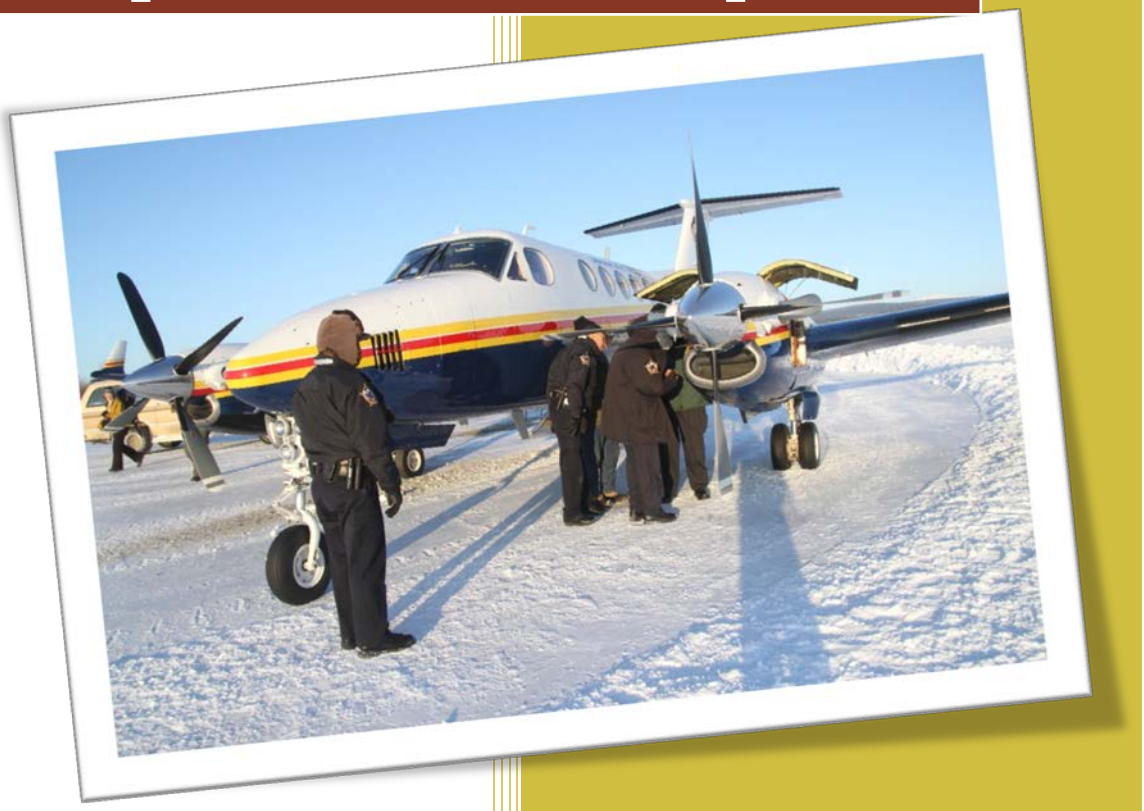
King Air Replacement Proposal



Alaska Department of Public Safety

Aircraft Section

3/12/2012

Introduction

The State currently owns one twin-engine Beechcraft King Air 200. Originally manufactured in 1980, the Department of Public Safety (DPS) purchased this aircraft used in 1993 for $1.26 million.

The King Air 200 is the workhorse of the department. It is the primary aircraft used to swiftly transport larger numbers of passengers and equipment for DPS and has been used in numerous missions.

The mission role of this aircraft includes high risk prisoner moves, Special Emergency Repose Team (SERT) deployment, and rapid response to high threat situations, spring flood river watches, fisheries patrols, Governor and VIP transport, and movement of personnel, equipment and freight.

KING AIR STRATEGIC MISSIONS

Rapid law enforcement response

Special Emergency Response Team (SERT) deployment

Emergency preparedness

Search and rescue operations

Bering Sea crab patrols

Off-shore fisheries patrols

Law enforcement personnel and VIP transport

Prisoner moves

Problem Statement

The King Air 200 is a 31-year-old aging aircraft that has been down 239 days – approximately 33 percent of the time – in the last two years. Unscheduled downtime due to unexpected maintenance and repairs has increased to the point that DPS can no longer depend on this aircraft being available for strategic missions or critical emergencies.

