



Duchess BE-76 N54V

PREFLIGHT INSPECTION

① Cockpit

- 1. AROW Documents/Maintenance Log..... CHECK
- 2. Emergency Equipment.....CHECK
- 3. Gear Handle.....DOWN/CHECKED
- 4. Emergency Extension Valve.....VERTICLE POSITION
- 5. Cowl Flaps.....OPEN
- 6. Fuel Quantity.....CHECKED MAIN
- 7. Alt. Static Selector.....OFF
- 8. Engine Controls.....FORWARD/IDLE/CUTOFF
- 9. Trim.....SET to ZERO
- 10. Fuel Selector Valves.....MAIN
- 11. Pitot Heat/Lights.....CHECK
- 12. Master Switch.....OFF

② LEFT WING trailing edge

- 13. Flap.....CHECK
- 14. Fuel Vent.....CHECK
- 15. Aileron.....CHECK
- 16. Wing Tip.....CHECK
- 17. Position and Strobe lightCHECK

③ LEFT WING LEADING EDGE

- 18. PitotRemove Cover, Check for Obstructions
- 19. Landing, Taxi Light.....Check
- 20. Stall Warning Vane.....Check Freedom Of Movement
- 21. Fuel Quantity/Caps.....Check/Secure
- 22. Tie-Down and Chocks.....Remove
- 23. Fuel Tank Sumps (4Per Wing).....Drain
- 24. Fuel Selector.....Drain
- 25. Main Gear Doors / Wheel Strut and TireCheck
- 26. Engine Oil (5-6 Qts).....Check
- 27. Engine Cowling.....Check Condition and Security
- 28. Air Intakes.....Clear
- 29. Propeller and Spinner.....Check
- 30. Cowl Flaps.....Check
- 31. Wheel Well, Door, Tire, Brake Line, and Strut.....CHECK

④ NOSE SECTION

- 32. Nose Cowling; Nose Cone: Check Security
- 33. Heater Air Intake.....Clear
- 34. Heater Exhaust and Vents.....Clear
- 35. Wheel Well, Doors, Tire and Strut.....Check

⑤ RIGHT WING LEADING EDGE

- 36. Fuel Tank Sumps (4Per Wing).....Drain
- 37. Wheel Well, Door, Tire, Brake Line, and Strut.....CHECK
- 38. Engine Cowling.....Check Condition and Security

- 39. Air Intakes.....Clear
- 40. Propeller and Spinner.....Check
- 41. Engine Oil (5-6 Qts).....Check
- 42. Cowl Flaps.....Check
- 43. Tie-Down and Chocks.....Remove
- 44. Fuel Quantity/Caps.....Check/Secure
- 45. Stall Warning Vane.....Check Freedom Of Movement
- 46. Taxi Light.....Check
- 47. Wing Tip.....CHECK
- 48. Position and Strobe lightCHECK

⑥ Right Wing Training Edge

- 49. Aileron.....CHECK
- 50. Fuel Vent.....CHECK
- 51. Flap.....CHECK

⑦ Fuselage Right Side

- 52. Battery Vents.....Check, Unobstructed
- 53. Static Port.....Clear of Obstructed

⑧ EMPENNAGE

- 55. Control Surfaces and Trims Tabs.....CHECK
- 56. Tail Cone and Position Light.....CHECK
- 57. TieDown.....REMOVED
- 58. Cabin Air Inlet.....CHECK

⑨ Fuselage Left Side

- 59. Static Port.....Clear of Obstructed
- 60. Cabin Air Outlet.....CHECK
- 61. All Antennas.....CHECK
- 62. Load Distribution.....CHECK and SECURITY

