Lancair **N4XE**

**NORMAL PROCEDURES**

**PILOT'S CHECKLIST**

**GROSS TAKEOFF WEIGHT 3750 POUNDS**

1. **BEFORE STARTING ENGINE**
	1. Preflight Inspection – COMPLETE
	2. Control Locks – REMOVE
	3. Hobbs Time – RECORD (OFF is AFT)
	4. Passenger Briefing
		1. Seat belts, exit, oxygen masks / use
		2. Cell Phones – OFF
	5. Oil Cooler Door – CLOSED
	6. Autopilot Master Switch – OFF
	7. Switches / Lights – AS REQUIRED
	8. Landing Gear Switch – DOWN
	9. Oxygen Cylinder Reading – CHECK
	10. Fuel Selector – FULLEST TANK
	11. Throttle – FULL FORWARD
	12. Propeller – FULL FORWARD
	13. Mixture – FULL RICH
	14. Circuit Breakers – IN / ON
	15. Batteries and Alternators – ON
	16. Hydraulic Pressure – CHECK
	17. Landing Gear Position Indicator Green Lights – ON
	18. Annunciator Panel – PRESS TO TEST
	19. Brakes – TEST
	20. Cabin Pressurization
		1. Cabin Pressurization Switch – PRESS or DEPRESS
		2. Rate – LEVEL OR MID POSITION
		3. Altitude – FIELD ELEVATION
	21. Cabin Door – CLOSED, ALL LATCHES ENGAGED, SECURED
	22. Door Seal – ACTIVATE, ANNUNCIATOR LIGHT OUT

**STARTING ENGINE 2**

* 1. Strobe Lights – ON
	2. Auxiliary Fuel Pump - OFF
	3. Prime – PRESS 10-15 SECONDS
	4. Throttle – OPEN ½ INCH
	5. Ignition Switch – BOTH and START
	6. Aux Fuel Pump – On if required
	7. Throttle – SET to 1000 – 1200 RPM
	8. Engine Oil Pressure – CHECK
1. **BEFORE TAXI**
	1. Aux Fuel Pump Low Boost – Off
	2. Avionics Master Switch – ON
	3. Autopilot Master Switch – ON, wait 15 seconds prior to taxi
	4. Air Conditioner – AS NEEDED
	5. Oil Cooler Door – OPEN WHEN TEMP > 100ºF
	6. Fuel Quantity – CHECK
	7. Fuel Selector – FULLEST TANK (Right for Left Traffic)
	8. EFIS
		1. Load and Activate Flight Plan
		2. Confirm fuel load

**3**

1. **TAXI OR BEFORE TAKEOFF**
	1. Speed Brakes – OPERATE AND RETRACT
	2. Electric Trim – ON, OPERATE AND SET
	3. Radios and Avionics – SET
	4. SET BAROMETRIC PRESSURE
		1. Chelton EFIS
		2. Auto Pilot – match Chelton EFIS altitude
		3. Dynon – match Chelton EFIS altitude
	5. Wing Flaps – SET 10o
	6. Xponder switch – CHECK CODE, ON
	7. Lights – AS REQUIRED
	8. Annunciator Panel – CLEAR
	9. Flight Controls – CHECK
	10. Engine Runup
		1. Check Oil Temp - 83º F MINIMUM
		2. Throttles – 1700 RPM
		3. Alternators – CHECK VOLTAGE
		4. Magnetos – CHECK (150 RPM Maximum Drop With Maximum of 50 RPM Difference)
		5. Propeller – EXERCISE (to 1200 RPM)
		6. Engine Instruments – CHECK green arc
		7. Throttles – 1000 RPM
	11. Take Off Briefing – ENGINE OUT, EARLY, LATE, LANDING POSSIBILITIES OFF DEPARTURE END OF RUNWAY
2. **IMMEDIATELY PRIOR TO TAKEOFF**
	1. Throttles to 2000 RPM
	2. Engine Instruments – CHECK
	3. Runway - CHECK
3. **NORMAL TAKEOFF 4**
	1. Engine Power – 2700 RPM and 38.5 In. Hg
	2. Mixtures – CHECK 41 gal/hr.
	3. Engine Instruments – CHECK
	4. Elevator Control – RAISE NOSE WHEEL AT 65 KIAS
	5. Climb – ESTABLISH 120 KIAS
	6. Brakes – TAP TO STOP ROTATION
	7. Landing Gear – RETRACT WHEN NO MORE RUNWAY
	8. Passing 1000 ft. AGL – RETRACT FLAPS, ACCELERATE TO 165 KIAS, REDUCE THROTTLE TO 31” MAP, REDUCE PROP TO 2500 RPM

**G. AFTER TAKEOFF**

1. Best Angle of Climb Speed (Vx) –

 110 KIAS Flaps at 10º

1. Best Rate of Climb Speed (Vy) –

 135 KIAS Flaps at 0º

1. Normal Climb Power – 2500 RPM and 31.5 In. Hg
2. Normal Climb Speed – 165 KIAS
3. Max TIT 1750º F (1850º for 30 Seconds)
4. Max CHT 460º
5. Cabin Pressurization – SET
6. Cabin Altitude Control – SET
7. Cabin Rate Control – SET

