AWPC Repair Station - FAA CRS# DT1R098K AgustaWestland Philadelphia Corporation 3050 Red Lion Road Philadelphia, PA 19114

March 12, 2019 - Model: A109E - Serial Number: 11072 - Registration: N200BK - Aircraft Total Time: 3912.9 Hours - Landings: 8688

The following work was accomplished under AgustaWestland work order number 7805982.

Maintenance;

- 1. Complied with daily preflight check in accordance with A109E RFM section 2. No defects noted.
- 2. Performed a tail rotor dynamic balance in accordance with A109E IETP 29th Issue: 2018-12-13 MM 64A-00-9. Final values are as follows; .05 IPS at 6:00.
- 3. Disassembled r/h main wheel assembly due to corrosion found on wheel halves, replaced wheel assembly with p/n: 109-0500-16-3 s/n: 4358 and reassembled in accordance with A109E IETP 29th Issue: 2018-12-13 MM 32-41-18.
- 4. Disassembled nose wheel assembly due to corrosion found on wheel halves, replaced wheel assembly with p/n: 109-0500-15-1 s/n: 4281 and reassembled in accordance with A109E IETP 29th Issue: 2018-12-13 MM 32-41-24.
- 5. Removed tail rotor lever p/n: 1-09-0130-60-109 s/n: MOR2674 and replaced with new lever p/n: 109-0130-60-109 s/n: MOR2908 in accordance with A109E IETP 29th Issue: 2018-12-13 MM 64-31-6.
- 6. Due to intermittent function of co-pilot headset caused by broken lock tabs for 2 electrical pins, removed and replaced co-pilot headset jack p/n: D104A066-150 in accordance with A109E IETP 29th Issue: 2018-12-13 WDM section III and AC43.13-1B chapter 11 sections 8, 17. Performed audio integrating operational test in accordance with A109E IETP 29th Issue: 2018-12-13 MM 23-51-11.
- 7. Due to water seeping into cockpit overhead areas, injected Scotch Weld EC-3549 B/A into both windshield upper inboard corners and I/h windshield outboard upper corner between the windshield and retaining strips in accordance with A109E IETP 29th Issue: 2018-12-13 MM 56-11-10. Applied Proseal 890 B2 to perimeter of both windshield panels and both overhead widows in accordance with A109E IETP 29th Issue: 2018-12-13 CSRP-A-51-22-08-01A-611A-D. A leak check
- 8. Cleaned MGB decks and surrounding areas. Performed 1 hour ground run for leak check. Removed and replaced gaskets on oil pressure dome cap and nut with new gaskets in accordance with A109E MM 63-21-50, section C. Replaced 4ea. MS21042L4 nuts on R/H oil cooler support to MGB with new nuts in accordance with A109E MM 63-21-00. Performed ground run. Adjusted MGB oil pressure to 48psi at 65 degrees C in accordance with A109E MM 63-23-12 Leak check of MGB
- 9. Cleaned #1 and #2 engine areas with isopropyl alcohol and a rag, AWPC pilot performed 1 hour ground run. Inspected #1 and #2 engines and decks for oil leaks. No defects noted. (Engine breather tube gaskets replaced prior to cleaning and inspection)
- 10. Removed and replaced #1 and #2 engine forward breather line gaskets p/n: 109-0601-66-101 and aft breather line gaskets p/n: 109-0601-66-103 in accordance
- 11. Removed rotating scissor p/n: 109-0134-9-101 and sleeve p/n: 109-0110-69-105, due to out of limits play check, and installed repaired rotating scissors assembly p/n: 109-0134-09-101 s/n: V436/307 and new sleeve p/n: 109-0110-69-105 s/n: AVI3763 in accordance with A109E IETP 29th Issue: 2018-12-13 MM - 62-31-15. Measured play after installation is now 1.3mm.
- 12. Measured play on non-rotating scissors and found to be .08mm. Allowable limit is 1.5mm.
- 13. Measured axial play of red and white main rotor damper inboard bearings. Found white bearing axial play to be .14mm, found red bearing axial play to be
- 14. Removed tail rotor hub and blade assembly p/n: 109-0162-02-103 s/n: F121294M facilitate maintenance and reinstalled in accordance with A109E IETP 29th Issue: 2018-12-13 MM 64A-00-13.