BEFORE ENGINE START

- 1. Preflight Inspection.....COMPLETE
- 2. Fuel Drain/Emergency Extension Tool.....STOW
- 3. Passenger Briefing.....COMPLETE
- 4. Seats.....Position and Lock
- 5. Seat Belt and Should Harness.....Fastern
- 6. Brakes.....TEST
- 7. Avionic Switches.....OFF
- 8. Circuit Breakers.....IN
- 9. Gear Handle.....DOWN/CHECKED
- 10. Carburator Heat.....OFF(Up Position)
- 11. Cowl Flaps.....OPEN
- 12. Fuel Selector Valve.....Check Operation then ON
- 13. Beacon.....ON
- 14. Master Switch/Alternators.....ON
- 15. Fuel Quantity Indicators.....Verify
- 16. Landing Gear Position Light.....GREEN
- 17. Mixtures.....FULL RICH
- 18. Propeller HIGH RPM.....AREA CLEAR

- 19. Throttles.....OPEN ¼ INCH
- 20. AUX Fuel Pumps.....ON
- 21. MAGNETO/START SWITCH.. Engage Starter, Push to Prime.....Release To Both Position when engine starts.



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AFTER START

1. Oil Pressure/Engine Instruments.....CHECK
2. Mixture.....LEAN
3. Avionics Masters.....ON
4. Annunciator Warning Light.....PRESS TO TEST
5. AUX Fuel Pumps.....OFF
6. All Engine Instruments.....CHECK

TAXI

1. Brakes.....CHECK
2. Flight Instruments.....CHECK
3. Flaps.....UP

BEFORE TAKE OFF

1. Fuel Quantity.....()MAIN/CHECK
2. Fuel Selector.....ON
3. Mixture.....RICH/DA & ELEV
4. Flight Controls.....FREE/CORRECT
5. Wing Flaps.....Check Operation
6. Electric trim.....CHECK
7. Trim.....SET for Takeoff
8. Runup (2200 RPM)
 - Propellers EXERCISE.....(100-200 rpm drop)
 - Magnetos (175 Max Drop/50Differential).....CHECK
 - Carburator Heat.....CHECK and set off (cold) for take off
 - Throttles.....1500 RPM
 - Propellers... FEATHER CHECK ...(do not excee 500 rpm drop)
 - Gyro Pressure and LoadmetersCHECK
 - Idle (1000RPM).....CHECK
 - AUX fuel pumps.....CHECK ON
9. Flight/Engine Instruments/RADIOS.....CHECK/SET
10. Departure/Emerg. Briefing.....COMPLETE
11. Cabin Door.....LACHED

RUNWAY ITEMS

1. Heading Indicator.....SET
2. Altitude XPDR.....ALT
3. TAXI Lights.....ON
4. Fuel.....MIX FULL RICH
5. Cowl Flaps.....OPEN
6. Time.....RECORD
7. Takeoff power..SET before release of brakes 2700 rpm

CLIMB

1. Gear.....UP
2. Airspeed.....85 MPH
3. Power.....Full throttle/2700 RPM
4. Cruise Climb.....Fuel Throttle/2600rpm/100knots
Lean as required

Cowl Flaps as Required

5. AUX Fuel pumps.....OFF

CRUISE

1. Cruise Climb.....Fuel Throttle/2600rpm/100knots
2. Lean as required
3. Cowl Flaps as Required
4. Mixture (Peak-100°).....LEAN
5. Engine Instruments.....CHECK

DESCENT/APPROACH

1. ATIS/ASOS.....ACUIRE
2. Altimeter.....() SET
3. Approach Briefing.....COMPLETE
4. Cowl Flaps..... CLOSE
5. Mixtures.....SET

BEFORE LANDING @ FAF or TPA

1. FUEL SELCTOR.....CHECK ON
2. AUX Fuel Pumps.....ON
3. Flaps.....APPROACH SET
4. Mixtures/Props.....SET
5. Carburator Heat.....as Required
6. Cowl Flaps.....as Required
7. Gear.....(140)max..DOWN/GREEN/VERIFIED
8. Landing Light.....as Required
9. Wing Flaps.....FULL DOWN 110 KTS max
10. AirspeedEstablish Landing Approach Speed
11. Propellers.....HIGH RPM

