



Instructions for Continued Airworthiness

19003-05 REV. B

King Air 90 Series Aircraft
Model C90, C90A, and E90

With P&WC PT6A-135A Engines
installed in accordance with

FAA-STC SA10341SC

NOTICE

This document must be referenced on Block 8 of FAA form 337 and added to the aircraft permanent record as required by 14 CFR Part 91, §91.417(a)(2)(vi) when the reference FAA-STC modification is accomplished on eligible aircraft. This document complies with the requirements of 14 CFR Part 23, §23.1529, in accordance with 14 CFR Part 23, Appendix G.

Aircraft Serial No. _____

Aircraft Registration No. _____

Instructions for Continued Airworthiness

Log of Revisions:

Revision	Description	Pages	Date	Approved By:
A	<ol style="list-style-type: none"> 1. Insert new logo 2. Added rigging instructions (5.D) 3. Added low pitch torque charts 4. Added ground performance chart 5. Add parts list (Sect. 8) 6. Change references to Hawker Beechcraft, Corp. as required 7. Updated all page number 	<p>All 5-7 8-10 11 12-14 As Req'd All</p>	11/13/07	M.L.Moore
B	<ol style="list-style-type: none"> 1. Updated company logo and address 2. Updated the Table of Contents to reflect the additions and changes herein 3. Removed any mention of the aircraft manufacturer's name 4. Added to the SPECIAL PROCEDURES section instructions for, Engine Instrumentation, Starter Generator, & Elevator Control System Rigging 5. Revised the reference in the SERVICING INFORMATION section 6. Revised the Engine Rigging instructions in the MAINTENANCE INSTRUCTION section 7. Updated the PARTS LIST 8. Added Torque Indicator Accuracy Check procedure to the SPECIAL INSPECTION section 9. Added Engine Limitations to the DATA section 10. Renumbered & re-arranged the TABLEs & CHARTs 	ALL	July 2020	M. L. Moore

Instructions for Continued Airworthiness

Table of Contents:

1.	Introduction:	4
2.	Description:	4
3.	Special procedures:	5
	A. Engine Instrumentation.....	5
	B. Starter Generator.....	7
	C. Elevator Control System Rigging.....	8
4.	Servicing information:	8
	Engine Oil	
5.	Maintenance Instructions:.....	8
	A. Engine.....	8
	B. Cowl & Nacells.....	8
	C. Propellers.....	8
	D. Engine Rigging.....	8
	E. Rudder Boost.....	10
6.	Troubleshooting:	14
7.	Removal and Replacement:	14
8.	Parts List.....	14
9.	Diagrams:	16
10.	Special Inspection Requirements:	16
	A. Engine Inspection.....	16
	B. Cowl & Nacell Inspection.....	16
	C. Propeller Inspection.....	16
	D. Torque Indicator Accuracy Check.....	16
	E. Engine Ground Performance Evaluation.....	17
11.	Application of Special Treatments:	21
12.	Data:	21
	Engine Limitations	
13.	Special Tools:	21
14.	Additional Information For Commuter Category Aircraft:.....	21
15.	Recommended Overhaul Period:	22
16.	Airworthiness Limitations:	22
17.	Revision:	22
18.	Assistance:	22

Instructions for Continued Airworthiness

1. INTRODUCTION:

This document provides instructions for the continued airworthiness (ICA) for Blackhawk Modifications, Inc. STC SA10341SC, which installs two Pratt & Whitney PT6A-135A engines and any of the following propellers listed in Section 2 on King Air Model C90, C90A, and E90 aircraft.

NOTICE:

Section 15, titled "Airworthiness Limitations" is FAA approved and specifies maintenance required under 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved. To remain in compliance with the STC, the aircraft shall be maintained in accordance with these limitations.

This document is a supplement to the King Air Model 90 Series Maintenance Manual superseding it only in the areas listed herein for the appropriate aircraft model and serial number.

2. DESCRIPTION:

The STC replaces the original engines with two Pratt & Whitney PT6A-135A engines. Any of the following propellers may be reinstalled or newly installed.

Propeller Model Hub/blade	Spinner p/n	Diameter Min./Max inches
Hartzell 3-bladed model no. HC-B3TN-3(B,M)/ T10173N(B,K)-8	C-3065-13P	90.375 / 93.5
Hartzell 4-bladed (Raisbeck) model no. HC-D4N-3C/D9290(S,K)	D-630-4(P)	92.0 / 93.0
Hartzell 4-bladed model no. HC-E4N-3N/D8990S(K)	D-630-4(P)	89.0 / 90.0

Instructions for Continued Airworthiness

3. SPECIAL PROCEDURES:

A. ENGINE INSTRUMENTATION

The PT6A-135A engine has different operational ranges from that of the originally installed engines. These are depicted as range markings on the engine indicators. It is required that the installed engine indicators used for this STC installation properly depict these operating ranges which can be found in the Limitations Section of the appropriate aircraft flight manual supplement (AFMS). The STC installation instructions allow the original equipment indicators to be remarked and/or rescaled, as needed, to show the correct range markings and accurately indicate the engine value being monitored.

The engine indicators which will require different range markings from the original are; the Inter Turbine Temperature (ITT), Torque (Tq), Propeller Tachometer (Np), and the Oil Temp/Pressure (Otp). Any indicator approved for use on King Air 90 Series aircraft with PT6A-135A engines and range marked per the appropriate AFMS is an acceptable option.

