



INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

King Air 300 Series Airplanes Equipped with Pratt & Whitney PT6A-67A Engines Installed Per STC SA02658LA

Revision B

Document Number 200914-30

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 Model Number

Aircraft Serial Number

Aircraft Registration Number



LIST OF EFFECTIVE REVISIONS

REV	REV DATE	AFFECTED PAGES	DESCRIPTION OF REVISION
IR	May 2017	ALL	
A	Feb. 2018	3,5,6,12, 16,17 and Parts List	 Added new aircraft variants to intro, 00-00 Added new AFMS doc numbers, 01-00 Added new AFMS doc numbers, 77-00 Added Engine Washing instructions, 12-20. Added Repair instructions, 51-70. Revised Parts List, page 12. Revised part number, ITEM 13, page 14. Revised part number. ITEM 19, page 15. Added page 16, 200914-006-001 Oil Cooler Install. Added ITEM 26, C-048-H-1, O-RING, page 17.
В	Mar. 2019	20 and Parts List	 Pg 3, Updated all page numbers for Table of Contents. Pg 4, Section 00-00, ¶1, WASBgoV/B300C Series, NOW All 300 Series. Pg 4, Section 00-00, ¶1, WASBgoV/B300C certifies at maximum takeoff weights of 15,000 pounds, NOW300 Series aircraft certified at maximum Takeoff weights of 12,500, 14,000 or 15,500 pounds Pg 4, Section 00-00, ¶2, WAS to all three weight variants, NOWto all weight variants. Pg 4, Section 00-00, ¶3, WASSuper King Air Model 300 Series., NOWTextron/ Beechcraft King Air Model 300 Series Pg 4, Section 00-00, ¶4, WASengines and MT propeller, model MTV-27., propellers in accordance with NOWengines and Hartzell model HC-E5A,propellers on the 300/300LW aircraft or MT propeller, model MTV-27, propellers on the B300/B300C aircraft, in accordance with Blackhawk Modifications MDL 200914-000 Rev D or later revision. Pg 4, Section 00-00, ¶6, WASGround Idle Stop System, NOWGround Idle Stop System, this was also applied to the Hartzell propeller. Pg 4, Section 01-00, ¶1, WASGround Idle Stop System, NOWGround Idle Stop System, this was also applied to the Hartzell propeller. Pg 4, Section 01-00, ¶1, WASGround Idle Stop System, NOWGround Idle Stop System, this was also applied to the Hartzell propeller. Pg 5, Section 01-00, AI, WASQFID2.00914-20, 201612-08 or 201612-09 for engine and propeller operating limitations. Pg 5, Section 05-00, ADDED, Hartzell Propeller Service Letter HC-SL-61-61Y. Pg 6, Section 05-20, Step b, ADDED, replace if damaged. Pg 6, Section 05-20, Step b, ADDED, replace if damaged. Pg 7, Section 75-00, MDED, Lubricate each Hartzell propeller 400 hours or 12 months per the Owner's Manual 147. Pg 7, Section 77-00, ADDED, Rev 27 or newer. Pg 7, Section 77-00, ADDED, Rev 27 or newer. Pg 7, Section 77-00, ADDED, Rev 27 or



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00-00 INTRODUCTION:

This document provides instructions for the continued airworthiness (ICA) for all King Air 300 Series aircraft modified by authority of Blackhawk Modifications, Inc. STC SA02658LA. It is applicable to King Air 300 Series aircraft certified at maximum takeoff weights of 12,500, 14,000 or 15,000 pounds as well as King Air B300/B300C certified at maximum takeoff weights of 16,500 pounds or 17,500 pounds per Note 15 and Note 8 of FAA Type Certificate Data Sheet A24CE.

When references are made in this document such as "only applies to 16,500 lb. and 17,500 lb. aircraft", it is referring to the heavier weight variants described above. When no reference is made regarding maximum takeoff weight, the information is pertinent to all weight variants.

This document supplements or supersedes the basic and applicable Textron/Beechcraft King Air Model 300 Series Maintenance Manual, only in those areas listed herein for the appropriate aircraft model and serial number.

