

# Normal Checklist – Beechcraft Duchess 76

| INITIAL   | START   | RUN-UP   | TAKEOFF   | DESCENT  | AFTER LANDING  |
|---|---|--|---|--|--|
| Weather & Den. Alt.<br>Weight & Balance<br>Performance Req.<br>Flight Plan – File<br>Papers – A.R.O.W.<br>Mags – Off<br>Mixtures – Full Lean<br>Control Lock<br>Cowl Flaps – Open<br>Gear Lever – Down<br>BATT – On<br>Gear Lights – Green<br>Pitot Heat – Test<br>Stall Vanes – Test<br>Lights – Int. / Ext.<br>Fuel Gauges – True<br>BATT – Off       | Seat Track/Back-Lock<br>Emer. Ext. Tool-Stow<br>Circuit Breakers<br>Avionics – Off<br>Autopilot – Off<br>Carb Heat – Off<br>Cowl Flaps – Open<br>Beacon – On<br>--- 1st Engine Start ---<br>Mixture – Rich<br>Prop – High RPM<br>Throttle – ¼ Open<br>Brakes – Set<br>Prop – Clear<br>BATT – On<br>ALT-out, Low Volt Lts<br>(Verify Illuminated)<br>Fuel Pump – On<br>Mags – Start<br>(Push To Prime)<br>Oil Pressure<br>ALT – On<br>#2 Engine – Start<br>Lights – As Req.<br>Mixture – As Req. | Brakes – Set<br>Fuel Selector – On<br>Elec. Trim / Autopilot<br>Trim – Takeoff<br>Flight Controls<br>Flaps – Check Operation<br>Instruments<br>Annunciator Lights<br>Mixture – Best Power<br><br>2200 RPM<br>Props – Cycle<br>Mags (R&L) – Test<br>Carb Heat – Test<br>1500 RPM<br>Feather – Test<br>Gyro Pressure<br>Amps / Volts<br>Oil Pressure / Temp<br>Alternators<br>Idle – Check Closed<br>Friction Lock | Full Throttle<br>2700 RPM (Max)<br>Oil Pressure<br>Rotate * <b>71</b> (82)<br>Vxse - <b>85</b> (98)<br>Gear – Up<br><br>CLIMB<br><br><b>100</b> (115)<br>Full Throttle<br>Props – 2600 RPM<br>Mixture – As Req.<br>Fuel Pumps – Off<br>Cowl Flaps – As Req.<br>Instruments<br>Taxi / Land Light – Off<br>Flight Plan – Open<br><br>CRUISE<br><br>Throttle<br>Props<br>Mixture<br>Cowl Flaps<br>Instruments<br>H.I. To Compass<br>Oxygen | Power – As Req.<br>Mixture – Richen<br>Fuel Selector – On<br>Carb Heat – As Req.<br>Cowl Flaps – Close<br>ATIS / AWOS<br>Altimeter – Set<br>Defrost / Pitot Heat<br>Instruments<br>H.I. To Compass<br><br>PRE-LANDING<br><br>Landing Light – On<br>Carb Heat – As Req.<br>Autopilot – Off<br>Gas.... On / Pumps – On<br>Undercarriage.... Down<br>Mixture.... Best Power<br>Props..... High RPM<br>Flaps..... As Req.<br>Seatbelts... & Harness<br><br>LANDING<br><br>Gear – Down<br>Flaps – 35° Or As Req.<br>Speed * <b>76</b> (87)<br><br>GO AROUND<br>Power – Full<br>Carb Heat – Off<br>Positive Rate Climb<br>Flaps – Up<br>Gear – Up<br>Cowl Flaps – Open | Flaps – Up<br>Carb Heat – Off<br>Cowl Flaps – Open<br>Strobes – Off<br>Landing Light – Off<br>Taxi Light – As Req.<br>Pitot Heat – Off<br>Heater – Off<br>Trim – Takeoff<br>Transpond – STBY<br><br>SECURING<br><br>ELT – Verify Silent<br>Fuel Pumps – Off<br>Avionics – Off<br>Mixture – Full Lean<br>Mags – Off<br>BATT / ALT – Off<br>Lights – Off<br>Cowl Flaps – Closed<br>Hobbs / Tach Time<br>Control Lock<br>Chocks<br>Tie Downs<br>Pitot Cover<br>Baggage Doors<br>Cabin Doors<br><br>Close Flight Plan<br><br>* Adjust Speed<br>As Needed For<br>Conditions |
| <b>EXTERIOR SUMMARY</b><br>After Geographical Check<br>Fuel Quantity<br>Fuel Quality<br>Caps / Drains / Vents<br>Engines / Oil / Belt<br>Props / Air Intakes<br>Exhaust Systems<br>Cowl Flaps<br>Surfaces & Controls<br>Pitot & Static Ports<br>Gear / Tires / Brakes<br>ELT – Armed<br>Antennas<br>Baggage Doors<br>Ties / Chocks<br>Final Walk Around | <b>PRE-TAXI / TAXI</b><br>Seat Belts / Harness<br>Heat / Vent / Defrost<br>Avionics – On / Set<br>Transpond – STBY<br>ATIS / AWOS<br>Altimeter – Set<br>Taxi Light – As Req.<br>Brakes – Test<br>Fuel Pumps – Off / On<br>(Verify Eng. Driven Pumps)<br>Attitude Indic. – Test<br>Turn Coord. – Test<br>H.I. / Compass – Test   | <b>PRE-TAKEOFF</b><br>Flaps – 0°<br>Props – High RPM<br>Mixture – Best Power<br>Carb Heat – Off Or As Req.<br>Fuel Pumps – On<br>H.I. To Compass<br>Doors / Windows<br>Pitot Heat – As Req.<br>Landing Light – On<br>Strobes – On<br>Transp – Alt + Sqwk<br>Time – Note<br>Brakes – Release<br>Abort Plan - Ready!   | Full Throttle<br>2700 RPM (Max)<br>Oil Pressure<br>Rotate * <b>71</b> (82)<br>Vxse - <b>85</b> (98)<br>Gear – Up<br><br>CLIMB<br><br><b>100</b> (115)<br>Full Throttle<br>Props – 2600 RPM<br>Mixture – As Req.<br>Fuel Pumps – Off<br>Cowl Flaps – As Req.<br>Instruments<br>Taxi / Land Light – Off<br>Flight Plan – Open<br><br>CRUISE<br><br>Throttle<br>Props<br>Mixture<br>Cowl Flaps<br>Instruments<br>H.I. To Compass<br>Oxygen | Power – As Req.<br>Mixture – Richen<br>Fuel Selector – On<br>Carb Heat – As Req.<br>Cowl Flaps – Close<br>ATIS / AWOS<br>Altimeter – Set<br>Defrost / Pitot Heat<br>Instruments<br>H.I. To Compass<br><br>PRE-LANDING<br><br>Landing Light – On<br>Carb Heat – As Req.<br>Autopilot – Off<br>Gas.... On / Pumps – On<br>Undercarriage.... Down<br>Mixture.... Best Power<br>Props..... High RPM<br>Flaps..... As Req.<br>Seatbelts... & Harness<br><br>LANDING<br><br>Gear – Down<br>Flaps – 35° Or As Req.<br>Speed * <b>76</b> (87)<br><br>GO AROUND<br>Power – Full<br>Carb Heat – Off<br>Positive Rate Climb<br>Flaps – Up<br>Gear – Up<br>Cowl Flaps – Open | Flaps – Up<br>Carb Heat – Off<br>Cowl Flaps – Open<br>Strobes – Off<br>Landing Light – Off<br>Taxi Light – As Req.<br>Pitot Heat – Off<br>Heater – Off<br>Trim – Takeoff<br>Transpond – STBY<br><br>SECURING<br><br>ELT – Verify Silent<br>Fuel Pumps – Off<br>Avionics – Off<br>Mixture – Full Lean<br>Mags – Off<br>BATT / ALT – Off<br>Lights – Off<br>Cowl Flaps – Closed<br>Hobbs / Tach Time<br>Control Lock<br>Chocks<br>Tie Downs<br>Pitot Cover<br>Baggage Doors<br>Cabin Doors<br><br>Close Flight Plan<br><br>* Adjust Speed<br>As Needed For<br>Conditions |