In addition to remarking the operating range markings per the STC, the following instructions apply to each indicator as noted below;

- a. The Propeller Tachometer will need to be recalibrated so that an input signal of 4200 cpm (100%) will result in an indication of 1900 rpm. For Np indicators on aircraft serial numbers LJ-1361, -1363 and After with Np indicator p/n's 90-380035-5 or -9; these must be converted to a 90-380035-13 with range markings as required per the appropriate AFMS, limitations section.
- b. Engine torque, Tq indicators, For aircraft LJ-502 to -514 with indicator p/n 50-380107-5 and LJ-515 to -1062 with indicator p/n 91-380012-3 and LJ-1063 to -1360 & -1362 with indicator p/n 90-380012-3, rescale the face plate as follows; (Approval reference STC SA10741SC).
 1. Ref.: Existing 0 ft-lbs @ 91.8° on the faceplate and 195.1° on the synchro
 2. Re-screen faceplate with black matte background, relocate major white tick marks every 15.6°, each 100 ft-lbs, 0 to 2100 ft-lbs (328.2° total), see Table 1
 3. Minor white tick marks between each major white tick mark every 3.1°, each 20 ft-lbs
 4. Label every even hundred ft-lbs divided by 100 (ex; 600 ft-lbs will be labeled 6; 800 ft-lbs = 8, etc.)
 5. Add range markings as required per the appropriate AFMS, limitations section.

Instructions for Continued Airworthiness

For aircraft LW-1 to -15 with indicator p/n 99-384030-3 and LW-16 and After with indicator p/n 100-384048-3, rescale the face plate as follows;

1. Ref: Existing 0 ft-lbs @ 87.7° on the faceplate and 190.0° on the synchro
2. Re-screen faceplate with black matte background, relocate major white tick marks every 11.35°, each 100 ft-lbs, 0 to 2100 ft-lbs (238.67° total), see Table 2
3. Minor white tick marks between each major white tick mark every 2.27°, each 20 ft-lbs
4. Label every even hundred ft-lbs divided by 100 (ex; 600 ft-lbs will be labeled 6; 800 ft-lbs = 8, etc.)
5. Add range markings as required per the appropriate AFMS, limitations section.

For aircraft serial numbers LJ-1361, -1363 and After with Tq indicators p/n 90-380034-3 or -5; these must be converted to a 90-380034-7 with range markings as required per the appropriate AFMS, limitations section.

Aircraft LJ-502 to LJ-1360 & 1362

Synchro Angle (Ref. 195.1° = 0 ft-lbs)	Abs. Face Plate Angle (Ref. 91.8° = 0 ft-lbs)	Indicated Torque (ft-lbs /100)
195.1	91.8	0
226.4	123.1	2
257.6	154.3	4
288.9	185.6	6
320.2	216.9	8
351.4	248.1	10
382.7	279.4	12
413.9	310.6	14
432.7	329.4	15.2
476.5	373.2	18
523.4	420.1	21

Table 1

Instructions for Continued Airworthiness

Aircraft LW-1 and After

Synchro Angle (Ref. 190.0° = 0 ft-lbs)	Abs. Face Plate Angle (Ref. 87.7° = 0 ft-lbs)	Indicated Torque (ft-lbs /100)
195.1	87.7	0
217.8	110.4	2
240.6	133.2	4
263.3	155.9	6
286	178.6	8
308.8	201.4	10
331.5	224.1	12
354.2	246.8	14
367.8	260.4	15.2
399.7	292.3	18
433.8	326.4	21

Table 2

- c. The ITT and Oil temp/pressure indicators will only need the range markings changed. No other scale or calibration changes are required on these indicators.
- d. All indicators which are modified per these instructions must be reidentified as follows;
 - 1. On the indicator data plate, using similar size and style letters as original, permanently apply the letters BH at the end of the part number.
 - 2. As an alternate to or in conjunction with the instruction above, permanently affix a label to the indicator housing stating; "Modified per STC SA10341SC"

B. STARTER GENERATOR

The approved STC installation instructions allow for the original equipment starter generator, model 23048-018, to be converted to incorporate a driveshaft with an O-ring provision, commonly referred to as a 'wet-spline' driveshaft. This driveshaft is a part procured from the starter generator manufacturer and is an option to the basic starter generator model. Any starter generator converted per this STC should be re-identified as follows;

- 1. Using impact stamps or other suitable means, permanently place X's over the existing model dash number, i.e. -018
- 2. Using numbers of similar size and style as the original numbers, next to the X'ed out dash number stamp -016.
- 3. After the existing serial number stamp the letters BH.
- 4. Refer to Blackhawk service instruction SI20-003 IR

Instructions for Continued Airworthiness

C. ELEVATOR CONTROL SYSTEM RIGGING

The existing OEM elevator hold down spring has been replaced with a heavier spring p/n 19003-002. When this spring is installed, rig the elevator control system in accordance with the King Air 90 Series maintenance manual section 27-30-03 observing the following changes to the force required to pull the control column from the full forward position through the elevator surface neutral position.

1. Airplanes LJ-502 thru LJ-673 (that do not have OEM bobweight kit 90-9065-1S installed). The force required to move the control column from the nose down position through the neutral position should be 28 to 31 lbs, a reduction of force by not more than 14 lbs should return the control from nose up back through neutral.
2. Airplanes LJ-584, LJ-586, thru LJ-673, that have OEM bobweight kit 90-9065-1S installed, and LJ-674 & after, LW-1 & after. The force required to move the control column from the nose down position through the neutral position should be 32 to 34 lbs. The total system friction should be the same as calculated in the maintenance manual.

