

**BEECHCRAFT
APPROVED
DUCHESS 76 INSPECTION GUIDE**

OWNER'S NAME		ADDRESS	
IDENTIFICATION NUMBER	SERIAL NUMBER	HOURS	DATE INSPECTION COMPLETED
SERVICE AGENCY		CITY	STATE

NOTE

This inspection procedure meets the intent of FAR 91.169 and Part 43 Appendix D.

The owner or operator is primarily responsible for maintaining the airplane in an airworthy condition, including compliance with all applicable Airworthiness Directives as specified in Part 39 of the Federal Aviation Regulations. It is further the responsibility of the owner or operator to ensure that the airplane is inspected in conformity with the requirements of Parts 43 and 91 of the Federal Aviation Regulations. Beech Aircraft Corporation has prepared this inspection guide to assist the owner or operator in meeting the foregoing responsibilities. This inspection guide is not intended to be all-inclusive, for no such guide can replace the good judgment of a certified airframe and power plant mechanic in the performance of his duties. As the one primarily responsible for the airworthiness of the airplane, the owner or operator should select only qualified personnel to maintain the airplane.

The time periods for the inspections noted in this schedule are based on normal usage under average environmental conditions. Airplanes operated in extremely humid tropics, or in exceptionally cold, damp climates, etc., may need more frequent inspections for wear, corrosion, lubrication, and/or lack of maintenance. Under these adverse conditions, perform periodic inspections in compliance with this guide at more frequent intervals until the owner or operator can set his own inspection periods based on the contingencies of field experience. A 100-hour inspection **MUST** be accomplished within each 12-month period for compliance with the Federal Aviation Regulations. To the extent that the airplane is

operated in excess of 100 hours per year, Beech Aircraft Corporation strongly recommends that the airplane be inspected at 100-hour intervals rather than annually. The 100-hour interval between performance of the procedures specified herein should **NEVER** be exceeded by more than 10 hours, and then only if the additional time is required to reach a place where the inspection can be satisfactorily accomplished.

While this guide may be used as an outline, detailed information of the many systems and components in the airplane will be found in the various chapters of the Maintenance Manual and the pertinent vendor publications. It is also recommended that reference be made to the applicable Maintenance Handbooks, Service Instructions, applicable FAA Regulations and Publications, Vendor's Bulletins and vendor's specifications for torque values, clearances, settings, tolerances, and other requirements. It should further be verified that all interior and exterior placards are legible and in place during the inspection. In the final analysis, it is the responsibility of the owner or operator to ensure that the airframe and power plant mechanic inspecting the airplane has access to the previously noted documents as well as to this inspection guide.

NOTE

In addition to the inspections prescribed by this schedule, the altimeter instrument and static system, and all ATC transponders **MUST** be tested and inspected at 24-month intervals in compliance with the requirements specified in FAR Parts 91.170 and 91.177 under Title 14 of the Code of Federal Regulations.

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A. OPERATIONAL INSPECTION	Mech.	Insp.
1. STARTERS - Check for proper operation.		
2. ENGINE CONTROLS - With engines operating, check throttle, mixture, and propeller controls for freedom of movement, full travel, and proper friction lock.		
3. OIL PRESSURE AND TEMPERATURE - Check for proper pressure and temperature limits.		
4. FUEL PRESSURE GAGES - Check for proper operation.		
5. FUEL QUANTITY GAGES - Check for proper operation.		
6. CYLINDER HEAD TEMPERATURE - Check for proper operation and temperature.		
7. ALTERNATORS - Check for proper output.		
8. FUEL BOOST PUMPS - Check for proper operation.		
9. FUEL TANK SELECTORS - Check for proper operation.		
10. POWER CHECK (STATIC) - Determine that each engine is producing near maximum rpm and manifold pressure per the applicable Pilot's Operating Handbook with the prop in low pitch.		
11. IDLE RPM AND MIXTURE - Check for correct rpm and operation of the controls.		
12. PROPELLER GOVERNORS - Check for proper governor operation and feathering.		
13. PROPELLER FEATHERING - Check for proper operation.		
14. AILERON TABS - Check for proper attachment and adjustment.		
15. MAGNETOS - Check for proper operation.		
16. IGNITION/MAG SWITCH - Check for proper operation and attachment. Rotate the ignition switch through the OFF position to the extreme limit of its travel. If the engine stops firing, the switch is normal. If the engine continues to fire with the switch held in the past OFF position, refer to Bendix Service Bulletin No. 583 dated February 1976.		
17. BRAKES - Check for proper travel, ease of operation and proper release of the parking brake.		
18. IDLE CUTOFF - Check for proper operation.		
19. FLAPS - Check for full travel and noisy or erratic operation.		
20. ELECTRIC TRIM - Check for full travel and proper operation.		
21. GYROS - Check for erratic or noisy operation. Check instrument air pressure - 5.0 to 5.5 with engine operating at 2000 rpm.		

