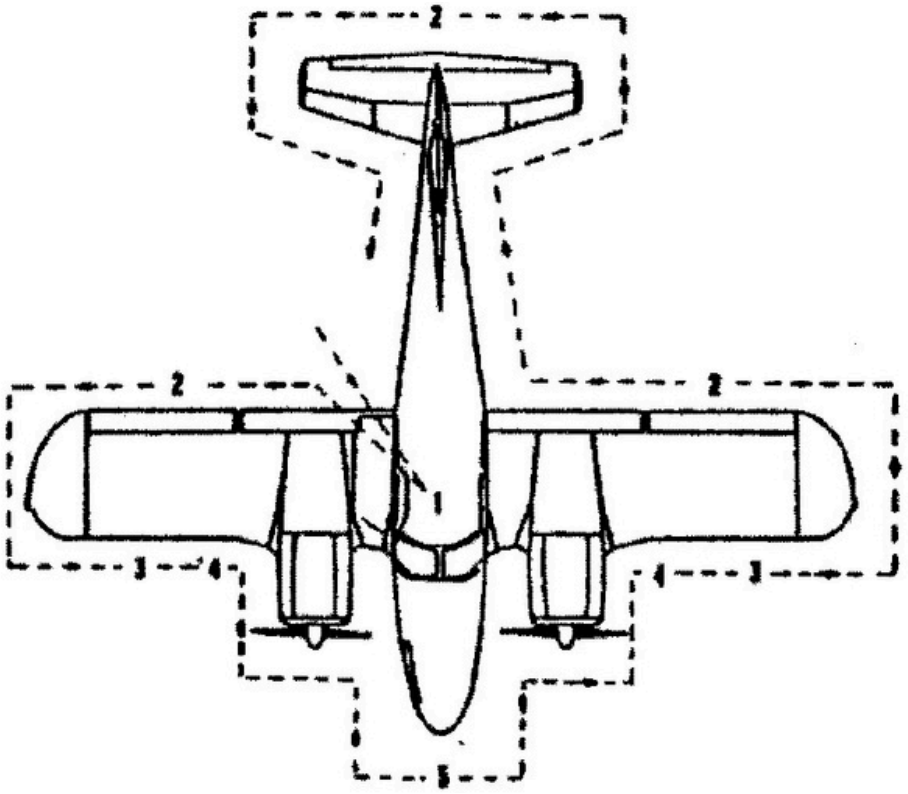
	Airspeed Limitations	MPH
VS0	Stall in Landing Configuration	68
VS1	Stall in Clean Configuration	74
VMC	Minimum Control Airspeed – Single Engine	80
VR	Rotation Speed (Recommended)	85
VX	Best Angle of Climb	107
VYSE	Best Rate of Climb – Single Engine	102
VY	Best Rate of Climb	120
VFE	Maximum Flaps Extended Speed (Full Flaps)	125
VFE	Maximum Flaps Extended Speed (1/2 Flaps)	140
VA	Maneuvering Speed	149
$V_{LO/LE}$	Max Gear Operating Speed / Extended	150
VFE	Maximum Flaps Extended Speed (1/4 Flaps)	160
VNO	Maximum structural cruising speed	198
VNE	Never Exceed Speed	249
	Maximum Demonstrated Crosswind Component	12 Knots

N730MC CHECKLISTS



Preparation

Airplane Status . . . . . AROW
Baggage . . . . . WEIGHED, STOWED
Weight & C.G. . . . . CALCULATED
Charts & Navigation Equipment . . . . . ON BOARD
Performance . . . . . CALCULATED