The STC replaces the original engines and propellers with two Pratt & Whitney PT6A-67A engines and Hartzell, model HC-E5A-3A/NC10245B, propellers on the 300/300LW aircraft or MT Propeller, model MTV-27-1-N-C-F-R(P)/CFR260-65b, propellers on the B300/B300C aircraft, in accordance with Blackhawk Modifications Master Drawing List 200914-000 Rev D or later revision.

The engine installation requires a minor modification to the upper forward cowling. The engine bleed-off air is no longer ducted overboard so the BOV outlet louvers on the left side cowls are removed. A small cowl flap has been added to the oil cooler air outlet. The engine mounted aft fire seal has been modified with a four-piece extension weldment and the start/generator metal cooling duct/adapter has been slightly shortened.

The 5-blade MT Propeller installation eliminated the original equipment Ground Idle Stop System, this was also applied to the Hartzell propeller. It did require a different de-icing brush block assembly and mounting bracket as well as different brackets for the prop-sync and speed pick-up sensors.

01-00 OPERATIONS INFORMATION:

See Blackhawk Aircraft Flight Manual Supplement (AFMS) 201801-08, 201801-09, 200914-20, 201612-08 or 201612-09 as applicable to the aircraft for engine and propeller operating limitations.



04-00 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.

There are no changes to the airworthiness limitations of those listed in the following manuals:

Airframe	. Super King Air 300 Series Airworthiness Limitations Manual 130-590031-211E
Engine	. Pratt and Whitney Canada PT6A-67 Maintenance Manual 3036132 and Service Bulletin 14002 Rev 23 or newer
Propeller	MT Propeller manual 61-00-83-E-1083
	Hartzell Propeller Service Letter HC-SL-61-61Y

05-00 PERIODIC INSPECTIONS:

The periodic inspection requirements are unchanged from that of the original manufacturers or operators approved inspection schedule with the addition of the items listed in section 05-20.

The airframe, cowling and all airframe systems should be inspected as outlined in the Super King Air 300 Series Maintenance Manual, part number 130-590031-11 or other FAA approved inspection program.

The engine and all engine systems should be inspected as outlined in the Pratt and Whitney Canada (PWC) PT6A-67 Maintenance Manual, number 3036132 or other FAA approved inspection program.

The propeller should be inspected as outlined in the MT Propeller Operation and Installation manual 61-00-83-E-1083 Rev 27 or newer or Hartzell Propeller Owner's Manual 147 Rev 14 or newer, or other FAA approved inspection program.

05-20 INSPECTION CHECKS:

At each engine inspection interval but not to exceed 400 operating hours, inspect the following:

a. The aft fire-seal extension weldments for proper attachment, cracks, any other damage.



- b. All forward and aft fire-seal and cowling silicon/rubber seals for proper sealing, cuts, abrasion and any other damage. Replace if damaged.
- c. Oil cooler for leaks and cleanliness of the air passage
- d. Oil cooler air inlet and outlet for obstructions and damage
- e. Perform an engine ground performance check and record results for trend evaluation

At each inspection interval not to exceed 12 months inspect the MT Propeller per the Operation and Installation manual E-1083 Rev 27 or newer

At each 400-hour inspection interval not to exceed 12 months inspect the Hartzell Propeller in accordance with the Owner's Manual 145 Rev 14 or newer

12-00 SERVICING:

The engine should be serviced with turbine engine oil as stated in the most current revision of PWC SB 14001. Engine oil changes are on-condition.

There are no required servicing procedures for the MT Propeller. Lubricate the Hartzell propeller each 400 hours or 12 months per the Owner's Manual 147

12-20 ENGINE WASHING:

Blackhawk recommends engine washes at each inspection phase at a minimum. When operating in an industrial pollutant, salt latent or excessively dusty environment more frequent washes may be necessary. Consult the PT6A-67A maintenance manual section 71-00-00, always follow the maintenance manual engine washing instructions and be certain to drain the wash solution from the exhaust case during and after every wash.