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- 15. Removed tail rotor pitch change mechanism to facilitate maintenance and reinstalled in accordance with A109E IETP 29th Issue: 2018-12-13 MM 64-31-6.
- 16. Removed tail rotor p/c link p/n: 109-0130-05-117 s/n: L559 and replaced with repaired link p/n: 109-0130-05-117 s/n: MO.2067 in accordance with A109E IETP
- 17. Replaced tail rotor yoke lever p/n: 109-0130-43-115 s/n: M97 with new p/n: 109-0130-43-115 s/n: MOR2515 in accordance with A109E IETP 29th Issue: 2018-12-
- 18. Cleaned oil dripping from electrical harnesses, components and structure on aft side of station 4460 bulkhead (baggage bay forward wall) by wiping with isopropyl
- 19. Removed and replaced safety wire on #2 engine chip detector in accordance with A109E IETP 29th Issue: 2018-12-13 MM 20-10-15.
- 20. Repositioned #2 hydraulic reservoir flex line to prevent chafing on electrical ground block, installed new hydraulic line clamp p/n: MS21919WDG7 and secured
- 21. Removed #2 engine oil pressure switch mounting clamp p/n: MS21919WDG12 replaced with new clamp and secured with existing hardware.
- 22. Bonded two (2) new bushings p/n: 109-0130-95-103 on tail rotor pitch change slider p/n: 109-0130-91-105, s/n: E71306 in accordance with A109E IETP 29th Issue: 2018-12-13 MM 64-31-6 and A109E IETP 29th Issue: 2018-12-13 OM 64-31-02 procedure 5-10 slider assy (p/n: 109-0130-91-105).
- 23. Removed cockpit fire extinguisher p/n: BA23792-1 s/n: 03.2010/06665, due to damage found on neck, and replaced with p/n: BA23792-5 s/n: 05-2018/01743.
- 24. Removed utility emergency accumulator pressure transducer p/n: 109-0729-24-119 s/n: 2585, due to erratic pressure indication, and installed new transducer
- p/n: 109-0729-24-119 s/n: 726 in accordance with A109E IETP 29th Issue: 2018-12-13 MM 29-32-11. 25. Due to failed charge seal test, removed utility hydraulic accumulator group p/n: 109-0512-70-109 s/n: 1145 and replaced with repaired accumulator group
- assembly p/n: 109-0512-70-109 s/n: 838 in accordance with A109E IETP 29th Issue: 2018-12-13 MM 29-21-17. 26. Inspected damaged nose wheel centering lock hydraulic line p/n: 109-0517-82-103, found chafed area to be within allowable damage limits per AC 43.13-18
- 27. Measured the radial play of the nose landing gear actuator bearing at the fuselage fitting and found it to be 0.10 mm which is within limits according to A109E IETP
- 28. Investigated small scratch/nick on #1 engine drive shaft tube, nick was found to be within limits at .001 in. maximum acceptable depth is .005 in (.12 mm), in
- accordance with A109E IETP 29th Issue: 2018-12-13 MM 63-11-7. Applied touch up paint in accordance with A109E IETP 29th Issue: 2018-12-13 CSRP-A-51-21-02-
- 29. Repaired wiring for #1 impending bypass switch, at connector P8841, by installing chafe protection in accordance with AC 43.13-18 chapter 11 sections 9, 10, 11,
- 30. Adjusted routing of #1 engine drain line to prevent chafing at air inlet housing in accordance with A109E IETP 29th Issue: 2018-12-13 MM 71-71-5.
- 31. Repaired tail rotor blade s/n: L64 by re bonding (y) side cover to hub in accordance with A109E IETP 29th Issue: 2018-12-13 MM 62-21-11.
- 32. Due to wear on bolt shank, removed and replaced white main rotor blade lower pitch link bolt with new p/n: NAS1307-36D, in accordance with A109E IETP 29th
- 33. Applied chafe protection to wire harness on r/h side of baggage compartment to prevent chafing at stiffener pass through locations in accordance with AC 43.13-1B chapter 11.