Preflight ***Inside Cabin***

Fuel Selectors . . . . . INBOARD
Pressure Crossfeed Drain. . . . . DRAINED
Cowl Flaps . . . . . OPEN
Environmental Controls. . . . . AS REQUIRED
Voltage Regulator Selector . . . . . .MAIN
Alternate Air. . . . . .OFF
Wing Flaps . . . . . .CHECK BY HANDPUMP
Mixtures . . . . . IDLE CUTOFF
Cockpit Light Dimmer. . . . . OFF (DAY) / AS REQURIED (NIGHT)
Elevator & Rudder Trim . .. . NEUTRAL
Trim, A/P, Y/D, Aspen, Master Avionics Switches. . . . . .OFF
Display Backup Switch. . . . . .AUTO
Magneto Switches . . . . . .OFF
Controls . . . . . .FREE & CORRECT
Master Switch . . . . . .ON
Gear Lights . . . . . .3 GREEN
Hobbs & Tach Times . . . . . CHECKED
Fuel Totalizer & Quantity. . . . . .CHECK & SET
Fuel Pumps . . . . . CHECK, then OFF
All Lights & Pitot Heat . . . . . .ON
Pitot Heat . . . . . .ON
Stall Vane . . . . . TEST (LIGHT)
All Lights . . . . . VERIFY
Pitot Tube . . . . . .CHECK WARM
All Lights Except Beacon & Pitot Heat. . . . . OFF
Avionics Master Switch. . . . . ON
GTN 650 & Aera 760. . . . . .CHECK DATABASES
Master Switch . . . . . .OFF
Emergency Exit . . . . . SECURE
Brakes . . . . CHECK PRESSURE

Outside Cabin

Rear Baggage Door . . . . . .CHECK
Fuselage Antennas . . . . . CHECK
Crossfeed Drain . . . . . NO DRIP
Right Wing, Flap, Aileron . . . . . CHECK
Right Tie Down . . . . . UNTIED
Fuel Caps . . . . . .CHECK QUANTITY & SECURE
Right Gear . . . . . .CHECK CHOCK REMOVED
Right Engine . . . . . .EXAMINE & CHECK OIL
Right Propeller & Spinner . . . . . CHECK
Right Fuel Drains . . . . . DRAIN (3)
Windshield . . . . . .CHECK
Nose Baggage Door . . . . . .CHECK
Nose . . . . . .CHECK
Left Wing . . . . . CHECK AS RIGHT WING
Stall Warning Sensor . . . . . .CHECK
Pitot Tube & Heater . . . . . .CHECK, CLEAN STATIC PORTS
Empennage . . . . . .CHECK CONDITION
Stabilator . . . . . .CHECK FREEDOM OF MOVEMENT
Tail Tie Down . . . . . .REMOVED

Before Starting Engines

Passenger. . . . . BRIEFED (SAFETY)
Seats . . . . . ADJUSTED & LOCKED
Seat Belts & Harnesses . . . . . FASTENED
Entrance Door . . . . . LOCKED (x2)
Fuel Valves . . . . . INBOARD
Circuit Breakers . . . . . CHECK
Master Switch . . . . . ON
Magnetos . . . . . ON
Gear Lights . . . . . CHECK

Starting Engines (One at a time)

Throttles . . . . . FULL FORWARD
Propellers . . . . . FORWARD
Mixtures . . . . . RICH
Electric Fuel Pumps . . . . . ON until fuel flow indicated
Electric Fuel Pumps . . . . . OFF
Mixtures . . . . . IDLE Cut-Off
Throttles . . . . . OPEN ¼ INCH
Propellers . . . . . CLEAR
Brakes . . . . . APPLY
Starter . . . . . ENGAGE
Mixture . . . . . ADVANCE AS ENGINE FIRES
Oil Pressure . . . . . CHECK
Volts/Amps. . . . . CHECK

Repeat For Second Engine

Starting Engines HOT START (One at a time)

Same procedures as above, but starting technique will be different:

As you engage the starter, smoothly advance Throttle FULL as you count to three (3), and then retard back Towards idle. The engine will start to fire around ¾ of the way back to idle.
At this point advance Mixture to FULL RICH, and retard Throttle to IDLE as to not to allow engine overspeed.

Flooded Start

Master Switch . . . . . ON
Magneto Switches . . . . . ON
Electric Fuel Pump . . . . . OFF
Throttle . . . . . FULL OPEN
Mixture . . . . . IDLE CUT-OFF
Starter . . . . . ENGAGE
Throttle . . . . . RETARD AS ENGINE STARTS
Mixture . . . . . ADVANCE
Oil Pressure . . . . . CHECK
Alternator . . . . . CHECK