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A. OPERATIONAL INSPECTION (CONT'D)		Mech.	Insp.
22. RADIOS - Check for proper operation.....			
23. EMERGENCY LOCATOR TRANSMITTER - Check for proper operation.....			
NOTE Tune radio to 121.5 MHz on VHF or 243 MHz on UHF, then turn the ELT switch ON and monitor for one signal. Turn the ELT switch OFF, then place in the ARM position. Tests must be conducted only in the first five minutes of any hour.			
24. HEAT AND VENTILATING SYSTEM - Check for proper operation in all modes.....			
25. ALL LIGHTS - Check the operation of all cabin and instrument panel lights. Check switches, knobs, and circuit breakers for looseness and operation....			
26. PITOT HEAT - Check amperage drawn on ammeter and for proper heating of the unit.			
27. STALL WARNING (EACH WING) - Check for proper operation.....			
B. POWER PLANT		L	R
1. INDUCTION AIR FILTERS - Clean and inspect as described in Chapter 12-20-00 of the Maintenance Manual.....			
2. INDUCTION AIR BOX - Clean and inspect for security, cracks, and obstructions.			
3. EXHAUST AND INDUCTION SYSTEMS - Check for cracks, leaks, security, and condition. Replace as required.....			
4. MAGNETOS - Contact point clearance for the magneto right main breaker is .016 ± .004. The left main breaker is .016 ± .002. Points with deep pits or excessively burned areas must be discarded. Inspect the cam follower felt pad for proper lubrication, and clean the breaker compartment with a clean, dry cloth.			
5. SPARK PLUGS - Remove, clean, and inspect for condition.....			
6. IGNITION HARNESS - Inspect for condition and attachment.			
7. ENGINE CYLINDERS AND BAFFLES - Check for condition, cracks, and attachment.....			
8. ELECTRICAL WIRING AND EQUIPMENT - Inspect electrical wiring and associated equipment and accessories for condition, attachment, fraying, and deterioration.....			
9. PLUMBING - Inspect plumbing and associated equipment and accessories for condition and attachment, chafing, and evidence of leakage.			

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B. POWER PLANT (CONT'D)	Mech.		Insp.
	L	R	
10. ENGINE CONTROLS - Check controls and associated equipment for condition, attachment, alignment, rig, and proper clearance.....			
11. ENGINE ACCESSORIES - Inspect all accessories for condition, attachment, and leakage.....			
12. ENGINE MOUNTS - Inspect for condition and attachment.			
13. ALTERNATORS - Inspect attachment, condition and proper belt tension.....			
14. GENERATOR ALTERNATOR MOUNTING BRACKET - Inspect bracket for condition and attaching bolts for proper security and tightness.			
15. FLEXIBLE AIR DUCTS (HOT AND COLD) - Inspect for condition, attachment, fraying and deterioration.....			
16. DRAIN VALVES - Check for security, and evidence of leakage.			
17. OIL COOLER - Check cooler and plumbing for condition, attachment, and evidence of leakage.			
18. COWL FLAPS - Inspect condition, attachment, cracking, and proper operation.....			
19. COWLING - Check adjustment of latches. Remove upper cowling and clean. Inspect for cracks and repair as necessary.....			
20. PROPELLERS, SPINNERS, AND SPINNER BULKHEADS - Inspect for condition, attachment, cracking, damage, and operation.			
21. PROPELLER DOMES - Inspect for condition, attachment, leakage, and operation.....			
22. ACCUMULATOR - Inspect for condition, attachment, operation, and evidence of leakage. Recharge as outlined in Chapter 61-20-00 of the Duchess 76 Maintenance Manual.....			
C. REAR FUSELAGE AND EMPENNAGE			
1. SKIN - Inspect skin for condition, corrosion, and loose or missing rivets. If damage is found, check adjacent structure.....			
2. STRUCTURE - Check for cracks, corrosion, loose rivets, and concealed damage.....			
3. CABLES AND PULLEYS - Check control cables, pulleys and associated equipment for condition, attachment, alignment, clearance, fraying, corrosion, and proper operation.....			
4. EMPENNAGE STRUCTURE - Check for cracks, corrosion, skin panels for distortion, loose rivets and/or concealed damage.			

