7. Periodic Inspections (Ref. Table 601)

Table 601 details periodic inspection criteria and frequency. Where no inspection limits are given in the table, or in any other relative chapter within this manual, any item with wear or damage as described in this table shall be replaced, or returned to an approved overhaul facility for possible repair, as applicable.

Table 601 Engine Periodic Inspections

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
CAUTION: DO NOT MIX DIFFERENT BRANDS OF OIL WHEN CHANGING, OR ADDING OIL BETWEEN CHANGES. THE CHEMICAL STRUCTURE OF DIFFERENT BRANDS OF OIL MAY DIFFER SUFFICIENTLY TO MAKE THEM INCOMPATIBLE (REF. SB5001) FOR APPROVED LISTING).			
Oil Contents			
	Check oil level and replenish if required (Ref. 72-00-00, ENGINE - SERVICING). If engine has been stationary for more than 12 hours, run affected power section for two minutes, shut down and check oil level	25 hours	Appendix F
Exhaust Duct	Cracks or distortion	50 hours or 6 months whichever comes first.	Appx F 7.16
P3 Filter Housing and Tubing (Post-SB5309 Post-SB5359 and Pre-SB5367)	Inspect for system contamination and flush (Ref. Para 10.N.).	100 hours	B0100.5
P3 Air Filter Element	Clean (electrosonic) and visually inspect filter element (Ref. 73-10-07).	100 hours	B0100.5
	NOTE: 1. Individual operators may elect to extend this interval if operating experience shows less frequent cleaning and inspection to be adequate.		
	NOTE: 2. Cleaning and visual		

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	inspection applies to both AFCU P3 filter and optional clutch carbon seal P3 filters (Ref. **SB5174**).		
P3 Air Filter Drain Valve (Post-SB5309, SB5359 and/or SB5367)	Clean and Inspect (Ref. 73-10-07).	100 hours	B0100.5
	NOTE: 1. It is recommended that drain valves on engines operating in dirty or desert conditions be cleaned and inspected at 50 hour intervals.		
	NOTE: 2. For operators who perform frequent compressor recovery washes. It is recommended to inspect and clean drain valve at intervals not exceeding 50 hours.		
Fuel Surge Accumulator (Pre-SB5398)	Visually inspect the accumulator for signs of metal distortion on the sides and ends. The distortion will show up as bulging of the sides or doming of the end cap.	100 hours	N/A
	If distortion is present, it is possible that cracking has begun in the weld that joins the end cap to the body of the accumulator. Bulging or doming can be verified using a metal straightedge on the sides and ends of the accumulator.		
	Replace the accumulator, if any metal distortion is found.		
	Perform engine deceleration		

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	check (Ref. 71-00-00).		
Fuel Surge Accumulator (Post-SB5398)	Visually inspect. Replace accumulator if pop-out indicator is extended (Ref. 73-10-03).	150 hours	B0150.5.1
Fireseals	Cracks and security of brackets.	150 hours	B0150.5.2
Wiring	Check for security of all accessible connections, clamps and brackets and for evidence of wear, chafing, cracks and corrosion.	150 hours or 6 months whichever comes first.	B 0156.5.2
Inlet Screen	Cleanliness and condition of mesh.	150 hours	B0150.5.4
	Do a visual inspection of the compressor air inlet screen for broken and or missing wire mesh segments and signs of brittleness. If you suspect an area, check the integrity of the mesh by manipulating and flexing the screen. Any deviation is a cause for replacement. If the inlet screen is removed, do an inspection of first-stage compressor blades per Para. 9.B. Do a general visual inspection (GVI) of wash-ring assembly and safety wire for security and obvious damage. If any deviation is found during GVI, do an inspection of first-stage compressor blades per Para. 9.B.		
Gas Generator Case	Cracks, distortion, corrosion and evidence of overheating.	150 hours or 6 months whichever comes first.	B 0156.5.3
	NOTE: No cracks are allowed.		
Output Shaft Seal	Check for oil leaks.	150 hours or 12 months whichever comes first.	B 0156.5.4
Tubing	Check resistance of lead and heating element of heated pneumatic tubes (Ref. 73-10-08).	150 hours or 6 months whichever comes first.	B 0156.5.5