Engines

The engines are approximately 450 hours from replacement. Based on the annual flight hours for this aircraft, engine replacement will need to occur within the next twelve months at an estimated cost of $1 million.

Landing Gear/Parts

The most recent unplanned downtime for the King Air 200 was the result of a landing gear system failure. This landing gear system is no longer manufactured and certified used parts are extremely difficult to obtain. When two certified parts were located after a nationwide search, the first one failed testing.

As this airframe continues to age, downtime from increased maintenance and repairs will only increase.

Other Options Considered

DPS has explored the options of leasing a King Air 200, leasing a King Air 350, chartering aircraft, and purchasing a used aircraft.

Currently, there are no King Air 200's available for lease within the State of Alaska. Searches for an outside lease option for a King Air 200 have resulted in finding only older models:

- One available King Air 200 (a 1979 vintage) leases for $14,000 per month plus $400 per hour in engine reserves. The potential for maintenance downtime for this aircraft is just as great as it is for the King Air currently owned by DPS.
- The Hawker-Beechcraft Company has located one available King Air 200 out-of-state with a monthly lease rate of $25,000 per month plus an additional $400 per hour for engine and maintenance reserves.

There are outside lease options available for a King Air 350, the model that best fits the DPS mission profile. The cost is $35,000 per month plus $700 per flight hour for engine and maintenance reserves, meaning that the 200-hour inspections are paid for ahead of time. Crew training for the King Air 350 will cost approximately $75,000 for two pilots and is required before DPS pilots can fly the leased King Air 350.

Charter availability in Anchorage for a comparable aircraft to the King Air 200 is a Cessna Conquest from Security Aviation. This aircraft can carry eight passengers plus a crew of two, and has a useful load of approximately 1,500 pounds depending on variables such as fuel load. The hourly rate is $2,002 per hour and is subject to pilot and aircraft availability.

DPS considered the option of purchasing a newer model used King Air 350; however there are few on the market. A used aircraft would come with very little or no warranty coverage which could substantially increase the maintenance costs in the short-term, would not have the latest generation avionics installed, and would reach age-related repair and maintenance costs sooner.

Solution

DPS proposes that the best solution is to invest in a new aircraft, such as a King Air 350 or equivalent. The information presented in this proposal uses a King Air 350 for comparative purposes.

The base price of a new King Air 350 with needed options is $7.6 million.

Benefit

The benefits of purchasing a new aircraft are significant.

The King Air 350 operates at virtually the same cost as the King Air 200 and can access the same number of villages but with double the useful load and 50+ knots per hour faster in speed and increased fuel efficiency. This translates to arriving at the destination more quickly, with a larger payload, and savings in time and fuel.

The King Air 350 can accommodate up to eleven passenger seats in the cabin of the aircraft compared to eight seats in the King Air 200.

Another feature on a new King Air is RVSM or Reduced Vertical Separation Minima. This allows the aircraft to fly at higher altitudes, which means even more cost savings when it comes to fuel burn and cost.

A new aircraft would come with warranty coverage resulting in considerable cash savings over the next five years.

Additional detailed comparisons and specifications are provided on pages 4 – 6.

Implementation

Delivery date for a new aircraft is estimated at six months from date of purchase commitment.

Summary

DPS' current King Air 200 is an aging aircraft. As this airframe continues to age, considerable downtime from increased maintenance and repairs combined with the difficulty in locating certified parts make this an unreliable resource for DPS in terms of its being available when needed for strategic missions or critical emergency response.

Lease options for a King Air are not practical based on the expected length of time DPS would have this aircraft and the availability and capability of charter aircraft is unpredictable and unreliable.

A used aircraft would have little or no warranty coverage, would not have the latest generation avionics, and would reach age-related maintenance and repairs sooner.

Investment in a new aircraft, such as a King Air 350 or equivalent, would provide a more reliable, more capable, and operationally more cost effective asset, and would ensure faster, efficient response for DPS strategic missions and critical emergency response to protect the citizens of Alaska and their resources.