4. SERVICING INFORMATION:

The total engine oil capacity is increased from 28 to 29 quarts. The useable engine oil capacity remains at 12 quarts. Scheduled engine oil changes are not required but are determined by the oil condition. Refer to the latest revision of P&WC SB 1001.

5. MAINTENANCE INSTRUCTIONS:

- A. Maintain PT6A-135A engines in accordance with the latest revision of the Pratt & Whitney Maintenance Manual, part number 3043512.
- B. Maintain cowlings and nacelles in accordance with the latest revision of the King Air 90 Series Maintenance Manual part number 90-590012-13.
- C. Maintain propellers and propeller de-icing system per the latest revision of the King Air 90 Series Maintenance Manual part number 90-590012-13 and the appropriate Hartzell Propeller and De-Ice Brush Assembly Maintenance Manual for the propeller model and serial number being serviced.
- D. Engine Rigging
Note: Rig all engine and propeller controls per Blackhawk Engine Control Rigging document 200710-30 or the King Air 90 Series Maintenance Manual Chapter 76. Adjust all engine operation parameters to the required values as follows:

Instructions for Continued Airworthiness

1. Flight Idle Torque

Note: If the surface wind speed is >7 kts. take an average of the upwind and downwind readings to obtain correct results.

- a.) Using the current outside air temperature and pressure altitude (29.92 set in altimeter), find the target torque value from the appropriate low pitch torque chart (1, 2 or 3) appropriate for the propeller installed.
- b.) With the engines running, generators and bleed air ON, engine icing NORMAL (off) and the propeller levers fully forward, advance the power levers for both engines until the propellers reach 1800 rpm. Let the engines stabilize for a minimum of one minute and record indicated torque values.
- c.) The indicated torque value for each engine must be within +40/-0 ft-lbs of the target torque value obtained in step a.). The difference between left and right torque indications should not exceed 20 foot-pounds.

Outside air temperature	_____	°C
pressure altitude (29.92 SET IN ALTIMETER)	_____	ft
TARGET torque value from CHART 1, 2 or 3	_____	ft-lbs
left engine torque	_____	ft-lbs (+40/-0)
right engine torque	_____	ft-lbs (+40/-0)
engine torque difference	_____	ft-lbs (±20)

- d.) If the engine torque readings are not within these limits, adjust the low pitch barrel stop found on the forward end of the engine beta control cable per the Blackhawk Engine Control Rigging document 200710-30 or the King Air 90 Series Maintenance Manual Chapter 76.

2. Low Idle Speed

- a.) 3-blade propeller installations require setting of 53% to 55% Ng.
 - b.) 4-blade propeller installations low idle Ng should be set as required to obtain a minimum propeller speed (Np) of 1100 rpm.
3. The high idle speed should be at or above 64% Ng for 3-blade propellers and no higher than 71% Ng for 4-blade propellers.
 4. Adjust the propeller governor for maximum propeller speed of 1900 RPM.
 5. Set full reverse to obtain 80-86% Ng.
 6. Check that the oil pressure is within 85-105 psi (95 psi is optimum). If required, adjust the oil pressure per the newest revision of the P&WC PT6A-135A maintenance manual 3043512 section 72-60-00

Instructions for Continued Airworthiness

7. Adjust the reverse not ready light to illuminate at 1760-1780 rpm per the King Air 90 Series Maintenance Manual. It may be necessary to lengthen the slots in the switch mounting bracket.
8. After all adjustment are completed ensure all adjustment screws and linkage are properly lock-wired or pinned.