For aircraft with oil coolers p/n 8002545 Blackhawk recommends backwashing the cooler air passage every 12 months with a mild soap/water solution applied with low pressure. For continuous operations in dusty or excessively pollutant environments more frequent washes may be necessary.

51-70 REPAIRS

Repairs to the Airbox Extension Weldments are authorized but should be consistent with the standard practices outlined in the King Air 300 Structural Repair Manual. Parts with multiple damaged areas or cracks closer than 2 inches should be replaced.

Repairs to the Aero-Classics Oil Cooler, p/n 8002545, is not authorized except by a certified repair facility



61-00 PROPELLER:

For MT Propeller removal and installation procedures refer to Blackhawk propeller Installation drawing 200914-005 and MT Propeller Operation and Installation Manual 61-00-83-E- 1083 Rev 27 or newer.

For Hartzell Propeller removal and installation procedures refer to Blackhawk propeller installation drawing 200914-007 and the Hartzell Owner's Manual 147 Rev 14 or newer

72-00 ENGINE:

For engine removal and installation procedures refer to Blackhawk Engine Installation drawing 200914-002 and the Super King Air 300 Series Maintenance Manual 130-590031-11.

76-00 POWER PLANT CONTROLS:

Rig the engine and propeller controls per the Blackhawk Engine Control Rigging Procedure Document 200914-800 Rev A or newer.

77-00 ENGINE INDICATING:

All engine indicators should be range marked in accordance with the Limitations section of Blackhawk AFMS 201801-08, 201801-09, 200914-20, 201612-08 or 201612-09 as applicable to the aircraft. Reference Blackhawk Indicator drawing 200914-003 (for aircraft equipped with Mechanical Powerplant Indicators).

77-10 ENGINE GROUND PERFORMANCE CHECK:

Engine ground performance check history is a tool used to evaluate the effects of progressive engine performance deterioration, inaccuracies in engine instrumentation or component replacement. For this tool to be effective it is important that baseline performance data is established and subsequent data is collected at regular intervals. This data is only for predicting needed maintenance or trouble shooting engine performance and should never be used as the sole criterion for determining the airworthiness of an engine. Refer to the MINIMUM TAKEOFF POWER chart and procedures in the appropriate Airplane Flight Manual Supplement to determine if the engines are producing required power for airworthy operation.

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



- 1. Record indicated outside air temperature (IOAT), as shown on the ship's oat indicator, in degrees Celsius in Table 1.
- 2. Record pressure altitude, which is the value of pilot's altimeter with 29.92 set in Kollsman window, in Table 1 on the next page.
- 3. Using the IOAT and Pressure Altitude from Table 1, determine target torque, ITT, fuel flow, and N_g limits from Chart 1 and record in Table 1.
- 4. Start the engines as outlined by procedures in the appropriate Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.
- 5. Position the airplane crosswind (90° to the wind direction to eliminate variation in parameters due to changing wind velocity).
- 6. Turn on 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 torque redline limitations or any other engine limitations such as ITT or N_g speed of the engine.
- 11. Allow the engine to stabilize at this power setting for 2 minutes minimum. Record actual fuel flow, Ng and ITT indications in Table 1 for engine being checked.
- Compare the actual values recorded with the target values as determined in Step

 If any of the actual values exceed the target ITT, fuel flow, and Ng values
 maintenance action maybe indicated, troubleshoot in accordance with the P&WC
 Maintenance Manual § 72-00-00.