|   |   |   |  |
|---|---|---|--|
| Vr • Rotation Speed – <b>71</b> (82)      | Vs <sub>0</sub> • Stall with flaps – <b>60</b> (69) | Va • Max Abrupt (3000 lbs) – <b>116</b> (133)   | Vlr • Max Gear Retract – <b>112</b> (129)    |
| Vx • Best Angle Climb – <b>71</b> (82)    | Vs • Stall w/o flaps – <b>70</b> (81)               | Va • Max Abrupt (Full Gross) – <b>132</b> (152) | Vlo/Vle • Max Gear Speeds - <b>140</b> (161) |
| Vxse • Best Angle 1 Eng. – <b>85</b> (98) | Vmca • Min. Ctrl. 1 Eng. – <b>65</b> (75)           | Vno • Max Structural Cruise – <b>154</b> (177)  | Vfe • 20° Flaps – <b>120</b> (138)           |
| Vy • Best Rate Climb – <b>85</b> (98)     | Best Glide (3000 lbs) – <b>83</b> (95)              | Vne • Never Exceed – <b>194</b> (223)           | Vfe • Full Flaps – <b>110</b> (127)          |
| Vyse • Best Rate 1 Eng. – <b>85</b> (98)  | Best Glide (Full Gross) – <b>95</b> (109)           | Vsse • 1 Eng. Intentional – <b>71</b> (82)      | X Wind • Max Demo'd – <b>25</b> (29)         |