E. Rudder Boost Pre-Flight Check (C90A aircraft only)

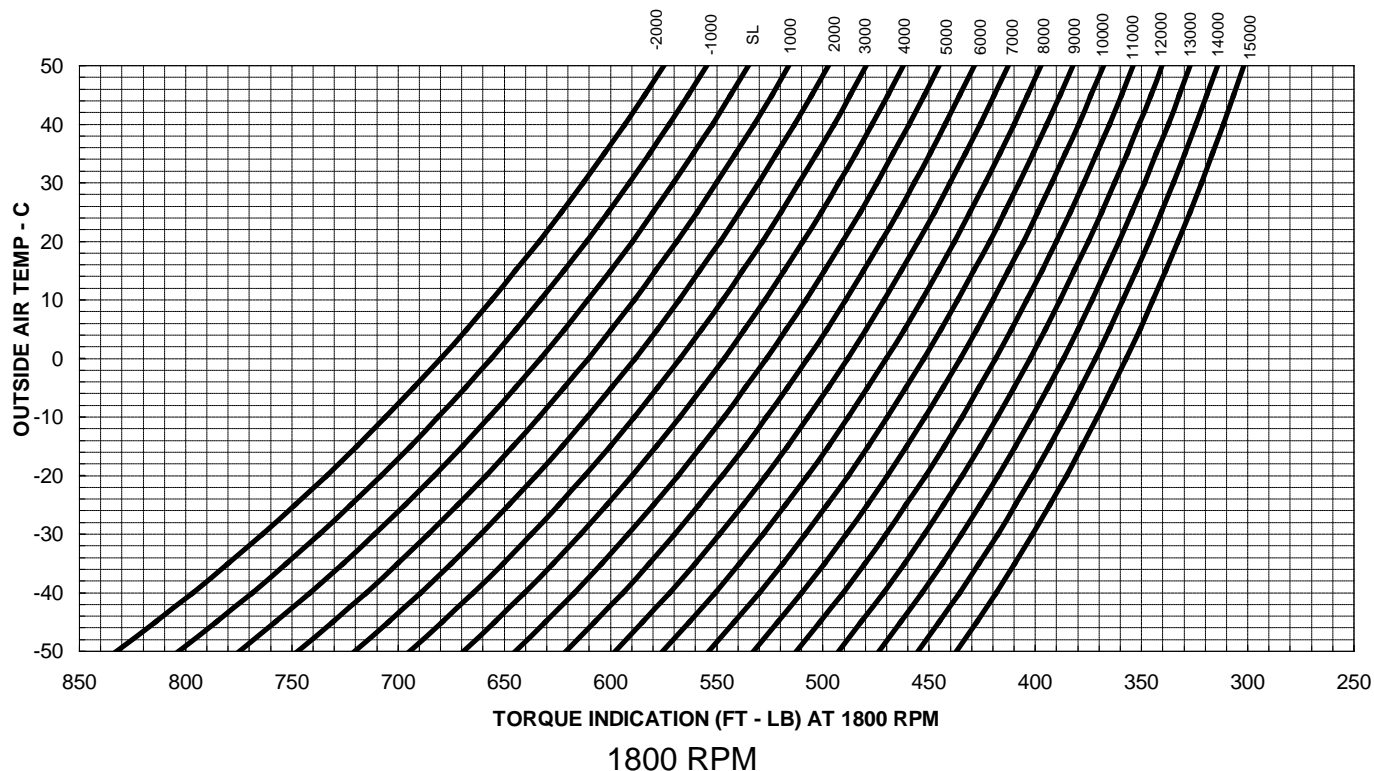
For C90A aircraft, serial numbers LJ-1063 thru LJ-1726; LJ-1728 thru LJ-1753 & LJ-1755, if the rudder boost system will not test per the basic Airplane Flight Manual normal procedures, check the part number of the rudder boost differential pressure switch. If p/n 101-384119-5 is installed replace it with p/n 101-384119-7, as referenced in the King Air 90 Series IPC section 37-10-00 figure -2 item 615. The new -7 switch will mount and install the same as the original -5 switch.

Instructions for Continued Airworthiness

CHART 1

FOR HARTZELL 3-BLADE PROPELLER
HC-B3TN-3(B,M)/T10173N(B,K)-8

PRESSURE ALTITUDE - FT (ALTIMETER SET AT 29.92 inHg)

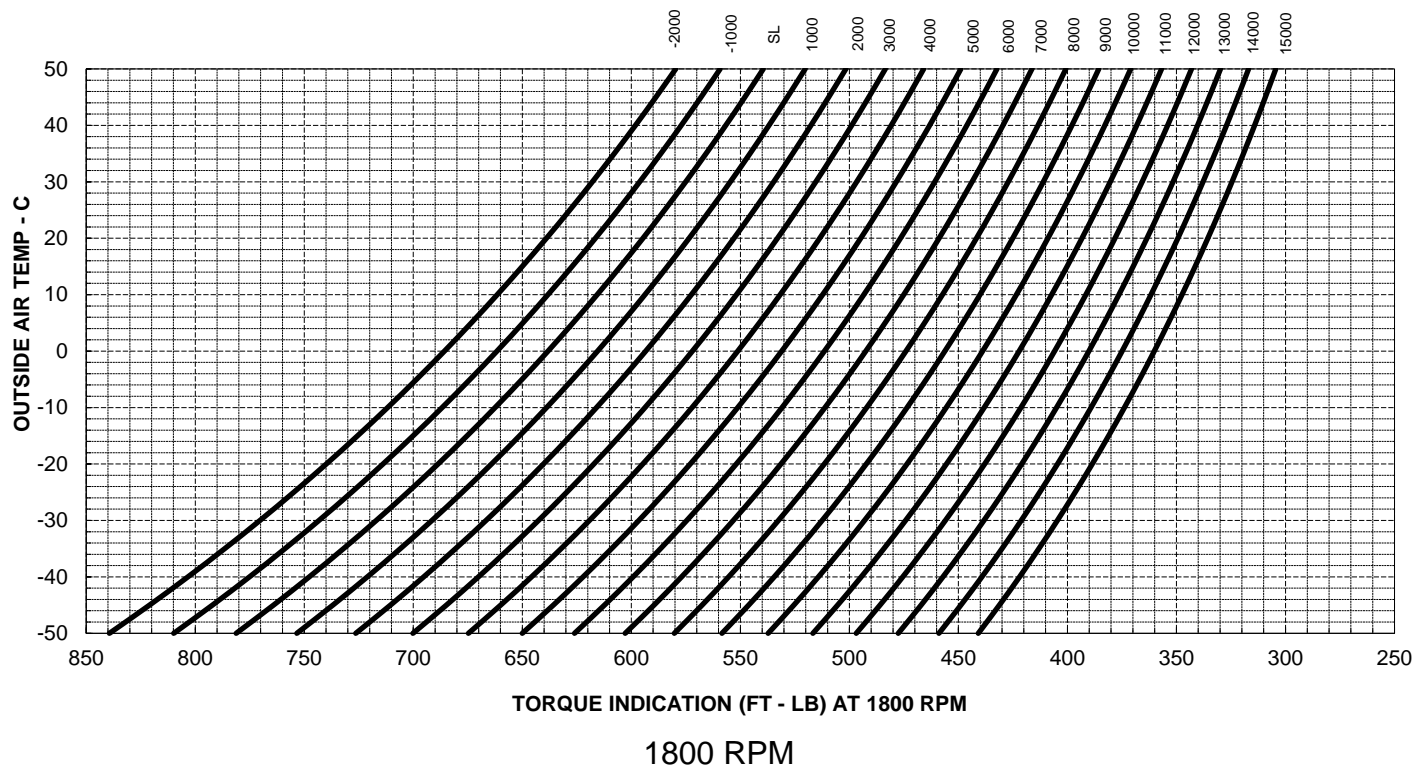


Instructions for Continued Airworthiness

CHART 2

**HARTZELL 4- BLADE PROPELLER
HC-E4N-3N/D8990S(K)**

PRESSURE ALTITUDE - FT (ALTIMETER SET AT 29.92 inHg)