IOAT (°C): Pressure Altitude:		Tar	get	Actua	I - Left	Actual	- Right
Torque – Tq							
Turbine Temp ITT							
Prop Speed – Np		17(00				
Gas Gen Speed – Ng							
Fuel Flow FF							
Oil Press (psi)	Oil Temp (°C)	90 to135	110 max				

Table 1. Ground Performance Worksheet



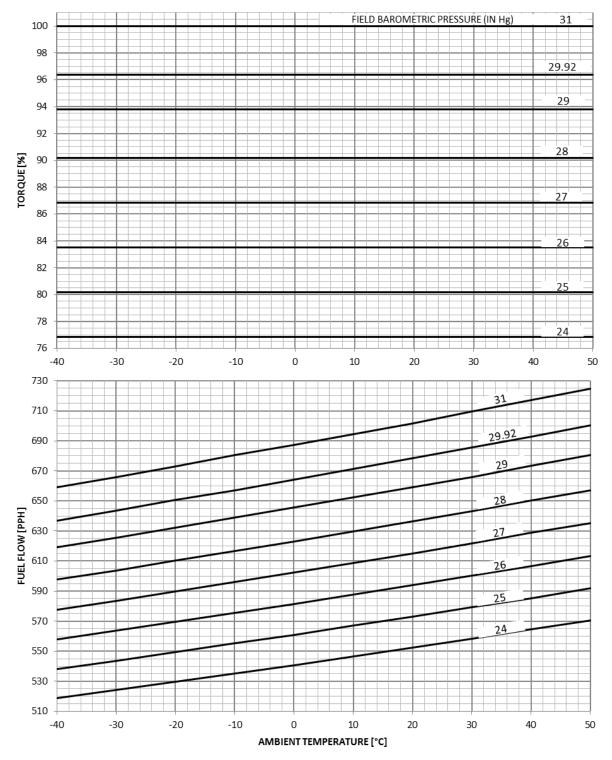


Chart 1a. Ground Power Check Chart: Torque, Fuel Flow



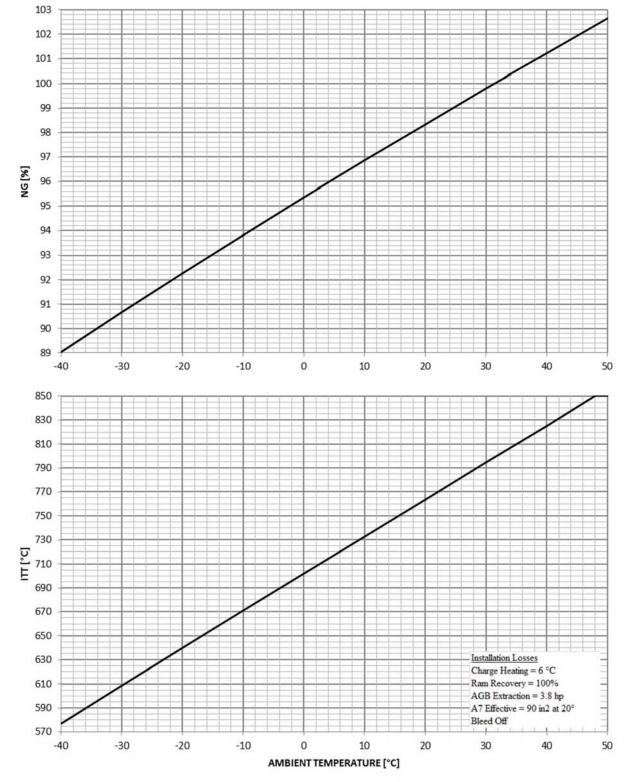


Chart 1b. Ground Power Check Chart: Ng, ITT

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Field Barometric Pressure [in.Hg]	TAMB [°C]	TQ [%]	WF [pph]	NG [%]	ITT [°C]
	-40.0	100.0	659		
	-30.0	100.0	666		
	-20.0	100.0	673		
	-10.0	100.0	681		
	0.0	100.0	687	Same at all	Same at all
31	10.0	100.0	695	pressure	pressure
	20.0	100.0	702	altitudes	altitudes
	30.0	100.0	709		
	40.0	100.0	717		
	50.0	100.0	725		
	-40.0	96.4	637	89.0	577
	-30.0	96.4	644	90.7	609
	-20.0	96.4	651	92.3	640
	-10.0	96.4	657	93.8	671
	0.0	96.4	664	95.4	702
29.92	10.0	96.4	671	96.9	733
	20.0	96.4	678	98.3	764
	30.0	96.4	686	99.8	795
	40.0	96.4	693	101.2	825
	50.0	96.4	700	102.6	850
	-40.0	93.8	619		
	-30.0	93.8	626		
	-20.0	93.8	632		
	-10.0	93.8	639		
	0.0	93.8	646	Same at all	Same at all
29	10.0	93.8	652	pressure	pressure
	20.0	93.8	659	altitudes	altitudes
	30.0	93.8	666		
	40.0	93.8	673		
	50.0	93.8	681		
	-40.0	90.2	598		
	-30.0	90.2	604	-	
	-20.0	90.2	610	-	
	-10.0	90.2	617	-	
	0.0	90.2	623	Same at all	Same at all
28	10.0	90.2	630	pressure	pressure
20	20.0	90.2	637	altitudes	altitudes
	30.0	90.2	643	difficuces	unitudes
	40.0	90.2	650	1	
	50.0	90.2	657	1	
	-40.0	86.8	578		
	-40.0	86.8	578	1	
	-30.0	86.8	590	4	
	-20.0	86.8	590	4	