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C. REAR FUSELAGE AND EMPENNAGE (CONT'D)	Mech.	Insp.
5. EMPENNAGE SURFACES - Inspect skin for condition, corrosion, and loose or missing rivets. Check surfaces for proper attachment and freedom of movement. Check trim actuators and motors for proper operation, smoothness and attachment.....		
6. RUDDER OPERATION - Check for proper travel, freedom of movement and attachment.....		
7. ELEVATOR OPERATION - Check for proper travel, freedom of movement and attachment.....		
8. TRIM TABS OPERATION - Check for smoothness and proper action.....		
9. STATIC PORTS - Inspect and clean as necessary.....		
10. PLUMBING AND WIRING - Inspect the plumbing for condition, attachment, and evidence of leakage. Inspect wiring for condition, chafing, fraying, and attachment.....		
11. AUTOPILOT (IF APPLICABLE) - Inspect and replace air filter if dirty. Check components for damaged cases, bent or broken pins of electrical connectors, damaged seals, poor solder connections, and damaged insulation on wiring. Check plumbing for condition and security of attachment.....		
12. BATTERY - Inspect for corrosion, clean, tight connections and correct fluid level. Add distilled water as required. Inspect vents for obstructions and protrusion (1 to 3 inches) from the skin line. Be certain that one vent is turned forward and the other aft facing.....		
13. SCUPPER DRAINS - Check that drain guards are open, facing aft, and drain holes are free from obstructions.....		
14. NAVIGATION LIGHTS - Check for cracked or broken lens, and moisture.....		
D. CABIN SECTION		
1. SKIN - Inspect skin for corrosion, condition and loose or missing rivets. If damage is found, check adjacent structure.....		
2. STRUCTURE - Check for corrosion, cracks, loose or missing rivets, and concealed damage.....		
3. CABLES AND PULLEYS - Check control cables, pulleys and associated equipment for fraying and corrosion condition, attachment, alignment, clearance, and proper operation.....		
4. FLAP ACTUATOR MOTOR - Inspect for condition and attachment. Lubricate as necessary.....		
5. BRAKE SYSTEM - Check brake system components for leakage. Brake line plumbing for condition and attachment and brake pedals and linkage for condition and attachment.....		