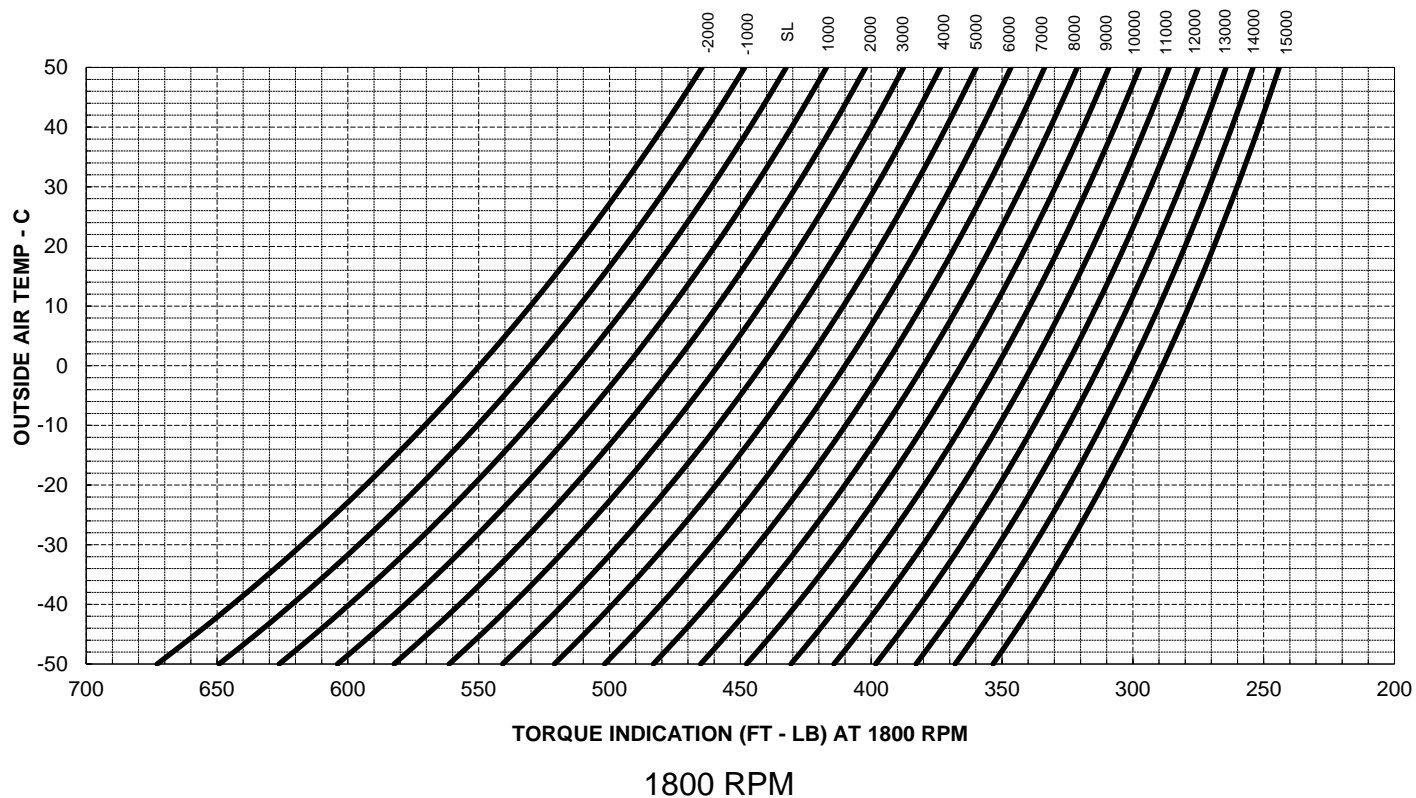


Instructions for Continued Airworthiness

CHART 3

(Raisbeck) 4-BLADE PROPELLER
HC-D4N-3C/D9290S(K)

PRESSURE ALTITUDE - FT (ALTIMETER SET AT 29.92 inHg)



Instructions for Continued Airworthiness

6. TROUBLESHOOTING:

Troubleshooting guidance may be found in the documents listed in section 5, or contact Blackhawk Modifications, Inc. for assistance.

Blackhawk Modifications, Inc.
7601 Karl May Dr.
Waco, Texas 76708
+1-254-755-6711
support@blackhawk.aero

7. REMOVAL AND REPLACEMENT:

Remove and replace as specified in Blackhawk drawing 19003-01, Rev. D, dated 01/16/07 or later FAA approved revision. For replacement parts refer to section 8 or contact Blackhawk at the following address.