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	Check for security of all accessible connections, clamps and brackets, evidence of wear, chafing, cracks and corrosion and evidence of fuel or oil leaks. Examine insulation on pneumatic tubes for cuts in outer rubber sheaths.		
	NOTE: Refer to Overhaul Manual, 72-00-00, ENGINE - REPAIR for tubing repair instructions.		
	Surface cuts up to three inches long on Pre-SB5409 P3 heated tubes and Post-SB5409 Pg/P3 heated tubes insulation, can be repaired. If surface damage exceeds specified limits above, but depth is superficial, sheathing may be repaired by replacement of damaged portion. Examine the metal braid and electrical lead on heated tubes for cuts. Up to three broken wires per plait, or six broken wires per linear foot, are acceptable. Replace the tube assemblies where metal braid is chafed or worn through to the lead conductors.		
Oil Filter Element (10 micron)	Clean (Electrosonic or Ultrasonic Bath Method) and inspect filter element (Ref. 79-20-02).	150 hours	B0150.5.5
Chip Detectors	Accessory Gearbox - 2 detectors Reduction Gearbox - 3 detectors	150 hours 150 hours	B0150.5.6
	Clean with lint-free cloth and measure the minimum weight lift capacity. Use a suitable ohmmeter to check the continuity of the electrical circuit when the two poles are shorted together. Reject the component if there is no continuity. Loose pins and broken potting compound are		

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	also the cause to reject them.		
	Pre-SB5354: Inspect colored stripes painted on connector and housing. If stripes are displaced, reject chip detector. If no stripes are apparent, paint three equispaced colored stripes on connector and housing using suitable paint Connector threads must be free of paint.		
	NOTE: Refer to Chapter 79-30-01 for further inspection details.		
Bleed Air Case Assembly (Post-SB5445)	Check the orientation of the bleed air case assembly (Ref. 72-20-00).	150 hours	B0150.5.3
Ignition System Units	Security	300 hours	B 0312.5.1
Spark Igniters	Cleanliness and condition. Functional check (Ref. 74-00-00)	300 hours	B 0312.5.2
Compressor Inlet Area	At the required frequency and whenever condition of inlet screen warrants its removal, check compressor inlet area for corrosion, dirt deposits and erosion and check first-stage blades as detailed in Paragraph 9. following.	300 hours or 12 months whichever comes first. (Ref. NOTE)	B 0312.5.3
	NOTE: Engines operating in a highly erosive environment and/or conditions where there is a high potential for blade damage require more frequent inspections (Ref. Para.9.)		
P3 Air Tube Metering Tees	Inspect for contaminants and clean. (Located on R.G.B. Output Housing)	300 hours	B 0312.5.4
MFCU Throttle Shaft	With power sections shut down	300 hours or 12 months	B 0312.5.5

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	and fuelboost pump ON, check both sides of throttle shaft for fuel leakage. If leakage is evident, replace manual fuel control unit (Ref. 73-20-01).	whichever comes first.	
AFCU	Check AFCU for bearing wash-out indicated by blue dye (grease and fuel mixed) at AFCU vent hole (Ref. ENGINE - FAULT ISOLATION).	300 hours and whenever area is accessible.	B 0312.5.6
	Drivebody inspection/driveshaft bearing replacement; Route to qualified shop for detailed inspection and Driveshaft Bearing replacement.	See NOTE.	
	NOTE: This inspection is recommended for operators that experience premature AFCU removals due to: 1. Operating in a severe environment, with respect to temperature, humidity, sand/dust or other airborne contaminants. And/or 2. Very low or irregular utilization over a period of time. **Definition of regular/irregular utilization** Regular utilization: A unit which accumulates a minimum of 30hrs/month. Irregular utilization: A unit which remains inactive for extended periods of time. 3. The following interval is recommended to obtain the maximum benefit of this inspection: 3000 hours or 3 years,		

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	whichever comes first (mid-TBO). Operators can adjust the calendar interval based on their experience. Operators having units past the recommended calendar interval can comply with this inspection at the first convenient time.		
Fuel Pump	Check for security and fuel leaks.	300 hours	B 0312.5.7
	If fuel pump gear-set and coupling operating time since new (TSN) is **LESS THAN** Engine Basic TBO (Ref. **SB5003**):		
	(a) Check fuel pump coupling in-situ for fretting and corrosion (Ref. 73-10-02, FUEL PUMP - MAINTENANCE PRACTICES).	Every 600 hours	B 0600.5
	(b) Remove fuel pump and inspect the drive coupling and cover accessory gearbox side for signs of reddish-brown (iron oxide) stains. If stains are observed, return the fuel pump to an approved overhaul facility (Ref. 73-10-02, FUEL PUMP - MAINTENANCE PRACTICES).	Every 2000 hours	B 2000
	If fuel pump gear-set or coupling operating time since new (TSN) is **MORE THAN** Engine Basic TBO (Ref. **SB5003**) **OR** is **UNKNOWN OR** fuel pump was overhauled before 2007:		
	(a) Remove fuel pump and inspect the drive coupling and cover accessory gearbox side for signs of reddish-brown (iron oxide) stains. If stains are observed, return the fuel pump to an approved overhaul facility (Ref. 73-10-02, FUEL PUMP - MAINTENANCE PRACTICES).	300 hours	B 0312.5.7.2