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D. CABIN SECTION (CONT'D)	Mech.	Insp.
6. RUDDER PEDALS - Check rudder pedal condition, clearance, and attachment.....		
7. CONTROL COLUMN - Check for condition, attachment, and operation. Check control lock for condition, positive locking, and alignment.		
8. INSTRUMENT PLUMBING AND WIRING - Inspect instrument plumbing for leakage, condition, and wiring for condition and attachment and/or chafing, fraying etc.		
9. INSTRUMENTS AND INSTRUMENT PANEL - Inspect instrument panel, subpanels, placards and instruments for condition and attachment.		
10. ELECTRICAL WIRING AND EQUIPMENT - Inspect electrical wiring and associated equipment and accessories for condition, fraying and attachment.....		
11. WINDOWS AND DOORS - Inspect windows for scratches, crazing, cracking and general condition. Inspect doors for security of attachment and latching mechanisms.		
12. SEATS AND SEAT BELTS - Inspect cabin seats and seat belts for fraying, proper operation, condition, and security of attachment; floorboard for condition and attachment.....		
13. STATIC LINES - Inspect for security of attachment and drain by opening the alternate static air valve. The static system MUST be checked for leaks in accordance with the instructions in FAR 91.170 and 91.177, under title 14, every 24 months.....		
E. NOSE SECTION		
1. SKIN - Inspect skin for corrosion, condition and loose or missing rivets. If damage is found, check adjacent structure.....		
2. STRUCTURE - Check for corrosion, cracks, loose or missing rivets, and concealed damage.		
3. HEATER FUEL SYSTEM - Check heater fuel plumbing and exhaust system for condition and heater drain line for obstructions.....		
4. HEATER DUCTING AND WIRING - Inspect heater, heater components, and associated wiring and ducting for condition and attachment, and evidence of overheating.....		
5. ELECTRICAL WIRING AND EQUIPMENT - Inspect electrical wiring and associated equipment and accessories for condition, attachment, fraying, and loose connections.		
6. BRAKE RESERVOIR - Inspect for security of attachment and leakage. Inspect and fill brake reservoir as needed.....		
7. INSTRUMENT AIR FILTER - Inspect for security of attachment and replace as necessary as described in Chapter 12-20-00 of the Maintenance Manual.....		

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F. WINGS	Mech. L R		Insp.
1. SKIN - Inspect skin for corrosion, condition and loose or missing rivets. If damage is found, check adjacent structure.....			
2. STRUCTURE - Check for corrosion, cracks, loose or missing rivets, and concealed damage.			
3. ACCESS DOORS - Inspect for proper fit and attachment, and missing or damaged components.			
4. FLAPS - Inspect skin and structure for condition, corrosion, loose or missing rivets, and excessive freeplay.....			
5. AILERON AND TAB - Inspect skin and structure for condition, corrosion, and loose or missing rivets. Check for proper attachment, freedom of movement, and excessive freeplay.....			
6. TAXI LIGHT - Check for proper operation, crazing of cover, cracked or broken lens and replace bulbs as necessary.....			
7. LANDING LIGHT - Check for proper operation, crazing of cover, cracked or broken lens and replace bulbs as necessary.....			
8. STROBE LIGHT - Check for proper operation, cracked or broken lens and replace flashtube as necessary.....			
9. FUEL TANKS AND VENTS - Inspect fuel tank for leaks and vent for obstructions, condition, corrosion and attachment.			
10. FUEL QUANTITY SENSORS - Check for attachment and leaks.			
11. PLUMBING AND HYDRAULIC LINES - Check for chafing, leakage or damage and proper attachment.			
12. ELECTRICAL WIRING AND EQUIPMENT - Inspect for chafing, damage, security, and attachment.....			
13. CABLE, PULLEYS, AND BELL CRANKS - Inspect for condition, corrosion, fraying, attachment, alignment, clearance and proper operation.....			
14. WING BOLTS - Check wing bolts for proper torque at the first 100-hour inspection, as instructed in Chapter 57-00-00, and 100 hours after a wing bolt has been loosened and retorqued.			
G. NACELLES	L R		
1. SKIN - Inspect skin for corrosion, condition and loose or missing rivets. If damage is found, check adjacent structure.....			
2. STRUCTURE - Check for corrosion, cracks, loose or missing rivets, and concealed damage.			
3. ELECTRICAL WIRING AND EQUIPMENT - Inspect for chafing, damage, security, and attachment.....			