	-10.0	86.8	602	Samo at all	Samo at all
27	10.0	86.8	602	Same at all	Same at all
27	20.0	86.8 86.8	615	pressure altitudes	pressure
				annudes	altitudes
	30.0	86.8	622	4	
	40.0	86.8	629	4	
	50.0	86.8	635		

Chart 2a. Field Barometric Pressure



Field Barometric Pressure [in.Hg]	TAMB [°C]	TQ [ft-lbs]	WF [pph]	NG [%]	ITT [°C]
	-40.0	83.5	558		
	-30.0	83.5	564		
	-20.0	83.5	570		
	-10.0	83.5	576		
	0.0	83.5	582	Same at all	Same at all
26	10.0	83.5	588	pressure	pressure
	20.0	83.5	594	altitudes	altitudes
	30.0	83.5	600		
	40.0	83.5	607		
	50.0	83.5	613		
	-40.0	80.2	538		
	-30.0	80.2	544		
	-20.0	80.2	549		
	-10.0	80.2	555		
	0.0	80.2	561	Same at all	Same at all
25	10.0	80.2	567	pressure	pressure
	20.0	80.2	573	altitudes	altitudes
	30.0	80.2	579		
	40.0	80.2	585		
	50.0	80.2	592		
	-40.0	76.8	519		
	-30.0	76.8	524		
	-20.0	76.8	530		
	-10.0	76.8	535		
	0.0	76.8	541	Same at all	Same at all
24	10.0	76.8	547	pressure	pressure
	20.0	76.8	553	altitudes	altitudes
	30.0	76.8	558]	
	40.0	76.8	565]	
	50.0	76.8	570]	

Chart 2b. Field Barometric Pressure (continued)



PARTS LIST:

This parts listing is provided for quick reference to basic modification parts and attaching hardware. For a detailed list of required parts and installation instructions consult the following Blackhawk STC drawings:

200914-00	Master Drawing List
200914-001	Installation Instructions
200914-002	Engine Installation
200914-004	Cowling Modification
200914-005	MT Propeller Installation
200914-006	Oil Cooler Installation (16,500 & 17,500 lbs. aircraft ONLY)
200914-007	Hartzell Propeller Installation

For replacement parts or any other needed assistance contact:

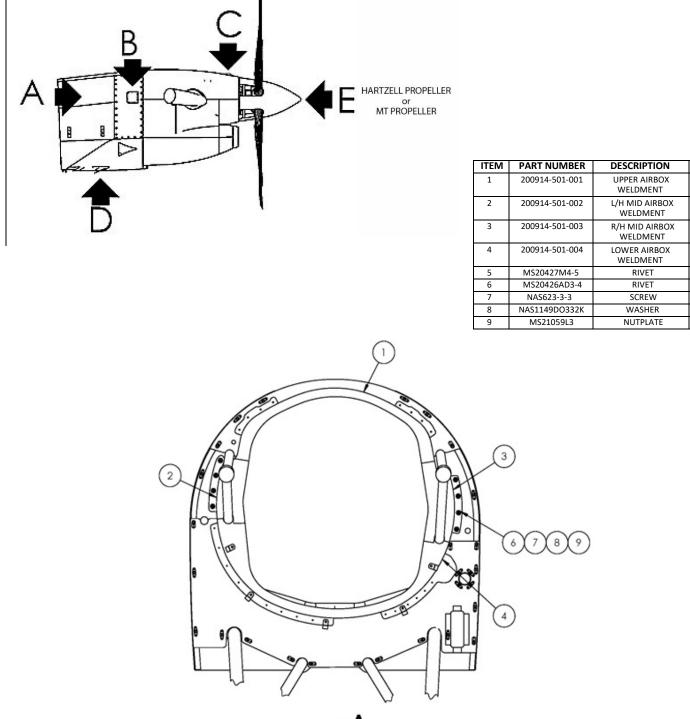
Blackhawk Modifications, Inc. Product & Customer Support Department 7601 Karl May Dr. Waco, TX 76708 Phone; +1-254-755-6711 Email; <u>support@blackhawk.aero</u> Web address; <u>www.blackhawk.aero</u>

To order engine parts contact:

PWC Component Solutions North America 1-800-872-1792 Europe 44-2070-265691 Pacific Rim 65-662-21065 International 1-231-799-6650

For Pratt & Whitney Canada customer assistance contact: PWC Customer First Centre Global Number (IAC)+8000-268-8000 USA & Canada 1-800-268-800 Email; cfirst@pwc.ca







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QTY

1

1

1

1

25

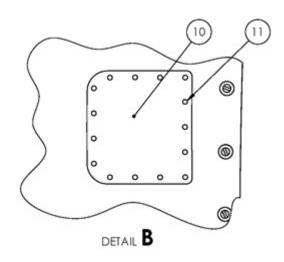
16

8

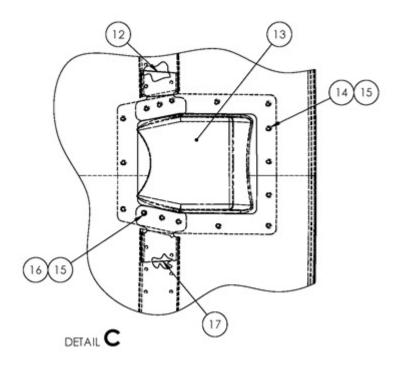
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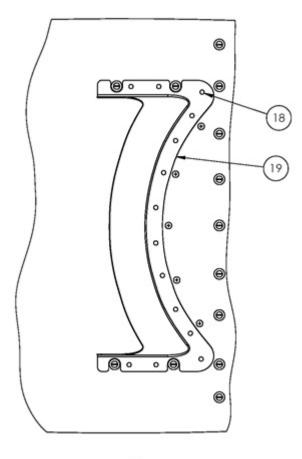


ITEM	PART NUMBER	DESCRIPTION	QTY
10	200914-501-115	COVER	1
11	MS20426AD4-5	RIVET	15
12	200914-501-116	CLIP	1
13	200914-503-101	COVER	1
14	MS20427M4-4	RIVET	10
15	NAS1149NC432R	WASHER	10
16	MS20427M4-5	RIVET	6
17	200914-501-117	CLIP	1