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- 34. Due to missing rivet head, removed and replaced 1 rivet p/n: MS20470AD4 on I/h side of oil cooler blower support in accordance with A109E IETP 29TH Issue: 2018-12-13 CSRP-A-51-41-05-00A-720A-D.
- 35. Repaired damaged panel P13 by re bonding skin and doubler with EA9309.3NA, and installing rivets p/n: NAS1097-3 in accordance with A109E IETP 29TH Issue: 2018-12-13 CSRP-A-51-41-05-00A-720A-D. Touched up external paint in accordance with A109E IETP 29TH Issue: 2018-12-13 CSRP-A-51-21-01-02A-257A-D.
- 36. Re bonded small areas of baggage door seal in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 52-00-04.
- 37. Performed paint touch up of exterior paint at the forward edge of I/h windshield, r/h side of cowling P21 (aft exhaust cowling) and aft end of hinge for door D8 (long tail rotor drive shaft cover) with Axalta Imron AF700 series 44431 ES C medium Concord blue in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 25-81-8 CSRP-A-51-21-01-02A-257A-D and product data sheets for topcoat.
- 38. Painted areas that needed touch up on main gear box with primer MIL-PRF-23377 Type 1, Class N and two coats of MIL-PRF-85285 Trans Chem. Polyurethane Silver #17178 in accordance with A109E IETP 29TH Issue: 2018-12-13 CSRP-A-51-21-02-01A-257A-D AND CSRP-A-51-21-01-02A-257A-D and product data sheets for primer and topcoat.
- 39. Removed and replaced I/h position light forward lamp p/n: M6363/2-2, aft lamp p/n: 34-0428070-64 and strobe light lens p/n: 68-2290005-34. Performed an operational check of the position and strobe lights with no defects noted.
- 40. Removed glare shield and upper slider, re attached avionics fan cooling duct to r/h transponder and secured with a zip tie, reinstalled glare shield and upper slider in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 31-11-7.
- 41. Removed and replaced r/h cabin door strut p/n: 109-0713-47-1 in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 52-12-14 and Fig 52-9.
- 42. Due to #2 generator failing to come on line during ground run, disconnected the #1 and #2 generator control unit electrical connectors, found connectors damp with oil from previously corrected engine bay oil leak, cleaned the oil from the pins and sockets of both generator control unit electrical connectors with LPS Electro Contact Cleaner and treated all of the pins with Stabilant 22. Reconnected both connectors and performed a ground run and operational check with no
- 43. Performed a performance recovery wash on the I/h and r/h engines in accordance with Model(s): PW206C, PW207C Manual Part No. 3043322, Issue No. 36.0, Dated Dec-10-2018-71-00-00 after the wash both engines were run for the post compressor wash engine drying.

Removal and Reinstallations;

- 1. Removed the following fairings and access panels to facilitate maintenance and or inspection; overhead circuit breaker panel, I/h and r/h engine cowling hinge covers, D5, D9, P2, P13, P17, P18, P23, P24, P30, P33, P35, P39 and P71 and reinstalled in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 52-41 -19.
- 2. Removed the following cabin interior items to facilitate inspection; forward facing seat bottom and top cushions, back wall, ceiling central panel. Reinstalled the ceiling central panel and back wall in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 25-81-8 and forward facing seat bottom and top cushions in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 25-21-8.
- 3. Removed the following cockpit interior items to facilitate maintenance; copilot lower fwd door post cover, copilot fwd upper trim panel, copilot upper fwd air conditioning duct, copilot overhead circuit breaker panel side cover, pilot lower fwd door post cover, pilot fwd upper trim panel, pilot upper fwd air conditioning duct, pilot circuit breaker panel side cover and reinstalled by securing with existing fasteners.
- 4. Removed baggage bay liners to facilitate inspection and reinstalled in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 52-41-19.
- Removed aircraft battery to facilitate servicing and reinstalled in accordance with A109E IETP 29th Issue: 2018-12-13 MM 24-31-26.
- Removed aircraft battery tray to facilitate maintenance and reinstalled and secured the attaching hardware.

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- 7. Removed pilot and co-pilot seats to facilitate inspection and reinstalled in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 25-11-9.
- 8. Removed and reinstalled I/h and r/h main landing gear wheels in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 32-41-14.
- 9. Removed and reinstalled the nose landing gear wheel in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 32-41-20.
- 10. Removed baggage compartment coin dot matting to facilitate inspection and reinstalled and secured with tie down rings and threshold strip
- 11. Removed #1 starter generator cooling duct and brush cover to facilitate inspection, reinstalled brush cover by securing with 4 existing screws and installed cooling duct and securing with a clamp in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 75-21-5.

