

Diamond Xtreme N638TT

PREFLIGHT (abbreviated list)

=>Canopy Lever NEVER Past Vertical
Master Switches.....BOTH UP
Fuel Quantity (20 usable)Sufficient
Master Switches.....BOTH DOWN
Check Circuit Breakers IN except Vario
Check MAIN PINS IN & Controls Free
Fuel.....DIP & DRAIN
Tires.....33 psi main, 26 nose
Oil (motorcycle).....between MARKS
Coolant (50W/50 EG).... Mid Reservoir
*Maps *Headsets on pegs *GPS
*Water *Pre-adjust Seatbelts

Record.....**TACH TIME**
Preflight Walk-around..... Completed

BEFORE STARTING ENGINE

Rudder pedals.....Adjust gently
Belts.....Fasten
Controls.....Free and Correct
Parking Brake.....SET
GPS-Com, XPDR, Vario CB.....OFF
Anti-Collision Light (ACL).....ON

STARTING ENGINE

Fuel Valve.....OPEN
Master Switches.....BOTH UP
Check 5 lights ON, 2 sec THREE OFF
Prop Speed Control.....**Forward**
Cowl Flaps if cold CLOSE other OPEN
Headsets off the peg and on the head
Canopy.....**LOCK**
Fuel Pump ON & Verify red FP Light Off
Throttle IDLE for cold start, 2cm if Hot
Choke.....Pull fully ON if Cold Start
Yell: CLEAR PROP
Ignition Switch.....Clockwise
Throttle Adjust to 1000 (if choke on 800)
Oil Pressure..Green./Yellow in 10 sec
Choke.OFF when smooth adj1000 rpm

Transponder Turn Knob to ALT/1200
Nav/Com ON Vol at 11, Enter x 5
Horizon (mini-GA EFIS) ON and Accept
VARIO CB PUSH

KPAN AWOS-3 (frequency 119.32)
ALT SETTING _____
WIND DIR/SPD _____@_____
ACTIVE RUNWAY _____

BEFORE TAXI

Fuel Pump.....OFF during Taxi
Altimeter SET, DG SET (if not soaring)
Transponder.....Select ALT /1200
COM freq KPAN.....122.8
GPS.....Set course or route
Trim.....appropriate for wind
Parking Brake.....RELEASE
Check Toe Brakes on First Taxi
When clear of obstacles make taxi call

RUNUP BEFORE TAKE-OFF

Parking Brake.....SET
Oil Temp verify..... >50 C (Green)
Cowl Flaps.....OPEN
Throttle.....**1600 RPM**
Mag Check: (drop 50-150 rpm +/-50)
Carb Heat Check.....ON then OFF
(Manifold press shows slight drop)
Accumulator Button Press/Charge 6s
Throttle.....**2000 RPM**
Prop Spd Control Cyclex3 for 100 drop
Throttle reduce to idle..... **1000 RPM**

→ FLOW CHECKLIST

Fuel Pump.....ON
Check all annunciator lights + gauges
Verify COM freq 122.8 & XPDR 1200
Cowl Flaps.....Verify Forward
Verify Choke.....OFF
Prop Spd Control.....Forward
Trim.....Neutral
Apply pressure to toe brakes then
Parking Brake.....PUSH OFF
SPOILERS CYCLE then full FORWARD
Canopy.....**VERIFY Locked R & L**
Side Windows.....CLOSE
TAKEOFF Clearance or Call Traffic on
Base or Final

TAKE-OFF

RECORD TIME OFF: _____
SPOILERS LOCKED FORWARD
Check.....Crosswind Direction
Stick...Slight back pressure & into XW
Throttle.....Gradually to 34"
Lift nose-wheel at 43 KTS
Check TACH..... 2350 +/- 35 RPM
Check manifold pressure at yellow arc
Fly off LEVEL (watch tips!) at 49KTS
Accelerate to 52 KTS Vx or 59KTS Vy
→ **CALLOUT+250 AGL (180° turn ok)**

914 Turbo N638TT

CLIMB

Airspeed.....above **52 KTS** (Vx)
Best Rate of Climb (Vy).....59 KTS
==>AT 500 ft AGL: Reduce RPM by
Prop Speed Control.....Top of Green
Throttle Adjust to **32 inches mp**
Fuel Pump.....AS REQUIRED
Monitor OIL TEMP&PRESSURE/CHT
Climb max speed/\$ or drag → **76 KTS**