ITEM	PART NUMBER	DESCRIPTION	QTY
18	MS20427M4-5	RIVET	14
19	200914-503-102	OIL COOLER COWL FLAP	1

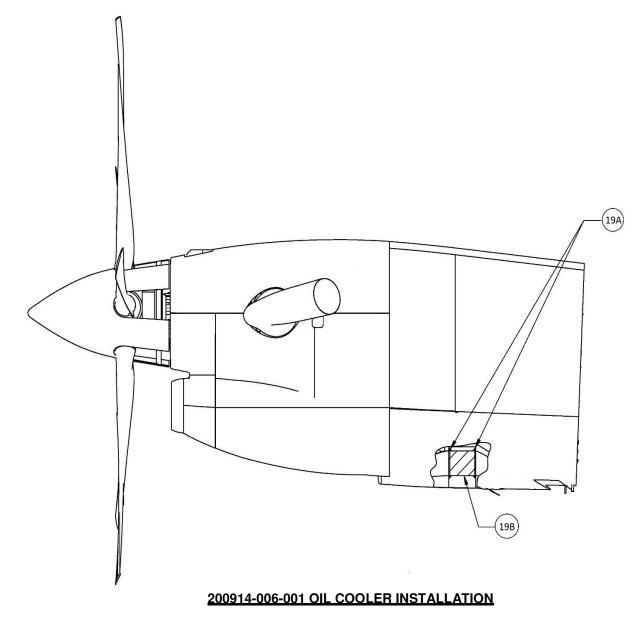






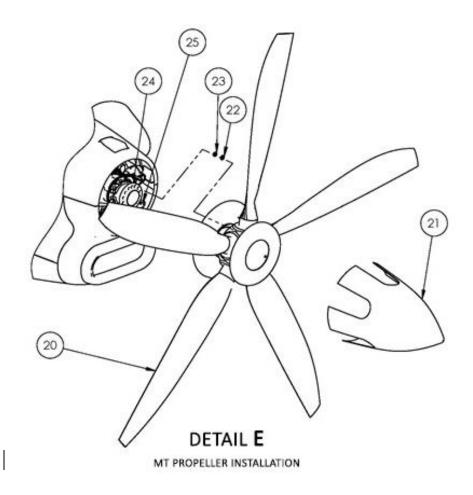
NOTE: THIS PAGE <u>ONLY</u> APPLIES TO KING AIR 300 SERIES AIRCRAFT THAT ARE APPROVED AT 12,500 LBS, 14,000 LBS, 16,500 LBS AND/OR 17,500 LBS IN GROSS WEIGHT.

ITEM	PART NUMBER	DESCRIPTION	QTY
19A	RTV 736	SEALANT	AR
19B	8002545	ENGINE OIL COOLER ASSY	1



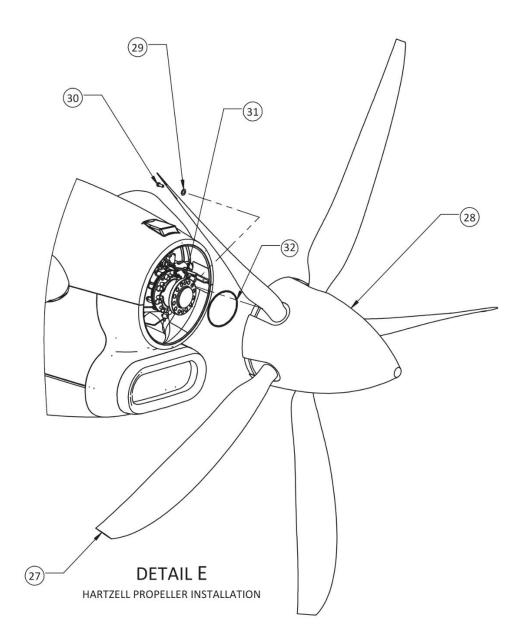


ITEM	PART NUMBER	DESCRIPTION	QTY
20	MTV-27-1-N-C-F-R(P) CFR260-65b	PROPELLER	1
21	P-1283-3	SPINNER	1
22	A-1181-1	WASHER	12
23	C-066	NUT	12
24	C-131	CARBON BLOCK	1
25	C-445	BRUSH BLOCK	1
26	C-048-H-1	O-RING	1





ITEM	PART NUMBER	DESCRIPTION	QTY
27	HC-E5A-3-10245	PROPELLER	1
28	106817P	SPINNER	1
29	A-2048-2	WASHER	12
30	B-3347	BOLT	12
31	3H2090-2	CARBON BLOCK	1
32	C-3317-239-2	ORING	1