|                              | KNOTS (MPH)      | FLAPS ° | – NOTES –   |
|------------------------------|------------------|---------|---|
| <b>DEPARTURE</b>             |                  |         |   |
| Rotation *                   | <b>71</b> (82)   | 0       | Do Not Takeoff With Fuel Quantity Indicators In The Yellow Band |
| Best Angle Climb             | <b>71</b> (82)   | 0       |   |
| Best Rate Climb              | <b>85</b> (98)   | 0       | Cabin Heater Uses Fuel From Right Wing Tank Fuel System Only    |
| <b>CRUISE</b> (TAS - 8,000') |                  |         |   |
| Economy                      | <b>127</b> (146) | 0       | 18.0" Hg – 2100 RPM – 12.4 GPH                                  |
| Normal                       | <b>155</b> (178) | 0       | 21.9" Hg – 2300 RPM – 18.4 GPH                                  |
| Maximum                      | <b>160</b> (184) | 0       | 21.9" Hg – 2500 RPM – 19.6 GPH                                  |
| <b>ARRIVAL</b>               |                  |         |   |
| Approach                     | <b>87</b> (100)  | 10 - 20 | 17" MP – (Initially)  |
| Short Final *                | <b>76</b> (87)   | 35      | High RPM  |

# Emergency Checklist – Beechcraft Duchess 76

## POWER LOSS DURING TAKEOFF

- THROTTLES – CLOSE BOTH IMMEDIATELY
- BRAKES – AS REQUIRED / STOP STRAIGHT AHEAD
- \* IF INSUFFICIENT RUNWAY REMAINS FOR STOPPING
  - \* FUEL SELECTORS – OFF
  - \* BATTERY / ALTERNATOR & MAGS – OFF

## ONE ENGINE IMMEDIATELY AFTER TAKEOFF (Also One Engine Go-Around – Avoid If Possible)

- AIRSPEED – 80 KIAS (92 MPH) (Min.) Go Around Min. – 85 KIAS
- GEAR / FLAPS – UP (Quality Landing Area Ahead?)
- DIRECTIONAL CONTROL – MAINTAIN IDENTIFY
- VERIFY – CLOSE THROTTLE (Inop. Engine)
- PROP – FEATHER (Inop. Engine) (5° Bank & 1/2 Ball to Good Engine)
- ACCELERATE TO 85 KIAS (98 MPH)

## ONE ENGINE IN FLIGHT

- CONTROL AIRPLANE – MAINTAIN SAFE AIRSPEED 85 KIAS (98 MPH)
- INOPERATIVE ENGINE – IDENTIFY
- OPERATIVE ENGINE – ADJUST THROTTLE – AS NEEDED TO MAINTAIN CONTROL
- AIR START / UNFEATHERING

*Fuel-On, Throttle 1/4, Fuel Pump-On, Mags, [Mixture-Rich After Starter]*

- Prop: w/ Accumulators** - Full Forward, When Start Reduce To Low RPM Then Advance Prop Slowly to High, Starter-Briefly < 100 KTS;
- Prop: w/o Accumulators** - Forward Of Feathering Detent To Midrange, Start & Push To Prime, If No Start Clear Engine By Windmill w/ Mixture Off, When Engine Fires-Mixture Rich, Adjust Throttle/ Prop/ Mixture, Fuel Pump-Off When Reliable Power, Alternator-On, Oil Pressure, Warm Engine 2000 RPM / 15"

- IF NO RESTART – SECURE DEAD ENGINE
- Retard Throttle, Feather Prop, Mixture-Idle Cutoff, Fuel Pump Off, Fuel Off, Mag/Alt Off, Close Cowl Flap

- COWL FLAP (OPERATIVE ENGINE) – AS REQUIRED
- FUEL PUMP (OPERATIVE ENGINE) – AS REQUIRED

## ONE ENGINE LANDING

- SECURE INOP. ENGINE – MAINTAIN SAFE AIRSPEED
- LOWER GEAR – WHEN FIELD ASSURED
- FINAL APPROACH – 85 KIAS (98 MPH) (Minimum)
- FULL FLAPS – WHEN COMMITTED TO LAND