CRUISE

Fuel Pump.....OFF
Cowl Flaps partly CLOSE (if OAT cold)

LANDING APPROACH/DOWNWIND

Cowl Flaps OPEN (rotate 90 degrees
and Push to OPEN, rotate 90 to lock)
Throttle.....REDUCE to 20" for pattern
Trim for level flight airspeed of 65 KTS
Seatbelts.....TIGHT
POWER.....idle abeam aim point
PITCH...trim for 57 kts + ½ Max GUST
(this gives flattest glide into HW)
(usually two clicks back on pitch trim)
Fuel **PUMP**.....ON
PROP Speed Control.....Forward

AIRCRAFT PARKING SHUT-DOWN

Parking Brake-SET
Throttle (2 min or oil < 85C)...1000 RPM
Turn everything OFF in this order:
Fuel Pump, Gyros, GPS-Com, XPNDR
Vario CB PULL. Vario Battery Down/OFF
IGNITION KEY-one or two clicks for 3 sec
Then IGNITION OFF
Master Switches.....OFF

V-SPEEDS @ Gross Weight

Vs 42 no spoilers 44 spoilers out
Best angle (Vx) & Min Sink: 52 KTS
BEST GLIDE SPEED 57 KTS (27:1)
Vy (1063 fpm max @ SL).....59 KTS
Cruise Climb 1.316*58→ 76 KTS
Maneuvering speed (Va).....95 KTS
Vne 141 KTS decreases with Altitude
MAXIMUM CROSSWIND.....16 KTS
V-Speeds decrease a bit when solo!

SPEEDS TO FLY IN SINK*

Vario Speed to Fly (Kts,SL) @10K

0 _____	52	* If a HW,	
-2 _____	56	add ½	48
-4 _____	66	headwind	57
-6 _____	74	to these	64
-8 _____	80	speeds	69

INFLIGHT ENGINE SHUTDOWN

Safe glide (14:1) is 2.5-3 mi/1000' APL
Verify Accumulator has been charged
Throttle gradually decrease to IDLE
Allow turbo to cool down for 2 minutes
Ignition.....OFF then immediately
Prop SpeedPULL to FEATHER
Cowl Flaps..Twist /PULL Closed/ Twist
Transponder.....1202 Code Glider
Fuel Pump.....OFF

INFLIGHT ENGINE START

Master Switches.....BOTH UP
Fuel Pump.....ON
Choke.....PULL IF COLD
Throttle.....IDLE
Prop speed control.....FORWARD
Accumulator Button PUSH to unfeather
Ignition: START (if fails continue to air-
start) =>Ignition BOTH & DIVE at 90kts
Oil Pressure.....Check
Choke.....Push OFF
Fuel Pump.....AS REQUIRED
Throttle Increase when Oil Temp>50C
CHARGE ACCUMULATOR push 6 sec
Prop Speed Control Cycle 3X at 2000
Cowl Flaps as Required
Transponder.....1200 Code VFR

Emergency-Prop STUCK Feathered

Verify Master Switches.....BOTH UP
Fuel PumpON
Prop speed control.....FORWARD
ThrottleIDLE
ChokeON if Cold
Ignition Switch...START expect rough
Oil Pressure Verify GREEN within 10 s.
Fuel Pump & Choke.....OFF

IAS FUEL CONSUMPTION @10K MSL

105	Max 34"/2265	7.1gph	123kts	17 nmpg
101	90% 32"/2200	6.3gph	118kts	19 nmpg
95	75% 30"/2060	5.3gph	111kts	21 nmpg
88	60% 28"/2000	4.5gph	103kts	23 nmpg
82	55% 27"/1780	3.3gph	~95kts	29 nmpg

Max climb 5' (TO pwr= 8.7gph)=1 gallon

LOADING LIMITATIONS (See POH)

Max Gross Weight=1698# EW=1260#
Use Load 438# (p+gas+bags(26#max))
Min solo pilot mass: 121#
Payload 312# with full fuel (21g/126#)
Payload 375# with half tanks (10.5 gal)