - INCR RPM if REQ'd
Position lights,landing and taxi lights	ON / AS REQ'D
Transponder	CHECK STBY

CHECKLIST COMPLETE

PRE TAXI

ATIS / WX	CHECK
Throttle (if cold)	1500 RPM (1 min)
Auto Pilot	TEST
AP DISC button Press and hold.....Test elec trim Trim should not operate either nose up or nose down AUTOPILOT (AP).....Engage, Overpower Control wheel steering.....TEST AP DISC Switch.....PRESS, Verify AP disconnect TRIM.....re-set to Take Off	
FMS/Radios/NAVS/Flight Plan	SET
Throttle	1000 RPM
Fuel Selector	CHANGE (R TANK)
Clearance	OBTAIN / BRIEF

CHECKLIST COMPLETE

DURING TAXI

(Do Not Ride Brakes)

Taxi Area	CLEAR
Parking Brake	RELEASE
Brakes	CHECK
Flight Instruments (TC/AI/HSI/VSI)	CHECK

CHECKLIST COMPLETE

ENGINE RUNUP

(Position airplane into wind if possible)

Parking Brake	ON
Area behind	CLEAR
Brakes	HOLD
Mixture	FULL RICH
Propeller	FULL FWD
Throttle	2000 RPM
Mixture	LEAN - BEST POWER
Magneto check	L / R - BOTH
Max RPM drop...175 RPM	Max difference 50 RPM
Prop Lever	CYCLE x's 3
pull back until drop of 250-500 RPM---Return to HIGH RPM	
Pitot Heat (IFR only)	ON / CHECK / OFF
Alternate Air	ON / CHECK / CLOSED
Throttle	IDLE, CHECK
Throttle	1000 RPM

CHECKLIST COMPLETE

BEFORE TAKEOFF

Safety Harness	ON
Pre Takeoff Brief	COMPLETE
Flight controls	FREE / CORRECT
Trim	CHECK - T/O
Fuel tank selector	FULLEST TANK
Mixture control lever	RICH (below 5000ft)
Propeller	FULL FWD
Circuit breakers	IN
Flaps	SET - T/O
Transponder	ALT
Engine instruments	CHECK
Auto Pilot	OFF
Review Departure, route,ALT,HDG and airspeeds...complete	

BEFORE TAKEOFF (CONT'D)

Final items when #1 for Takeoff

Door, Canopy, and windows	CHECK CLOSED / LATCHED
Strobes	ON
Pitot heating (IMC only)	AS REQ'D
Landing light (night only)	ON
Alerts/Annunciator panel	CHECK
Electrical fuel pump	ON
Time	NOTE

CHECKLIST COMPLETE

AFTER TAKEOFF

Out of safe altitude (400 ft AGL) and clear of obstacles

Flaps	UP
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Out of 1000 FT AGL

Electrical fuel pump	OFF
RPM lever	2500 RPM
Landing light	OFF
Engine instruments	CHECK
Trim	AS REQ'D
Airspeed	AS REQ'D
Mixture	LEAN through CLIMB

CHECKLIST COMPLETE

CRUISE / TOP OF CLIMB

Flaps	UP
Throttle	SET (training = 21")
RPM lever	2400 RPM
Engine instruments	CHECK
Trim	AS REQ'D
Fuel tank selector	SWITCH - AS REQ'D
Electrical fuel pump	OFF (ON @ HIGH ALTITUDES)
Mixture	LEAN FOR BEST POWER / CRUISE

Max permissible cylinder head temp (500 degrees F)

CHECKLIST COMPLETE

DESCENT / APPROACH

Approximately 15 miles from airport

ATIS/AWOS	CHECK
Approach Briefing	COMPLETE
IFR	VFR
Field elevation	Field elevation
Type of Approach	Patter ALT and entry
NAV frequency and course	Type of landing
Glideslope intercept or FAF ALT	Call out ALT
Minimums	
Missed Approach	