Blackhawk Modifications, Inc.
7601 Karl May Dr.
Waco, Texas 76708
+1-254-755-6711
support@blackhawk.aero

8. PARTS LIST:

QTY	PART NO.:	NOMENCLATURE:	NOTES:
2 EA.	PT6A-135A; BS 1200; 1261; 1264; 1266	ENGINE, TURBOPROPELLER	PRATT & WHITNEY CANADA
2 EA.	19003-002	SPRING, ELEVATOR DOWN SPRING	MFG. PER BLACKHAWK SPEC 19003-002.
2 EA	100801X7-0218	BUSHING, ELEVATOR DOWN SPRING	TEXTRON AVIATION
2 EA	100801X4-0240 OR NAS42HT6B-15	BUSHING, ELEVATOR DOWN SPRING	TEXTRON AVIATION
1 EA	101-384119-7	SWITCH, RUDDER BOOST DIFF. PRESSURE	C90A ONLY TEXTRON AVIATION
2 EA	02-6100-02	SHAFT, S/G DRIVE	FOR 23048 SERIES START GENERATOR
2 EA	MS83248/1-113	O-RING	

Instructions for Continued Airworthiness

THE FOLLOWING NEW ITEMS WILL ONLY BE REQUIRED ON MODEL C90 AIRCRAFT SERIAL NUMBERS LJ-502 TO LJ-953 OR MODEL E90 SERIAL NUMBER LW-1 TO LW-347 CONVERTING TO HARTZELL 4-BLADE PROPELLERS

QTY	PART NO.:	NOMENCLATURE:	NOTES:
1 EA.	3E1964-3	TIMER, PROPELLER DE-ICE	B.F.GOODRICH
4 EA.	3E2090-1	MODULAR BRUSH ASSEMBLY, PROPELLER DE-ICE	B.F.GOODRICH
AR	1E1157	SHIMS, FOR MODULAR BRUSH ASSEMBLY, PROPELLER DE-ICE	B.F.GOODRICH
8 EA.	MS51957-50	SCREWS, MODULAR BRUSH ASSEMBLY, PROPELLER DE-ICE	
8 EA.	MS21045-08	NUT, MODULAR BRUSH ASSEMBLY, PROPELLER DE-ICE	
16 EA.	AN960C8L	WASHER, FLAT, MODULAR BRUSH ASSEMBLY, PROPELLER DE-ICE	

THE FOLLOWING ITEMS WILL ONLY BE REQUIRED ON AIRCRAFT CONVERTING FROM PT6A-28 ENGINES.

QTY	PART NO.:	NOMENCLATURE:	NOTES:
1 EA.	90-380014-9	LH IDLE CONTROL CABLE	TEXTRON AVIATION
1 EA.	90-380014-11	RH IDLE CONTROL CABLE	TEXTRON AVIATION
2 EA.	102933S4ZS0250	SPACER	TEXTRON AVIATION
2 EA.	109-940001-5	IDLE CONTROL ARM ASSY	TEXTRON AVIATION
2 EA.	50-944073-71	IDLE CONTROL BRACKET	TEXTRON AVIATION
2 EA.	RA1039C	CLIP - IDLE CONTROL	TEXTRON AVIATION
2 EA.	130F001-4S0254 OR TSO-C53 EQUIVALENT	DRAIN HOSE ASSY	STRATOFLEX
2 EA.	AN919-3	ADAPTER/UNION 4-5	
2 EA.	MS51521B4	SWIVEL NUT, 90° ELBOW	
2 EA.	AN833-4	90° BULKHEAD FITTING	
2 EA.	130001-4S0204 OR TSO-C53 TYPE C EQUIVALENT	DRAIN HOSE ASSY	STRATOFLEX
2 EA.	AN807-4	BULKHEAD FITTING	
2 EA.	AN924-4	NUT	

Instructions for Continued Airworthiness

THE FOLLOWING NEW ITEMS WILL ONLY BE REQUIRED ON AIRCRAFT CONVERTING FROM PT6A-6/20, PT6A-20A, AND PT6A-20 ENGINES.

QTY	PART NO.:	NOMENCLATURE:	NOTES:
2 EA.	3020227	ADAPTER OIL SCAVENGE	PRATT & WHITNEY CANADA
2 EA.	3006515	OIL TEMPERATURE BULB ADAPTOR	PRATT & WHITNEY CANADA
2 EA.	109-910002-5	PROP SEAL DRAIN TUBE	BEECH SI 0769-241R1
2 EA.	109-910002-7	REDUCER	TEXTRON AVIATION
2 EA.	AN832-4	BULKHEAD FITTING	
2 EA.	AN924-4	NUT	
2 EA.	AN960-716	WASHER	
2 EA.	130001-450157 OR 330995-4-0157 OR TSO- C53 EQUIVALENT	DRAIN HOSE ASSY	STRATOFLEX AEROQUIP
2 EA.	97-910030	BLEED HOSE ADAPTOR	TEXTRON AVIATION
2 EA.	99-389016-3	BLEED HOSE	TEXTRON AVIATION
2 EA.	4563-100	BLEED HOSE CLAMP	TEXTRON AVIATION
2 EA.	97-910031-1	BLEED HOSE GASKET	TEXTRON AVIATION
2 EA.	MS3106E14S2S	CONNECTORS	
2 EA.	MS3106A14S2S	CONNECTORS	
2 EA.	MS3057-6A	BACKSHELLS	
2 EA.	MS3456L12S3S	CANNON PLUG	
2 EA.	MS3417-12N	BACKSHELL	
2 EA.	MS3420-6	RUBBER INSERTS	
2 EA	50-389057-1 (OR EQUIVALENT)	PROPELLER TACH GENERATOR	TEXTRON AVIATION