AFTER LANDING

1. Flaps.....UP
2. Mixtures.....LEAN
3. Lights.....as Required
4. Cowl Flaps.....OPEN
5. Heater Fan.....AS REQUIRED
6. Trim.....SET
7. AUX Fuel Pump.....OFF

SHUTDOWN

1. Avionics Master.....OFF
2. Lights OFF.....OFF
3. Heater/Fan.....OFF
4. Mixtures.....IDLE CUTOFF
5. Magnetos.....OFF
6. Master Switch/Alternators.....OFF

SECURING

1. Control Lock.....INSTALL SEAT BELT
2. Fuel Selector Valves.....OFF
3. Controls.....LOCKED
4. Pitot Cover.....INSTALL
5. Chocks.....LEFT MAIN

- 6. Tie-Downs.....SET
- 7. Paperwork/Flight Plan.....COMPLETE/CLOSED



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ENGINE FAILURE DURING TAKEOFF ROLL

1. Throttle.....IDLE
2. Brakes.....MAXIMUM
3. Fuel Selectors.....OFF
4. Magnetos.....OFF
5. Master, Alternator Switch.....OFF

ENGINE FAILURE AFTER TAKE-OFF

1. Airspeed..... BLUE LINE 108MPH
2. Mixtures/Prop/Throttles.....FULL
3. Gear.....UP
4. Flaps.....UP
5. Failed Engine.....Verify
6. Prop.....FEATHER
7. Mixture (Failed Engine).....IDLE CUT-OFF
8. Fuel Selectors.....OFF
9. AUX Fuel pumps.....OFF
10. Magneto.....OFF
11. Alternator Switch.....OFF
12. Cowl Flaps.....SET
13. Airspeed.....85KTS
14. Electrical Load.....MONITOR

FIRE IN FLIGHT

1. Fuel Selectors.....OFF
2. MixturesIDLE CUT-OFF
3. Prop.....FEATHER
4. AUX Fuel Pump.....OFF
5. Magneto.....OFF
6. Alternator Switch.....OFF

ENGINE FIRE (GROUND)

1. MIXTURE.....IDLE CUT OFF
2. Continue to Crank affected engine
If engine fails to start
3. Fuel Selectors.....OFF
4. Battery and Alternator switchesOFF
5. Airplane.....EVACUATE
6. Extinguish fire with extinguisher
- If engine starts:
7. Power.....1800 RPM
8. Engine.....SHUTDOWN
 - a. Master Switch.....OFF

- b. Ignition Switch.....OFF

ELECTRICAL FIRE IN FLIGHT(ENGINE FIRE)

1. Fuel Selector.....OFF
2. MixturesIDLE CUT-OFF
3. Prop.....FEATHER
4. AUX Fuel Pump.....OFF
5. Magneto.....OFF
6. Alternator.....OFF
7. Master Switch.....OFF
8. Vents, Cabin Air, Heat.....CLOSED
9. Fire Extinguisher.....ACTIVATE

ASYMMETRICAL FLAP EXTENSION

1. Flap Control.....NEUTRAL
2. Roll/Directional Control.....MAINTAIN
3. Flap Control.....MOVE TOWARD SYMMETRY
If the flaps will not move, LEAVE FLAP CONTROL OFF/NEUTRAL.
DO NOT ATTEMPT TO RESET SYSTEM.

COMPLETE LOSS OF ELECTRICAL POWER

1. Both AlternatorOFF
2. Battery Switch.....OFF
3. Both BUS-ISO Circuit Breakers.....PULL
4. Remove all electrical loads
5. Both AlternatorON
6. Minimize all electrical loads. Select only that electrical equipment which is essential for safe flight
7. Extend landing gear with emergency system.
8. LAND AS SOON AS PRACTICAL