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	NOTE: As of January 2010, the fuel pump gear-set and drive coupling replacement is required at every pump overhaul.		
Fuel Pump Filter	Install new fuel pump filter (Ref. 73-10-02).	600 hours	B 0600.5.2
Fuel Pump Filter	Inspect filter for contamination and damage (Ref. 73- 10-02). Replace as necessary. With power sections shut down and fuel boost pump ON, check for leaks.	300 hours	B 0312.5.8
	NOTE: Operators with helicopters equipped with fuel filter impending bypass indicating device may elect to waive this inspection and to perform the fuel pump filter replacement at 600 hours.		
Oil to Fuel Heater	Immediately after shutdown: Check temperature of heater at heater fuel outlet or fuel pump filter housing. If greater than 140° F (60°C) replace oil to fuel heater.	300 hours	B 0312.5.9
	Alternatively, perform either of the following methods: (1) Perform touch test at heater fuel outlet or fuel pump filter housing. If too hot to touch, replace oil to fuel heater.		
	NOTE: Temperatures less than 140°F (60°C) may be considered to be comfortable to touch.		
	(2) Immediately after shutdown apply a temperature recorder to the fuel pump filter housing and replace oil to fuel heater if the		

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	center of the recorder turns to black.		
	NOTE: The temperature limit of 140°F (60°C) may be verified using the Temp-Plate Temperature Recorder (PWC05-329).		
Fuel Nozzle Assemblies	Functional Check (Ref. 73-10-05).	600 hours	B 0600.5.3.1
	NOTE: See removal/installation procedures (Ref. 73-10-05).		
	For improved hot-section durability, inspect and clean fuel nozzle assemblies. At any fuel nozzle assembly removal, inspect gas generator case for cracks at boss welds (Ref. Para. 13. C.).	600 hours	B 0600.5.3.2
	NOTE: As an alternative to the removal for inspection and functional check, a 300 hour in-situ cleaning procedure is offered (Ref. 72-00-00, ENGINE - CLEANING).		
	If in-situ cleaning is used the fuel nozzles shall be removed for inspection and functional check to coincide with airframe maintenance schedule.	1200 hours	B 1200.5.2
Oil Filter Element	Clean (Ultrasonic Method) and inspect filter elements at an overhaul facility, using the approved equipment (Ref. Engine Overhaul Manual), prior to further use. Following this cleaning at overhaul level, the filter may be utilized for a further 900-hour or 24-month period maintaining the same inspection and cleaning	900 hours or 24 months whichever comes first.	B 0924.5.1

COMPONENT	NATURE OF INSPECTION	FREQUENCY	
	schedule.		
P3 Air Filter	Clean (ultrasonic) and visually inspect filter element (Ref. 73-10-07). Do pressure drop check of elements (Ref. 73-10-07, ADJUSTMENT/TEST).	900 hours	B 0924.6
Oil Scavenge and Pressure Tubes	Remove retaining plate at rear fireseal and inspect tubes for fretting wear (Ref. 79-20-06).	900 hours	B 0924.5.2
Flanges and Joint Faces	All external joint faces shall be sealed with silicone grease (PWC09-003) or Corrosion-X corrosion inhibiter (PWC15-011) (Ref. 72-00-00, ENGINE - CLEANING) at major inspection. All external bolts, studs and flanges are also treated with a film of silicone grease or corrosion-X corrosion inhibiter. Particular attention should be paid to accessory gearbox mount flanges.	900 hours or 12 months whichever comes first. NOTE: Engines operating in a highly corrosive environment require more frequent sealing. Establish schedule/frequency as required to ensure proper corrosion protection.	B0912.5
T5 System	Carry out functional check (Ref. Para. 9. C. following) at major inspection or when Troubleshooting indicates necessity.	1200 hours	B 1200.5RT
Gas Generator Case	For Pre-SB5239 gas generator cases inspect seam welds as detailed in Para. 9. following.	1200 hours initially: 600 hours thereafter	N/A N/A
RGB (PT6T-3BE/-3BG only) See Notes 1 and 2.	Inspect clutch assemblies (Ref. Overhaul Manual).	2500 hours	CALM

NOTE: 1. A gearbox operating as a PT6T-3BE/BG unit for any time during the 2500 hours maintenance interval requires the regular inspection at 2500 hours.

NOTE: 2. A gearbox with more than 2500 hours accumulated since new or overhaul being converted to a **PT6T-3/-3BE/-3BG** must have the 2500 hours inspection carried out during the conversion.