9. DIAGRAMS:

None

10. SPECIAL INSPECTION REQUIREMENTS:

- A. Conduct routine inspections on the PT6A-135A engines in accordance with the latest revision of Pratt & Whitney Maintenance Manual, part number 3043512. Refer to section 72-00-00.
- B. Conduct routine inspections on the aircraft cowlings and nacelles in accordance with the latest revision of King Air Model 90 Series Maintenance Manual part number 90-590012-13.
- C. Conduct routine inspections on the propellers in accordance with the latest revision of King Air Model 90 Series Maintenance Manual part number 90-590012-13 and the Hartzell Propeller Maintenance Manual appropriate for the propeller being inspected.
- D. Torque Indicator Accuracy Check
 The engine torque (Tq) indication accuracy can be checked by applying a calibrated pressure to the Tq pressure manifold, mounted on the left upper RGB at A flange,

Instructions for Continued Airworthiness

using a dead weight tester or equivalent. The Tq transducer vent should be open to the atmosphere during this check. Use the pressures and results in TABLE 3.

$$\text{Tq Indication (ft-lbs)} = 35.22 \times \text{Tq Pressure (psi)}$$

TEST psi	CALCULATED TORQUE FT - LBS	TOLERANCE FT-LBS	LH INDICATION	RH INDICATION
10	352	+48 / -52		
20	704	+36 / -44		
30	1057	+33 / -33		
40	1409	+31 / -29		
43.2	1520	+31 / -29		
55	1937	+43 / -37		

TABLE 3

E. Engine Ground Performance Evaluation

This procedure is used to establish a performance history to compare new engine ground performance results with future ground test runs to evaluate the effects of component replacement, inaccuracies in the engine instruments or progressive compressor or hot section deterioration. This data is only for maintenance evaluation and such data should never be used as the sole criterion for determining the airworthiness of an engine. Refer to the MINIMUM TAKEOFF POWER chart in the appropriate Airplane Flight Manual Supplement to determine if the engines are producing sufficient power for airworthy operation.

Prior to performing the following checks, the engine cowling must be in place to ensure consistency of engine operating parameters, F.O.D. screens must not be installed.

Procedure:

1. Record indicated outside air temperature (IOAT) in degrees Celsius, see TABLE 4.
2. Record pressure altitude which is the value of pilot's altimeter with 29.92 set in Kollsman window.
3. Using the previously recorded IOAT and Pressure Altitude, determine target torque, ITT, fuel flow, and N_g limits from Chart 4 and record these target values.
4. Start the engines as outlined in the appropriate Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

Instructions for Continued Airworthiness

5. Position the airplane with the nose into the wind. If the surface wind speed is >7 kts. take an average of the upwind and downwind readings to obtain correct results.
6. Turn on the avionics and inverters (as required) to power engine instruments.
7. Ensure that the air-conditioning, bleed air and generator are all off on the engine being checked.
8. Position the ice vanes in the retracted position (Engine Anti-Ice is OFF).
9. Verify that the propeller levers are in the high rpm mode.
10. Bring the power levers forward to establish a torque indication equal to the target torque value determined in Step 3.

Note: Do not exceed any engine limitations such as ITT, N_g or Oil temp.

11. Verify that the engine propeller is governing at approximately 1900 rpm. DO NOT exceed limitations.
12. Record actual ITT, N_p , N_g and fuel flow indications in Table 4 for the engine being checked.
13. Compare the actual values recorded with the target values as determined from Step 3. If any of the actual values exceed the target ITT, N_g or fuel flow values troubleshoot in accordance with the P&WC Maintenance Manual § 72-00-00.
14. Record this data for future evaluation. The difference between the target and actual values is the performance margin. Changes to this performance margin over the life of the engine is a predictor of pending or needed maintenance action.