ILLUMINATION OF ALTERNATOR-OUT LIGHT

ALTERNATOR -OUT UNDERVOLTAGE light or a single ALTERNATOR-OUT OVERVOLTAGE LIGHT
 No load.....TURN OFF AFFECTED ALTERNATOR
 Reduce load to single alternator capability
 Reset the affected alternator. Monitor overvoltage and undervoltage for proper operation
 If proper operation is not restored, turn alternator OFF

In the event of illumination of both ALTERNATOR-OUT UNDERVOLTAGE light or both ALTERNATOR UNDERVOLTAGE LIGHTS:

Both alt Switches.....OFF
 Minimize electrical load
 Reset the alternator with the alternator switches. .
 Monitor overvoltage and undervoltage for proper operation
 If proper operation is not restored, turn alternator OFF
 Land.....AT THE NEAREST SUITABLE AIRPORT



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SINGLE ENGINE DESCENT/APPROACH

1. ATIS/ASOS.....ACUIRE
2. Altimeter.....() SET
3. Approach Briefing.....COMPLETE
4. Mixtures.....SET
5. Fuel Selectors.....ON

SINGLE ENGINE BEFORE LANDING

1. Flaps.....UP
 2. Mixtures/Props..... EMERGENCY SET
 3. Gear.....DOWN/GREEN/VERIFIED
- Non-precision approach: The gear-up until leaving MDA.*
4. Lights.....SET

ZERO FLAP LANDING

1. Propeller Levers.....FORWARD
2. V_{APP}.....90 KIAS

VACCUM SYSTEM FAILURE (L VAC) or (R VAC) Annunciator

1. Vacuum Gauge.....CHECK
- If vacuum is not within normal limits partial panel procedures maybe required.

FUEL CROSSFEED (ONE ENGINE INOP)

CAUTION: Do not cross feed following an engine fire. Monitor fuel flow while starting and terminating crossfeed.

1. Inop engine mixture.....CUTOFF
2. Fuel selector.....ON DESIRED TANK
3. Fuel Selector on operative engine.....CROSSFEED

TO TERMINATE CROSSFEEDING

1. Fuel selector on operative engine side.....ON DESIRED TANK
2. Fuel Selector on inoperative engine.....ON

ENGINE AIR START (Speed 100 MPH)

1. Fuel SelectorON
2. Throttle.....OPEN ¼ INCH
3. Magneto.....Both ON
4. Propeller.....FULL FORWARD
5. Mixture.....RICH
6. Airspeed.....100 MPH

After Engine Start

7. Oil Pressure/Engine Instruments.....CHECK
 8. Throttle
(Until Some Indication Of CHT).....18IN/RPM MATCH
 9. AUX Fuel pumps.....OFF
 10. Alternator.....ON
- If engine does start with procedures from above

WITHOUT UNFEATHERING ACCUMLATORS:

1. Fuel Selector.....ON
2. Throttle.....1/4 travel
3. Aux Fuel pumpON
4. Magneto/Start Switch.....ON
5. Mixture.....FULL RICH
6. Propeller Control.....Move forward of Feathering Detent
7. Magneto/Start Switch.....Start & Push to Prime

Note: If air start is unsuccessful, secure engine and land as soon as practical.

- 8.. When Engine Starts.....ADJUST THROTTLE, PROPELLER and MIXTURE CONTROLS
9. Aux fuel Pump.....OFF
10. Alternator Switch.....ON
11. Oil Pressure & Oil Temperature.....CHECK
12. Warm Up Engine.....2000 RPM and 15 in Hg
13. Set Power as Required and Trim

LANDING GEAR MANUAL EXTENSION

1. Landing GEAR MOTOR Circuit Breaker.....Pulled
2. Landing gear handle.....DOWN
3. Airspeed.....100KTS max
4. Emergency Extension ValveOPEN
5. If electrical system is operative, check landing gear lights and warning horn.

LANDING GEAR RETRACTION AFTER MANUAL EXTENSION

1. Emergency Extension ValveCLOSE
2. Landing Gear Motor Circuit Breaker.....ON
3. Landing Gear Switch Handle.....UP