Pre-Taxi & Taxi

Master Avionics Switch/Aspen . . . . . ON
Intercom. . . . . CHECK
ATIS/AWOS. . . . . RECEIVE
Altimeters . . . . . SET & CHECKED
GTN 650 / GNS 430W / Aera 760. . . . . SET
Crossfeed . . . . . CHECK (1st Flight of the Day)
Engine-Driven Hydraulic Pump (FLAPS) . . . . . UP
Taxi. . . . . BRIEF
Lights . . . . . AS REQUIRED
Brakes & Nosewheel Steering . . . . . CHECK

Engine Run-UP

Brakes . . . . . HOLD
Fuel Selectors. . . . . INBOARD
Cabin Heater . . . . . .CHECK (Winter only)
Oil Temperature . . . . . .100° F
Mixtures . . . . . .RICH
Propellers . . . . . HIGH RPM
Throttles . . . . . 1500 RPM
Feather . . . . . CHECK (500 Max RPM Drop)
Throttles . . . . . 2000 RPM
Propellers . . . . . .EXERCISE x 3 (300 Max RPM Drop)
Magnetos . . . . . .CHECK (175 Max Drop / 50 RPM Split)
Engine Gauges. . . . . CHECK
Volts/Amps. . . . . .CHECK
Throttles . . . . . .CHECK IDLE (500 RPM Minimum)
Throttles . . . . . 1000 RPM

Before Takeoff

Flight Controls . . . . . CHECKED
Seats and Seat Belts . . . . . SECURE
Shoulder Harnesses . . . . . .SECURE
Fuel Selectors . . . . . FULLEST TANK
Crossfeed. . . . . .OFF
Cowl Flaps . . . . . OPEN
Engine Gauges . . . . . CHECKED
Mixtures & Propellers . . . . . FULL FORWARD
Quadrant Friction . . . . . SET
Trim . . . . . SET (Elevator & Rudder)
Wing Flaps . . . . . UP (Check Visually)
Door . . . . . .LOCKED
Avionics . . . . . .CHECKED & SET

Takeoff . . . . . BRIEFED
Runway Length & Width

Takeoff/Landing Distance & Accelerate-Stop Distance
Wind Direction Type of Takeoff / Speeds / Altitude /
Heading Abort Criteria & Procedure Engine Failure
(Before & After Takeoff)

1. *"If we have an engine failure or system malfunction PRIOR to rotation, then I will pull BOTH throttles to idle, maintain directional control, and apply braking."*
2. *"If we have an engine failure or system malfunction AFTER rotation, with runway remaining, then I will pull BOTH throttles to idle and land on the raining runway."*
3. *"If we have an engine failure or system malfunction AFTER rotation, with NO runway remaining….*
   a. *And we are BELOW blue-line, then I will pull BOTH throttles to idle and find the best landing spot in front of us using gentle banks.*
   b. *And we are ABOVE blue-line, then I will run the drill, POWER UP-CLEAN UP- IDENTIFY-VERIFY-FEATHER, and we will come back to land.*

Pitot Heat. . . . . AS REQUIRED
Lights. . . . . AS REQUIRED
Fuel Pumps . . . . . ON

Abbreviated Before Takeoff (Pattern)

Engine Gauges . . . . . CHECKED
Mixtures & Propellers . . . . . FULL FORWARD
Trim . . . . . SET (Elevator & Rudder)
Wing Flaps . . . . . UP (Check Visually)
Pitot Heat. . . . . AS REQUIRED
Lights. . . . . AS REQUIRED
Fuel Pumps . . . . . ON

Takeoff

Rotate . . . . . .85 MPH
Above Blue line 102 mph/No Runway . . . . . .GEAR UP
Airspeed . . . . . 120 MPH
Above 400 Ft. AGL. . . . . CLIMB CHECKLIST

Climb

Airspeed. . . . . 135 MPH
Throttles. . . . . 24" MP
Props. . . . . 2400 RPM
Mixtures. . . . . .AS REQUIRED
Cowl Flaps . . . . . AS REQUIRED
Fuel Pumps . . . . . OFF
Taxi & Landing Lights . . . . . OFF

Cruise

Throttles. . . . . 18" MP
Props. . . . . 2400 RPM
Mixtures . . . . . AS REQUIRED
Cowl Flaps . . . . . AS REQUIRED
Engine Gauges . . . . . MONITOR

Descent

Airspeed. . . . . 135 MPH
Mixtures . . . . . ENRICH
Power . . . . . .SET
Cowl Flaps. . . . . CLOSED