Retirement items;

1. Removed #1 oil cooler toothed belt p/n: 109-0455-09-103 s/n: 10286 and replaced with p/n: 109-0455-09-103 s/n: 2072591 in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 63-23-14.

Servicing and Lubrication;

- 1. Performed 12 months servicing/ lubrication in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-70-00. Next due: 03/31/20.
- 2. Serviced main and nose landing gear wheel tires with nitrogen in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 12-20-21.
- 3. Cleaned aircraft windows inside and out with glass cleaner.

Inspections;

- Complied with 100 hours special inspection (tail rotor dynamic balance check) in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-50-00. Next due: 4012.9 ACTT.
- 2. Complied with 150 hours special inspection in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-50-00. Next due: 4062.9 ACTT.
- 3. Complied with 400 hours/24 months special inspection in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-50-00. Next due: 4312 9ACTT or 03/31/21.
- 4. Complied with 12 months extended inspection in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-30-00. Next due: 03/31/20.
- 5. Complied with 2 years extended optional equipment special inspection (cabin heating and ventilation) in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-60-00. No defects noted. Next due: 03/31/21.
- 6. Performed an operational test of the generator bus bar caution circuit in accordance with A109E IETP 29TH Issue: 2018-12-13 MM 24-31-19. No discrepancies noted. A PSE ticket has been entered for apparent grammatical errors in the test procedure.
- 7. Complied with unscheduled special inspection of r/h main landing gear wheel and nose landing gear wheel half rims in accordance with A109E IETP 29TH Issue: 2018-12-13 MPM 05-50-00. Defects noted on work release.
- 8. Performed a power assurance check on the I/h and r/h engines in accordance with Model(s): PW206C, PW207C Manual Part No. 3043322, Issue No. 36.0, Dated Dec-10-2018- 05-20-00 table 2. Results as follows;

#1 ENG; OAT: 14 deg. C, PRESS ALT: 0, ft. ASL TQ: 76, TOT: 656 deg. C, N1: 87.5% #2 ENG; OAT: 14 deg. C, PRESS ALT: 0, ft. ASL TQ: 76, TOT: 666 deg. C, N1: 87.8%

ADs;

1. AD 2015-11-08 Complied with AD 2015-11-08, effective June 24, 2015, by performing a visual inspection of each lock wire securing the T/R locking nut to the housing. No defects noted. Next due: Before the first flight of each day.



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- BT 109EP-158 ATA 53 effective 2018-03-06 Left and Right Countertorque Crossbeam Fitting Plate Assemblies P/N 109-0330-17 Inspection Of. Eddy current inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting plate assemblies was performed Rotorcraft Support, Inc. in accordance with SB 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting Plate Assemblies P/N 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting Plate Assemblies P/N 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting Plate Assemblies P/N 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting Plate Assemblies P/N 109EP-158 Rev. B, inspection of left and right countertorque crossbeam fitting P/N 109EP-158 Rev. B, inspection P/N 109EP-158 Rev. B, inspection
- 2. SB 109EP-159 ATA 11 effective 2018-03-12 VNE illuminated panel p/n: 109-0748-43, replacement of. Determined SB 109EP-159 ATA 11 effective 2018-03-12 to be not applicable to p/n: 109-0749-93-101 VNE panel installed at this time.
- 3. SB 109EP-163 Rev A. ATA 62 effective 2018-09-11 Main Rotor Floating Ring Assy P/N 109-0111-09-101, replacement of. Inspected aircraft and determined SB 109EP-163 Rev A to be not applicable to p/n: 109-0111-09-101 s/n: L136 floating ring installed at this time.
- SBEA 109EP-166 ATA 67 effective 2018-12-17, Mixing Control System Rigid Connecting Link P/N 109-0032-01-13/-17/-29, inspection of. Complied with SBEA 109EP-166 ATA 67 by performing a visual inspection of the 3 rigid connecting links. No defects noted.

I certify that this aircraft has been inspected on March 12, 2019 in accordance with 14 CFR § 91.409(f) (3) a manufacturer's recommended inspection program. This aircraft was determined to be in an airworthy condition and is approved for return to service.