APPROVED FLUID HOSE ASSEMBLIES

HOSE FUNCTION	ENGINE	BEECH HOSE P/N	STRATOFLEX P/N	AEROQUIP P/N	SHIP EFFECTIVITY
<u>FUEL</u>					
HOSE ASSY, FIREWALL TO ENGINE PUMP	L	330997F4-0380	130F003-4S0380	624023-450380	ALL
HOSE ASSY, FIREWALL TO FUEL PUMP	L		130F005F0-220-D015	630908-10-220D015	ALL
HOSE ASSY, FUEL PUMP TO FILTER	L	330997-10-0270	130F003-10D0270	624023-10D0272	ALL
HOSE ASSY, FILTER TO FUEL HEATER	L	330997F10-0210	130F003-10D0210	624023-10D0210	ALL
HOSE ASSY, FIREWALL TO ENGINE PUMP	R	330997F4-0246	130F003-4S0246	624023-450246	ALL
HOSE ASSY, FIREWALL TO FUEL PUMP	R		13F005F0-240-D015	630908-10-240D015	ALL
HOSE ASSY, FUEL PUMP TO FILTER	R	330997F10-0270	130F003-10D0270	624023-10D0270	ALL
HOSE ASSY, FILTER TO FUEL HEATER	R	330997F10-0230	130F003-10D0230	624023-10D0230	ALL
OIL		•			
HOSE ASSY, OIL COOLER OUT	L	330996F12-0800	130F002-12D0300	624040-12D0300	FM-001 TO FM-009
HOSE ASSY, OIL COOLER OUT	L	330996F12-0300	130F002-12D0300	624040-12D0300	FL-001 TO FL-099
HOSE ASSY, OIL COOLER OUT	L	330996F12-0330	130F002-12D0330	624040-12D0330	FL-100 AND UP
HOSE ASSY, OIL COOLER OUT	L	330996F12-0330	130F002-12D0330	624040-12D0330	FM-010 AND UP
HOSE ASSY, OIL COOLER IN	L/R	330996F12-0140	130F002-12D0140	624040-12D0140	FL-001 TO FL-099
HOSE ASSY, OIL COOLER IN	L/R	330996F12-0140	130F002-12D0140	624040-12D0140	FM-001 TO FM-009
HOSE ASSY, OIL COOLER IN	L/R	330996F12-0170	130F002-12D0170	624040-12D0170	FL-100 AND UP
HOSE ASSY, OIL COOLER IN	L/R	330996F12-0170	130F002-12D0170	624040-12D0170	FM-010 AND UP
HOSE ASSY, OIL COOLER OUT	R	330995F12-0370	130F002-12D0310	624040-12D0310	FL-001 TO FL-099
HOSE ASSY, OIL COOLER OUT	R	330995F12-0370	130F002-12D0310	624040-12D0310	FM-001 TO FM-009
HOSE ASSY, OIL COOLER OUT	R	330995F12-0400	130F002-12D0400	624040-12D0400	FL-100 AND UP
HOSE ASSY, OIL COOLER OUT	R	330995F12-0400	130F002-12D0400	624040-12D0400	FM-010 AND UP
HOSE ASSY, TORQUE PRESS. FROM MANIFOLD	L/R	330995F4-0290	130F001-4S0290	624000-450290	ALL
HOSE ASSY, TORQUE PRESS. FROM ENGINE	L/R	330995F4-0114	130F001-4S0114	624000-450114	ALL
HOSE ASSY, TORQUE TRANSDUCER VENT	L/R	330997F4-0137	130F003-4S0137	624023-450137	ALL
HOSE ASSY, RUDDER BOOST TRANSDUCER VENT	L/R	330997F4-0331	130F003-4S0331	624023-450331	ALL
DRAINS					
HOSE ASSY, PROP SHAFT	L/R	MS28741-4-0170	111417-4S0170	360-450170	ALL
HOSE ASSY, FUEL FLOW DIVIDER	L/R	330995-4-0172	130001-450172	360-450172	ALL
HOSE ASSY, FWD COMBUSTION CHAMBER	L/R	330995-6-0172	130001-650172	360-650172	ALL
HOSE ASSY, AFT COMBUSTION CHAMBER	L/R		13000265-0114	950012-12-0114	ALL