Instructions for Continued Airworthiness

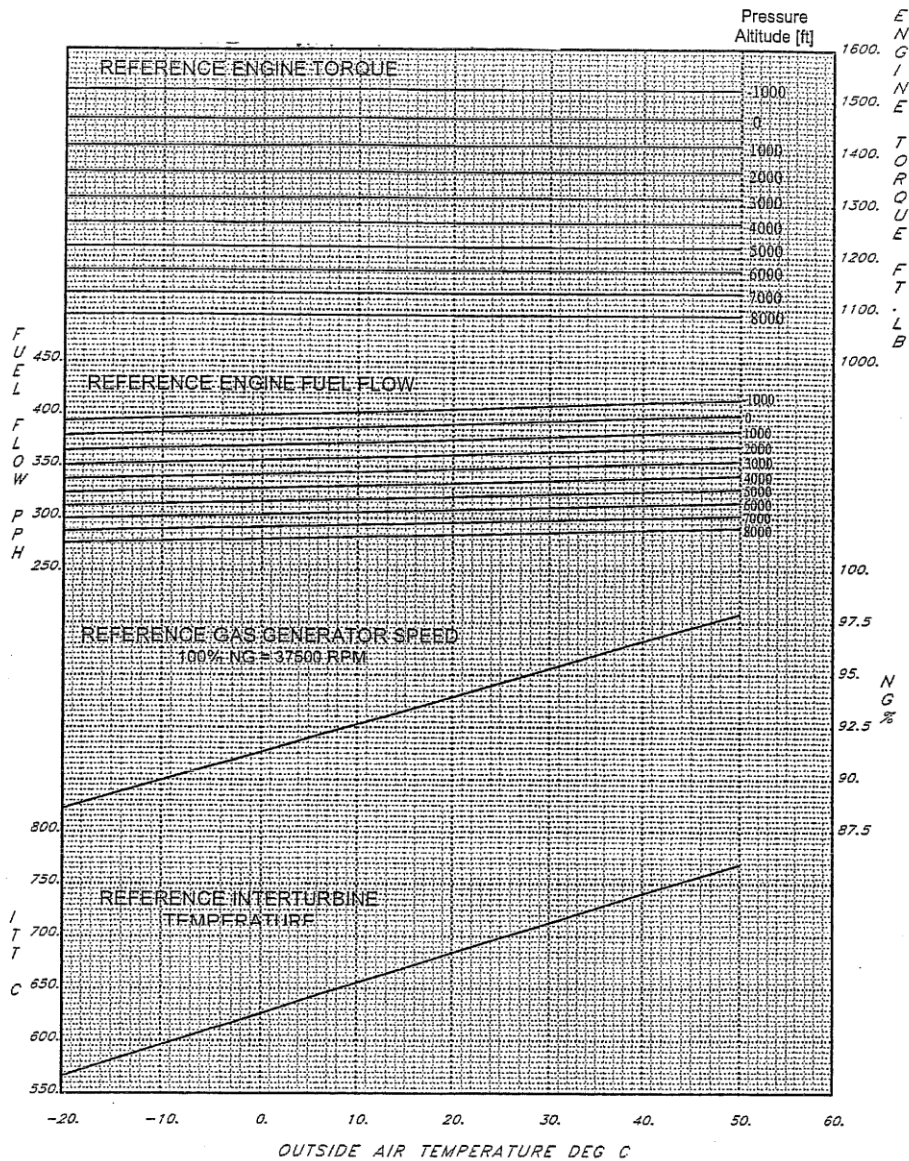
IOAT (°C): _____		Target		Actual - Left		Actual - Right	
Pressure Altitude: _____							
Target Torque – Tq							
Limit ITT – TT5 °C							
Target Prop RPM – Np		1900					
Limit Gas Gen Speed – Ng %							
Limit Fuel Flow							
Oil Press	Oil Temp	85-105	10-99°				

TABLE 4

Instructions for Continued Airworthiness

CHART 4

PT6A-135A
 GROUND PERFORMANCE CHECK CHART
 STATIC, INSTALLED, PROP SPEED = 1900 RPM
 THIS GRAPH IS NOT TO BE USED TO ACCEPT OR REJECT AN ENGINE



Instructions for Continued Airworthiness

11. APPLICATION OF SPECIAL TREATMENTS:

None

12. DATA:

ENGINE LIMITATIONS FOR PRATT & WHITNEY CANADA PT6A-135A
 when installed in King Air 90 Series aircraft

POWER SETTING	SHP	TORQUE FT. LB.	ITT °C	GAS GEN RPM % N ₁ (1)	PROP RPM N ₂	OIL PRESS PSIG (4)	OIL TEMP °C (8)
Start	-	-	1090 (2)(5)	-	-	-	-40 (min)
Idle	-	-	685 (3)	-	-	40 (min)	-40 to 99
Takeoff & Max Continuous	550	1520	805	101.5	1900	85 to 105	10 to 99
Transient	-	-	880 (2)	102.6	2090	-	104 (7)
Max Reverse (6)	550	1520	805	101.5	1815	85-105	0 to 99

NOTES:

- (1) For every 10°C below -30°C OAT, reduce maximum allowable N₁ by 2.2%.
- (2) These values are limited to two seconds.
- (3) Increase N₁ to keep within ITT limit.
- (4) Minimum oil pressure above 72% N₁ is 85 psig.
- (5) Starting temperatures above 880°C should be investigated for cause.
- (6) Reverse power operation is limited to one minute.
- (7) These values are limited to ten minutes.
- (8) For increased oil service life, an oil temperature below 80°C is recommend.

13. SPECIAL TOOLS:

None

14. ADDITIONAL INFORMATION FOR COMMUTER CATEGORY AIRCRAFT:

None

Instructions for Continued Airworthiness

15. RECOMMENDED OVERHAUL PERIOD:

As stated in the latest revision of Pratt & Whitney Service Bulletin 1003.

16. AIRWORTHINESS LIMITATIONS:

NOTICE:

This section is FAA approved and specifies maintenance required under 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved. To remain in compliance with the STC, the aircraft shall be maintained in accordance with these limitations.

There are no changes to the airworthiness limitations of the PT6A-135A engine from those, which are listed in the latest revision of the Pratt & Whitney Maintenance Manual, part number 3043512.

There are no changes to the airworthiness limitations for the propellers, cowlings, or nacelles from those which are listed in the latest revision of the King Air 90 Series Maintenance Manual part number 90-590012-13.

17. REVISION:

Each time this ICA is revised or reissued; the revised ICA will be distributed to operators using a Service Letter/Bulletin by Blackhawk Modifications. This revision will include a new Log of Revisions page along with the revised pages. The lower right-hand corner of each revised page will reflect the revision letter.

18. ASSISTANCE:

For assistance with ICA issues not addressed herein, contact Blackhawk Modifications, Inc. at the following address or phone number.

Blackhawk Modifications, Inc.
7601 Karl May Dr.
Waco, Texas 76708
+1-254-755-6711
support@blackhawk.aero