Brent Mertz /
Quality Control Inspector

AgustaWestland Philadelphia Corporation FAA Certificated Repair Station# DT1R098K

This is a log book entry for A109E N200BK s/n 11072 for maintenance performed at ACTT: 3939.2 on May 21, 2019.

- 1. Basic 50 Hr. / 30 Day Extended Inspection.
- 2. 50 Hr. / 30 Day Optional Equipment Extended Inspection of Rotor Brake.
- 3. 50 Hr. / 30 Day Optional Equipment Extended Inspection of Landing / searchlight.
- 4. 25 Hr. special inspection of main rotor dampers.
- 5. 50 Hr. special inspection of main rotor blade tip caps.
- 6. 30 Day cockpit fire extinguisher check.
- 7. 50 Hr. / 3 mth. Swashplate and floating ring/droop stop plate lubrication.
- 8. AD 2015-11-08 para. F3, daily tail rotor duplex housing safety wire inspection.
- 9. AD 200726-52, 25 Hr. main rotor tip cap inspection.
- 10. BT 109-85, 50 Hr. main rotor blade tip cap inspection.
- 11. Engine LCF count no.1 PT=1129, CT=786 IMP=4060
- 12. Engine LCF count no.2 PT=1128, CT=831 IMP=3966
- 13. Cleaned main & tail rotor blades.
- 14. Serviced tires with nitrogen.
- 15. Replaced packing AS3209-116 for No. 2 engine N1 speed sensor.

All work has been performed as per applicable manufacturers manuals and is approved for return to s	ervice
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ENGINE

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DATE	T.S.N.:		ENGINE MAINTENANCE RECORD				
			5		SIGN	LIC. #	
	AIRTIME	T.S.N. MAINTENANCE					
			5 6				
	-h	is is a log b	book entry for No. 1 eng	gine s/n BC0156 for maintenance performed at TT: 3818.7 on Feb. 10, 2019.			
		1. 2. 1 3. 1 All w	12 Mth., 100 Hr. Engine Engine LCF count CT=7 Replaced oil cap packin vork has been performe	Inspection 731 PT=1030 IMP=4023	-		
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PREVIOUS	T.S.N.:		' ENGINE MAINTENANCE RECORD		
	T.S.O.:		2 6		
DATE	AIR TIME	T.S.N.	MAINTENANCE	SIGN	LIC. # OR STAMP
			AgustaWestland AWPC Repair Station - TAA CISE OT LINGUIST AgustaWestland Philadelphia Corporation 3050 Red Lon Road - Enhancement Procession 3050 Red Lon Road - Enhancement Procession The following work was accomplished under AgustaWestland work order number 7805428. Maintenance: 1. Performed 50-Hour LCF data collection of r/n engine IAW PWC PW200C/PW207C Manual P/N 3043322, Rev No. 30.1 and obtained the following data: CTD DKK S10, PT DISK 605, IMP DISK 3770. 2. Performed 150-Hour power assurance check. Results are satisfactory. No defects noted. Targets: Nax. N. 19. 32, Max TOT. 770 deg. C Results: N1-91.0%, TOT.732 degrees C, Torque 95%. I certify that this engine has been inspected on 3/29/2018 in accordance with 14 CFR § 91.409(f)(3) a manufacturer's recommended inspection program. This engine was determined to be in as privarchy condition and is approved for return to service. AgustaWestland Philadelphia Corporation FAA Certificated Repair Station PTTRO98X AgustaWestland Philadelphia PTRO98X AgustaWestland Philadelphia PTRO98X AgustaWestland Philadelphia PTRO98X AgustaWestland Philadelphia Corporation FAA Certificated Repair Station PTTRO98X AgustaWestland Philadelphia Corporation FAA Certificated Repair Station PTTRO98X AgustaWestland Philadelphia Corporation FAA Certificated Repair Station PTTRO98X AgustaWestland Philadelphia Corporation FAA Cert		
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	his is	s a log boo	k entry for No. 2 engine s/n BC0154 for maintenance performed at TT: 3866.0 on Feb.10, 2019.				
		1.	12 Mth., 100 Hr. Engine Inspection				
		2.	Engine LCF count CT=770, PT=1028 IMP=3927 Replaced sight glass packings AS3209-113 & AS3208-12.				
			Penlaged oil can packing AS3209-222				
	-	All wor	k has been performed as per applicable manufacturers manuals and is approved for return to service.				
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				Page	23 of 48		