Before Landing

Gas. . . . . FULLEST TANK / PUMPS ON
Undercarriage. . . . . .DOWN (3 GREEN)
Mixtures . . . . . .RICH
Propellers . . . . . .FULL FORWARD
Flaps . . . . . .AS REQUIRED
Seats, Seat Belts, Shoulder Harness, Switches . . . . . SET

Go Around

Throttles & Propellers . . . . . .FULL FORWARD
Pitch. . . . . POSITIVE CLIMB ATTITUDE
Landing Gear . . . . . RETRACT
Positive Rate Verified
Flaps . . . . . .UP
Airspeed . . . . . .120 MPH

After Landing

Cowl Flaps . . . . . OPEN
Heater . . . . . .FAN
Flaps . . . . . .RETRACT
Trim . . . . . SET
Fuel Pumps . . . . . OFF
Lights . . . . . .AS REQUIRED

Shutdown

Heater . . . . . OFF
Trim, A/P, Y/D, Aspen, Master Avionics Switches. . . . . .OFF
Lights Except Beacon . . . . . .OFF
Mixtures . . . . . .IDLE CUT-OFF
Magnetos . . . . . OFF
Master Switch . . . . . .OFF

Engine Failure During Takeoff (Below 80 MPH)

If Sufficient Runway Remains for a Safe Stop

Throttles . . . . . CLOSE IMMEDIATELY
Brakes . . . . . AS REQUIRED
Stop Straight Ahead *If Insufficient Runway Remains for a Safe Stop*
Throttles . . . . . CLOSE IMMEDIATELY
Mixtures . . . . . IDLE CUT-OFF
Master Switch . . . . . OFF
Fuel Selectors . . . . . OFF
Magneto Switches . . . . . OFF
Maintain Directional Control and Maneuver to Avoid Obstacles

Engine Failure During Takeoff (Above 97 MPH)

Directional Control . . . . . MAINTAIN
Pitch . . . . . 97 MPH
Power . . . . . FULL (MIXTURES/PROPS/THROTTLES)
Performance . . . . . GEAR & FLAPS UP
Identify . . . . . DEAD FOOT DEAD ENGINE
Verify . . . . . THROTTLE IDLE (SUSPECTED INOPERATIVE)
Prop . . . . . FEATHER

Engine Roughness

Electric Fuel Pumps . . . . . ON
Engine Instruments . . . . . SCAN FOR CAUSE
Mixture . . . . . AS REQUIRED
Alternate Air . . . . . OPEN
Cowl Flaps . . . . . ADJUST FOR PROPER CHT
Fuel . . . . . SWITCH TANKS IF FUEL IN OTHER TANK
Magnetos . . . . . CHECK

Engine Securing Procedure

Throttle . . . . . CLOSE
Propeller . . . . . FEATHER (1000 RPM MINIMUM)
Mixture . . . . . IDLE CUT-OFF
Cowl Flap . . . . . CLOSE
Magneto Switch . . . . . OFF
Fuel Pump . . . . . OFF
Fuel Selector . . . . . OFF
Alternator Circuit Breaker . . . . . PULL
Electrical Load . . . . . REDUCE
Crossfeed . . . . . CONSIDERED

Air Start

Fuel Selector . . . . . ON
Throttle . . . . . OPEN 1/2 INCH
Mixture . . . . . RICH
Fuel Pump . . . . . PRIME THEN OFF
Propeller . . . . . FORWARD
Magnetos . . . . . ON

Starter . . . . . ENGAGE UNTIL PROP UNFEATHERS
Propeller . . . . . 2000 RPM
Throttle . . . . . 15” MP
Engine Instruments . . . . . CHECK
Alternator Circuit Breaker . . . . . IN
CHTs > 200° F. . . . . RESET POWER