King Air 350 and King Air 200 Comparison

	King Air 350	King Air 200
ENGINES	PT6A-60 1,050 HP	PT6A-41 850 HP
DIMENSIONS		
Overall Length	46’ 8”	43’ 9”
Overall Height	14’ 4” (standard gear)	15’ 0” (high floatation gear)
Wing Span	57’ 11”	54’ 6”
Wing Area	310 sq. ft.	303 sq. ft.
Inside Cabin Length	19’ 6”	16’ 8”
ACCOMODATIONS		
Crew Seats	2	2
Passenger Seats	9 to 11	8
Baggage Area	550 lbs.	410 lbs.
WEIGHTS		
Maximum Weight	15,000 lbs.	12,500 lbs.
Maximum Zero Fuel	12,500 lbs.	10,400 lbs.
Basic Operating Weight	9,600 lbs.	9,000 lbs.
Maximum Fuel Capacity	3,611 lbs.	3,646 lbs.
Useful Load – No Fuel	2,900 lbs.	1,400 lbs.
AIRSPEED/FUEL		
FL 280/Gross Weight	306 KTAS^^/670 PPH*	225 KTAS/532 PPH
RATE OF CLIMB		
Both Engines Sea Level	2,730 FPM**	2,200 FPM
One Engine Inoperable	780 FPM	620 FPM
CEILINGS		
Maximum Certified	35,000 FT	31,000 FT^
All Engines Ceiling	35,000 FT	31,000 FT^
Engine Out Ceiling	21,500 FT	14,000 FT

* Pounds per hour (one hour of jet fuel weighs 6.7 pounds)
** Feet per minute
^ 26,000 typical altitude assigned by air traffic control for the King Air 200
^^ Knots true airspeed

Benefits of King Air 350 over King Air 200

FUEL COST SAVINGS	20% LESS
TIME SAVINGS	20% FASTER
USEFUL LOAD	DOUBLE
RANGE	30% FURTHER
HORSEPOWER	25% MORE POWER
PASSENGER CAPACITY	25% MORE SEATING CAPACITY
NEW AIRCRAFT	LESS SUSCEPTIBLE TO AGE-RELATED MAINTENANCE ISSUES

Trip Comparison Time and Fuel

	King Air 350		King Air 200			
Route (One Way)	Time	Burn	Time	Burn	Difference	Fuel Cost Savings (King Air 350)*
ANC-JNU	1+42	1220#	2+08	1480#	+26/+260# (38.8 gal)	$212.62
ANC-SIT	1+46	1255#	2+12	1520#	+26/+265# (39.5 gal)	$216.46
ANC-KTN	2+16	1560#	2+49	1895#	+33/+335# (35.8 gal)	$274.00
ANC-SEA	4+10	2690#	**5+09	3175#	+59/+485# (72.3 gal)	$396.20
ANC-OME	1+36	1160#	2+00	1400#	+24/+240# (35.8 gal)	$196.18
ANC-OTZ	1+38	1175#	2+02	1420#	+24/+245# (36.7 gal)	$201.11
ANC-FAI	+50	660#	1+03	825#	+13/165# (24.6 gal)	$134.80
ANC-ODK	+51	675#	1+04	835#	+13/+160# (23.9 gal)	$130.97
ANC-CDB	1+50	1300#	2+17	1570#	+27/+270# (40.3 gal)	$219.20
ANC-DUT	2+18	1580#	2+52	1920#	+34/+340# (50.8 gal)	$278.38
ANC-ADK	3+26	2255#	**4+16	2735#	+50/+480# (71.7 gal)	$392.91
ANC-SNP	2+14	1545#	2+48	1880#	+34/+335# (50.0 gal)	$274.00
ANC-BET	1+13	930#	1+31	1115#	+18/+185# (27.6 gal)	$151.25
ANC-AKN	+55	735#	1+09	895#	+14/+160# (23.9 gal)	$130.97

* The cost of one gallon of jet fuel was $5.48 as of 07/22/2011

** The King Air 200 would require a fuel stop enroute

All times were figured at the same altitude and zero wind. The King Air 350 numbers would show even more savings at higher altitudes.

To convert fuel pounds to gallons, divide by 6.7.

Fuel savings average approximately 25 gallons/hour for the King Air 350. This is due to the more economical engines and faster speeds.

King Air 200 Five Year Maintenance Costs

Fiscal Year	Maintenance Cost	Hours/Year	Maintenance Cost/Hour
2007	$151,315	493.2	$306.80
2008	$141,006	331.7	$425.10
2009	$73,883	424.5	$174.05
2010	$81,145	489.0	$165.95
2011	$133,055	431.7	$308.21