Altimeter	SET
NAVS/Course	SET
Parking Brake	OFF
Fuel selector	FULLEST TANK
Safety harness	ON / FASTEN
Trim	AS REQ'D
Landing light (night only)	ON
Mixture	ENRICHEN AS REQ'D

When direct to the IAF or Vectored for final

NAVS and flight instruments	SET / IDENTIFY
NAV mode	GPS/NAV/LOC
Airspeed	100 KIAS

CHECKLIST COMPLETE

POWER SETTINGS AND APPROACH SPEEDS

	Pitch	MP	RPM	Speed
Pattern Work	LVL	18	2300	100
Approach		15	2300	100
Holds	LVL	18	2300	100
ILS/Glide slope	5 dwn	15	FWD	90
Decision ALT	5 dwn	11	FWD	70
Non Precision	6 dwn	13	FWD	90
Level at MDA	LVL	18	FWD	90

BEFORE LANDING*(Within 2 miles of the FAF, or 5 miles from runway)*

Mixture control lever	RICH
RPM lever	FULL FWD
Throttle	AS REQ'D
Flaps	T/O
Electrical fuel pump	ON
Airspeed	90 KIAS

*Passing through 1000AGL &/OR BASE turn***G.U.M.P.P.S****BEFORE LANDING (cont)***Passing through 500 AGL or runway assured*

Flaps	LDG
Airspeed	71-78 KIAS
Stabilized approach	GUMPPS CHECK

CHECKLIST COMPLETE**AFTER LANDING***When clear of the runway*

Electrical fuel pump	OFF
Transponder	Verify 1200 STBY
Pitot heating	OFF
Flaps	UP
Trim	RESET
Mixture	LEAN
Taxi Clearance	OBTAIN

CHECKLIST COMPLETE**SHUTDOWN/TERMINATE**

Parking Brake	OFF
Engine instruments	CHECK
Avionics master switch	OFF
All electrical equip (except beacon)	OFF
Heater	OFF
Defrost	OFF
Throttle	1000 RPM
Magneto check	CHECK
Mixture control lever	CUTOFF
Ignition switch (after propeller stops)	OFF / KEY ON DASH
Tachometer	RECORD
Master switch	OFF
Strobes	OFF
Dispatch Sheet	COMPLETE

CHECKLIST COMPLETE**SECURE**

All switches	OFF
Hobbs and Tach	RECORD
Control Lock	INSTALL
Interior	CLEAN
Windows	CLOSE
Canopy and doors	CLOSE / LOCK
Walk around	INSPECT
Aircraft	CHOCK / TIE-DOWN
Sunscreen	INSTALL

CHECKLIST COMPLETE**ENGINE FIRE DURING START**

Starter	CRANK
Mixture	CUTOFF
Throttle	FULL OPEN
Fuel Pump	OFF
Fuel Selector	OFF
Aircraft	EVACUATE

ENGINE FIRE ON GROUND (TAXI)

Fuel tank Selector	OFF
Cabin Heat	OFF
Brakes	APPLY

After Coming to a Stop:

Throttle	MAX PWR
Master Switch (BAT)	OFF

When engine has stopped:

Ignition Switch	OFF
Canopy	OPEN
Airplane	EVACUATE IMMEDIATELY
Fire Extinguisher	USE (IF PRACTICAL)

ELECTRICAL FIRE

Horizon emergency switch	ON
Master Switch (ALT/BAT)	OFF
Cabin Heat	OFF
Emergency window	OPEN as necessary
Canopy	UNLATCH as necessary

If electronics/avionics required: apply isolation procedure as follows

Master switch (BAT)	ON
Essential bus	ON
If smoke decreases	LAND ASAP

If smoke persists:

Master switch (ALT)	ON
Essential Bus	OFF
BATT and ESS TIE circuit breakers	PULL

LAND ASAP**ENGINE FIRE - IN FLIGHT****COMMENCE EMERGENCY DESCENT**

Cabin Heat	OFF
Fuel tank Selector	OFF
Throttle	MAX PWR
Electrical Fuel Pump	OFF
Master switch (BAT)	ON
Emergency window(s)	OPEN as necessary
Canopy	UNLATCH

ENGINE FAILURE IN FLIGHT

Airspeed	BEST GLIDE (76kts @ MTOW)
Best Field	CHOOSE LANDING SPOT
Fuel Selector	CHECK SELECTED TANK (SWITCH)

Mixture control lever	RICH
Propeller lever	HIGH RPM
Throttle	MAX PWR
Electrical fuel pump	ON
Ignition switch	CHECK / BOTH
Alternate AIR	OPEN
If Power Restored:	LAND NEAREST SUITABLE AIRPORT

Power Not Restored:

Declare Emergency	121.5
Engine Failure Secure	COMPLETE

ENGINE FAILURE SECURE

Fuel tank selector	OFF
Mixture control lever	CUTOFF
Ignition switch	OFF
Master Switch	OFF

Off-Airport Landing:

Seat belts	FASTEN
Canopy	UNLATCH

LOSS OF FUEL PRESSURE

Fuel Pump	ON
Fuel Selector	SWITCH TANKS

PROCEED WITH CAUTION**ALTERNATOR FAILURE**

Circuit breakers	CHECK
Master Switch (ALT)	OFF, then ON
<i>if alternator does not reset:</i>	
Essential bus	ON
Unnecessary equipment	OFF

LAND WITHIN 30 MINUTES*If PFD attitude information lost:*

Horizon emergency switch	ON
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LOSS OF ELECTRICAL POWER

All circuit breakers	CHECKED / PULLED / RESET
Emergency switch	ON
Flood light	AS NECESSARY
Power	SET ON LEVER POSITION / NOISE
FLAPS	WILL REMAIN CURRENT POSITION

LAND AT NEAREST PRACTICAL AIRPORT**NORMAL TRAFFIC PATTERN****Downwind**

MAP / Prop	18" / 2300 RPM
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Abeam Touchdown Point

MAP / Prop	1700 RPM
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Flaps	T/O
Airspeed	95 kts

Base Leg

Touchdown	Point 45 Deg behind, TURN
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Flaps	LANDING
Airspeed	85 kts
Altitude	JUDGE - HIGH / LOW

Final Leg

MAP / Prop	AS REQ'D / MAX RPM
Airspeed	73 kts
Aimpoint	ESTABLISH

TOUCH-N-GO

Flaps	T/O
Throttle	SMOOTH FULL OPEN
Centerline	TRACK
Airspeed	60 kts, ROTATE

RADIO CALLS**Towered Airport:**

WHO	Henderson Tower, Diamond 165PS
WHERE	Over Ruins, 4,000
WEATHER	With ____ (ATIS)
WHAT	Inbound, Full Stop

Non-Towered:

WHO	Jean Traffic, Diamond 5PS
WHERE	6 miles Southwest, 5,000
WHAT	Right downwind entry, Rwy 20R TNG
WHO	Jean

FREQUENCIES**KHND**

ATIS	120.775
GROUND	127.8
TOWER / CTAF	125.1

OL7 (Jean)

CTAF	122.9
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BVU (BlDr City)

AWOS	118.475
CTAF	122.7

KVGT (North Las Vegas)

ATIS	118.05
GROUND	121.7
TOWER / CTAF	125.7
UNICOM	122.95

AIRSPEDS - KNOTS**Vr:** 59**Vx:** 64**Vy:** 67**Vfe - LDG:** 91**Vfe - T/O:** 108**Vso:** 49**Vs1:** 52**Vapp:** 71**CRZ Climb:** 73**Best Glide:** 73**Vne:** 178**Va:** 108**Vno:** 129