Single Engine Landing

Inoperative Engine . . . . . SECURED
Hydraulic Pump . . . . . .CHECK
Seat Belts/Harnesses . . . . . .SECURE
Heater . . . . . .FAN
Electric Fuel Pump (Operative Engine) . . . . . ON
Mixture (Operative Engine) . . . . . RICH
Propeller (Operative Engine) . . . . . FULL FORWARD
Fuel Quantity . . . . . CHECK
Cowl Flap (Operative Engine) . . . . . AS REQUIRED
Fuel Selector (Operative Engine) . . . . . ON
Crossfeed . . . . . OFF
Airspeed . . . . . 120 MPH UNTIL LANDING ASSURED
Altitude . . . . . .HIGHER THAN NORMAL UNTIL LANDING ASSURED
When Landing Assured:
Gear . . . . . .DOWN
Flaps . . . . . .AS REQUIRED
Power . . . . . RETARD SLOWLY & FLARE
Trim . . . . . AS POWER IS REDUCED

Single Engine Go Around

Airspeed . . . . . .102 MPH
Power . . . . . .MAX ON OPERATING ENGINE
Flaps . . . . . .RETRACT
Landing . . . . . .GEAR RETRACT
Cowl Flaps & Trim . . . . . AS REQUIRED

Emergency Gear Extension ***Extending Gear with Hand Pump*** *150 MPH Maximum Gear Down Speed* Gear Handle . . . . . .DOWN Hand Pump . . . . PUMP UNTIL 3 GREEN & GEAR HANDLE NEUTRAL

Extending Gear with CO2

150 MPH Maximum Gear Down Speed

Gear Handle . . . . . .DOWN
Ring Cover . . . . . .RAISE
Ring . . . . . PULL
Do Not Attempt to Raise Gear Hydraulically

Manual Extension of Wing Flaps

Flap Control . . . . . .DOWN
Hand Pump . . . . . PULL OUT & PUMP

Engine Fire on Ground

Fuel Selector . . . . . OFF
Electric Fuel Pump . . . . . OFF
Brakes . . . . . .AS REQUIRED
Throttle . . . . . .OPEN
Radio . . . . . .CALL FOR ASSISTANCE
Mixture . . . . . .IDLE CUT-OFF
External Fire Extinguisher . . . . . .USE

Engine Fire In Flight

Mixture . . . . . IDLE CUT-OFF
Electric Fuel Pump . . . . . OFF
Fuel Selector . . . . . OFF
Propeller . . . . . FEATHER
Good Engine . . . . . INCREASE POWER
Drag . . . . . REDUCE (Gear, Flaps, Cowl Flaps)
Alternator Circuit Breakers. . . . . PULL
Magnetos . . . . . OFF
Electrical Load . . . . . REDUCE
Loss of Power Procedures . . . . . COPMLETE
Land at Nearest Suitable Airport

Cabin Fire

Vents . . . . . CLOSED
Heater . . . . . OFF
Fire Extinguisher . . . . . USE
When Fire is Out Ventilate Cabin

Electrical Fire

Master Switch . . . . . OFF
Circuit Breakers . . . . . CHECK then PULL ALL
Avionics . . . . . ALL OFF
Heater . . . . . OFF
Vents . . . . . CLOSE
Fire Extinguisher . . . . . USE
When Fire is Out
Master Switch . . . . . ON
Vents. . . . . OPEN
Switches & Circuit Breakers . . . . . ON, ONE at a TIME

Emergency Descent

Throttles . . . . . IDLE
Propellers . . . . . FULL FORWARD
Airspeed . . . . . 198 MPH (149 MPH in Rough Air)
Cowl Flaps . . . . . CLOSED

Crossfeed

Fuel Selector (Inoperative Side) . . . . . ON
Electric Fuel Pump (Inoperative Side) . . . . . ON
Crossfeed Valve . . . . . ON
Electric Fuel Pump (Operative Side) . . . . . OFF
Fuel Selector (Operative Side) . . . . . OFF

Coming Out of Crossfeed

Fuel Selector (Operative Side) . . . . . ON
Electric Fuel Pump (Operative Side) . . . . . ON
Electric Fuel Pump (Inoperative Side) . . . . . OFF
Crossfeed Valve . . . . . OFF
Fuel Selector (Inoperative Side) . . . . . OFF
Fuel Pump (Operative Side) . . . . . AS REQUIRED

Overspeeding Propeller

Throttle . . . . . RETARD
Airspeed . . . . . REDUCE
Throttle . . . . . SLOWLY ADVANCE ONCE RPM UNDER CONTROL
Airspeed . . . BELOW AIRSPEED AT WHICH OVERSPEED OCCURRED
Descend at 2200 RPM
Land with Prop set at 2400 RPM