**5**

**H. CRUISE**

1. Engine Speed – 2100 to 2450 RPM
2. Throttles – 17 to 31.5 In. Hg
3. Mixtures – LEAN (EGT 1550O)

 75% Power – 100O rich of max (CHT < 440 O)

 65% Power – 75 O rich of max (CHT < 430 O)

 55% Power – 50 O rich of max (CHT < 420 O)

1. Auxiliary Fuel Pumps – LOW ABOVE 10,000 ft
2. Fuel Selectors – AS DESIRED (Feel for Detent), SWITCH TANKS EVERY 30 TO 60 MIN.
3. Cabin Pressurization – SET
4. Cabin Altitude Control – SET
5. Cabin Rate Control – SET
6. If Cabin Altitude Annunciator Illuminated (CABIN ALT ABOVE 10,000 FT) DESCEND OR USE SUPPLEMENTARY OXYGEN

**I. LETDOWN**1. Fuel Selectors – FULLEST TANK

1. Auxiliary Fuel Pump – OFF BELOW 10,000 ft.
2. Power – AS REQUIRED (Maintain sufficient power for pressurization requirements) (30” Hg.)
3. Mixture – ADJUST
4. Cabin Pressurization – SET
5. Cabin Altitude Control – SET (Field Elevation)
6. Cabin Rate Control – SET
7. Altimeter – SET
8. Flaps - 10º BELOW 174 KIAS

**J. BEFORE LANDING 6**1. Seat Belts and Shoulder Harness – SECURE

1. Fuel Selectors – FULLEST TANK
2. Brakes – CHECK FIRM
3. Auxiliary Fuel Pump – OFF
4. Mixtures – FULL RICH
5. Propellers – TO 2500 RPM
6. Landing Lights – ON
7. Gear – DOWN below **150 KIAS**
8. Cabin Pressure – ZERO

**K. AFTER LANDING**1. Wing Flaps UP

1. Hobbs Time – RECORD
2. Chilton – Record fuel burn
3. Lights – AS REQUIRED

**7**

**L. SECURING AIRCRAFT**

1. Autopilot Master Switch – OFF
2. Avionics Master Switch – OFF
3. Air Conditioner – OFF
4. All Switches except Battery, Alternator, and Magneto Switches – OFF
5. Throttle – IDLE
6. Propeller – FORWARD
7. Timed cool down – CONFIRM
8. Mixture – IDLE CUT OFF
9. Battery and Alternators – OFF
10. Ignition Switch – OFF
11. Control Lock(s) – INSTALL

**M. WEIGHTS**

Empty Weight 2396 Pounds

Maximum Gross Weight 3750 Pounds

Payload 1354 Pounds

Full Fuel Load 534

Payload, Full Fuel 820

**N. FUEL**

Tanks 46.5 Gal (279 lbs.) / side usable

 89 Gal (534 lbs.) total

**O. BEST APPROACH – 120 KTS**

Level, 10º flaps, 2500 RPM, 11” MAP → 120 Kts

Add gear down → 620 fpm descent

To level off, increase to 19” MAP

**P. V-SPEEDS KIAS 8**

|  |  |  |
| --- | --- | --- |
| Vso | Stall speed, landing configuration | 71  |
| Vs1 | Stall speed, clean | 80  |
| Vx | Best Angle of Climb | 110  |
| Vy | Best Rate of Climb | 135  |
|  | Best Angle of Glide | 120 |
| Vlo | Maximum Gear Extension Speed | 150  |
| Vlo | Maximum Gear Retraction Speed | 120  |
| Vle | Maximum Gear Extended Speed | 165  |
| Vfe | Max. Flap Operating Speed, 0-10º | 174  |
| Vfe | Max. Flap Operating Speed, 10º-Max | 132  |
| Va | Design maneuvering speed | 170  |
| Vno | Maximum Design Cruising Speed | 220 |
| Vne | Never-Exceed Speed | 274  |
|  | Max demonstrated x-wind component | 25  |

|  |  |
| --- | --- |
| White Arc | 71–132 |
| Green Arc | 80–220 |
| Yellow Arc | 220–274 |
| Red Radial | 274 |

1. **OIL TEMPERATURE ºF**

|  |  |
| --- | --- |
| Maximum | 220 |
| Caution Range | 200 – 220 |
| Operating Range | 160 – 200 |
| Takeoff Minimum | 100 |

1. **OIL PRESSURE P.S.I.**

|  |  |
| --- | --- |
| Maximum | 105 |
| Caution Range | 10 – 45, 85 – 105 |
| Normal Range | 45 – 85 |
| Minimum | 25 |

1. **FUEL PRESSURE P.S.I.**

|  |  |
| --- | --- |
| Maximum | 75 |
| Caution Range | <10,>35 |
| Normal Range | 10 – 35 |
| Minimum | 7 |