## BOTH ENGINES OUT / LANDING

- AIRSPEED – 95 KIAS (109 MPH)
- PROPS – FEATHER
- MIXTURE – FULL LEAN / IDLE CUTOFF
- FUEL SELECTORS – OFF
- SQUAWK 7700
- DECLARE EMERGENCY (TWR, APP, Unicom, 121.5)
- SEATBELTS / HARNESS
- GEAR – DOWN (Up If Very Rough or Soft Terrain)
- FLAPS – AS NEEDED (Full Flaps When Field Assured)
- BATTERY / ALTERNATOR / MAGS – OFF
- UNLATCH DOORS / PROTECT BODY

## ELECTRICAL FIRE IN FLIGHT

- ALL ELECTRICAL DEVICES + BATT / ALT – OFF (Mags On)
- CABIN HEAT & AIR – OFF
- IF FIRE OUT, BATT/ALT ON ONLY IF CRITICAL
- THEN ONE ELECTRICAL DEVICE AT A TIME (Isolate Defective Equipment)
- RESET CIRCUIT BREAKER(S) ONLY IF CRITICAL

## ENGINE FIRE IN FLIGHT

- FUEL SELECTOR – OFF TO AFFECTED ENGINE
- MIXTURE – FULL LEAN / IDLE CUTOFF
- PROP – FEATHER
- AUX FUEL PUMP – OFF
- ALTERNATOR / MAGNETOS / START SWITCH – OFF
- INCREASE AIRSPEED TO EXTINGUISH – 140 KIAS (161), LAND ASAP

## ENGINE FIRE DURING START

- MIXTURE – FULL LEAN / IDLE CUTOFF
- CONTINUE CRANKING ENGINE
- FUEL SELECTORS – OFF
- BATTERY / ALTERNATOR – OFF
- SHUTDOWN OTHER ENGINE
- EVACUATE / FIRE EXTINGUISHER

## ICING

- PITOT HEAT – ON
- CARBURETOR HEAT / ALTERNATE STATIC SOURCE – AS NEEDED
- CABIN HEAT & DEFROST – MAXIMUM
- STRONGLY CONSIDER 180° TURN
- ATTAIN HIGHER OR LOWER ALTITUDE
- INCREASE ENGINE SPEED
- FULL FLAPS NOT RECOMMENDED FOR LANDING
- LAND FASTER AS NEEDED

## MANUAL GEAR EXTENSION

- REDUCE AIRSPEED BELOW – 100 KIAS (115 MPH)
- PULL LANDING GEAR MOTOR CIRCUIT BREAKER
- LOWER LANDING GEAR LEVER
- OPEN EMERGENCY EXTENSION VALVE
- EXTENSION WRENCH – TURN COUNTERCLOCKWISE
- IF ELECTRICAL SYSTEM OK – VERIFY GEAR LIGHTS & HORN

## OTHER

- UNICOM: 122.7, 122.8, 122.95, 123.0, 123.05
- MULTICOM: 122.9 (CTAF) 122.75, 122.85 (Air To Air)
- FLIGHT WATCH: 122.0
- RADIO OUT: CHECK CIRCUIT BREAKERS & VOLUME RECYCLE ALTERNATOR SWITCH
- If IFR & Still Out, Set Transponder At 7600. (Suggested For VFR If In B, C, D Airspace)

| TOWER SIGNALS           | ON GROUND                  | IN FLIGHT                    |
|-------------------------|----------------------------|------------------------------|
| Steady Green            | Cleared For Takeoff        | Cleared To Land              |
| Flashing Green          | Cleared To Taxi            | Return For Landing           |
| Steady Red              | Stop                       | Yield & Continue Circling    |
| Flashing Red            | Taxi Clear of Landing Area | Airport Unsafe – Do Not Land |
| Flashing White          | Return To Starting Point   | N/A                          |
| Alternating Red & Green | Use Extreme Caution        | Use Extreme Caution          |

\* Every Plane Has A Different Empty Weight And Useful Load

Beechcraft Duchess 76 (Lycoming O-360-A1G6D, LO-360-A1GD / 180 HP)

- \* Empty Weight:  LBS (Specific Plane Weight)
- \* Max. Useful Load:  LBS (Including Fuel @ 6 lbs/gal)
- Max. Bag Area: 200 LBS (Included In Useful Load)
- Max. T.O. Weight: 3900 LBS
- Zero Fuel Weight: 3500 LBS

- Fuel Type: 100 LL (Blue) / 100 (Green)
- Usable Fuel: 100 Gallons
- Oil Capacity: 8 Quarts Per Engine
- Electrical: 24-28 VOLT, 55 AMP (ME-183 & After)  
12-14 VOLT, 60 AMP (ME-1Thru ME-182)
- Tire Pressure: Nose - 38 PSI / Main - 38 PSI