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G. NACELLES (CONT'D)	Mech. L R	Insp.
4. PLUMBING - Check for chafing, leakage or damage and proper attachment.....		
5. FUEL PLUMBING - Check for chafing, leakage or damage and proper attachment.....		
6. BOOST PUMPS - Inspect for leakage, attachment, and condition.		
7. FUEL SELECTOR VALVES - Inspect selector valve and control for condition and attachment. Inspect control for binding, freedom of movement and rig. Drain the valve.....		
8. FUEL STRAINERS (FUEL SELECTOR VALVE) - Inspect and clean the strainers as outlined in Chapter 28-00-00 of the Maintenance Manual.....		
H. MAIN GEAR AND BRAKES	L R	
1. BRAKE LINING AND DISCS - Check brake discs, linings, and lines for wear, damage, corrosion and security of all units.....		
2. WHEELS AND TIRES - Check wheels for condition and tires for wear, damage, condition, evidence of slippage, flat spots, and proper inflation.		
3. LANDING GEAR STRUT - Inspect the shock strut and components for condition, attachment, proper inflation and leakage. If signs of leakage are apparent, service as outlined in Chapter 12-20-00 of the Maintenance Manual.....		
4. GEAR DOORS - Check condition, security and corrosion.....		
5. HINGE BOLTS - Inspect for condition and security of attachment.....		
I. NOSE GEAR		
1. WHEEL AND TIRE - Check wheel for condition and tire for wear, damage, condition and proper inflation.		
2. LANDING GEAR STRUT - Inspect the shock strut and components for condition, attachment, proper inflation and leakage. If signs of leakage are apparent, service as outlined in Chapter 12-20-00 of the Maintenance Manual. Check for evidence of cracks around tow area and trunion.....		
3. GEAR DOORS AND LINKAGE - Check condition, freeplay, and corrosion.....		
4. SHIMMY DAMPENER - Inspect for condition and attachment. Service as necessary as outlined in Chapter 12-20-00 of the Maintenance Manual.		
5. STEERING MECHANISM - Inspect steering mechanism and linkage for condition, attachment, and correct adjustment. Check the steering bell crank for cracks, condition, and security.		
6. HINGE BOLTS - Inspect for condition and security of attachment.....		

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J. ★ MAIN GEAR RETRACTION	Mech.		Insp.
	L	R	
1. DOORS - Check door operation, fit, and fair.			
2. POSITION INDICATORS - Check for security of attachment, adjustment, wiring for breaks, condition of insulation, loose connections, and proper indication.			
3. WARNING HORN - Check for proper operation.			
4. MAIN ACTUATING CYLINDERS - Check for condition, attachment, noisy operation, leakage, and rigging.			
5. EMERGENCY EXTENSION - Check system for freedom of operation and positive engagement of the downlocks.			
6. GENERAL OPERATION - Check retraction system for proper operation of all components through at least two complete cycles; check for unusual noises or evidence of binding.			
7. HYDRAULIC PRESSURE SWITCH - Check for security, attachment, and proper operation.			
8. HYDRAULIC SYSTEM (GEAR UP) - Inspect for security, attachment, and leakage of all hydraulic lines. If signs of leakage are apparent, repair as outlined in Chapter 32 of the Maintenance Manual.			
9. HYDRAULIC SYSTEM (GEAR DOWN) - Inspect for security, attachment, and leakage of all hydraulic lines. If signs of leakage are apparent, repair as outlined in Chapter 32 of the Maintenance Manual.			
10. DOWNLIMIT SWITCH - Check for security, attachment, and proper adjustment.			
11. DOWNLOCKS - Check the downlock indicator switch for security, attachment, and proper adjustment. Check locking mechanism for positive engagement in the extended position.			
★ Landing gear operational check should be made every 100 hours of airplane operation.			
K. ★ NOSE GEAR RETRACTION			
1. DOORS - Check door operation, fit, fair, and rig.			
2. POSITION INDICATOR - Check for security of attachment, adjustment, wiring for breaks, condition of insulation, loose connections, and proper indication.			
3. NOSE GEAR ACTUATING CYLINDER - Check for condition, attachment, noisy operation, leakage, and rigging.			
4. DOWNLOCK - Check the downlock indicator switch for security, attachment, and proper adjustment. Check locking mechanism for positive engagement in the extended position.			

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K. ★ NOSE GEAR RETRACTION (CONT'D)	Mech.	Insp.
5. RETRACT CYLINDER - Check for condition, attachment, noisy operation, leakage, and rigging.....		
6. DOWNLIMIT SWITCH - Check for security, attachment, and proper adjustment.....		
★ Landing gear operation check should be made every 100 hours of airplane operation.		
L. GENERAL SERVICE ITEMS		