

United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**

*Number* SA00863SE

*This Certificate issued to* Blackhawk Modifications, Inc.  
7601 Karl May Drive  
Waco, TX 76708-5570

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations.*

*Original Product Type Certificate Number:* A8EA  
*Make:* Piper Aircraft, Inc.  
*Model:* PA-31T; PA-31T1; PA-31T2

*Description of Type Design Change:* Installation of two Pratt and Whitney PT6A-135 or -135A engines and two Hartzell HC-B3TN-3B/T10178B-8R propellers, or as an option, two Hartzell HC-E4N-3N/D8990SB propellers in accordance with Master Drawing List MDL-87120 Rev. A, dated February 19, 2009, or later FAA approved revision.

Installation on the model PA-31T2 of two Hartzell HC-E4N-3N/D8990SB propellers in accordance with Master Drawing List MDL-87120 Rev. A, dated February 19, 2009, or later FAA approved revision.

*Limitations and Conditions:* Approval of this change in type design to the above model aircraft only. This approval should not be extended other aircraft of these models on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate, and

(See continuation sheet 3 of 4)

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* January 27, 1999

*Date reissued:* June 07, 2007

*Date of issuance:* December 21, 2000

*Date amended:* March 16, 2009; January 28, 2002;  
November 15, 2001; March 09, 2001



*By direction of the Administrator*

(Signature)

S. Frances Cox  
Manager, Special Certification Office  
Southwest Region

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**  
(Continuation Sheet)

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United States Of America  
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# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA00863SE

Date of Issuance: December 21, 2000

Date Amended: March 16, 2009

*Limitations and Conditions* (Continued): Airplane Flight Manual Supplement AFMS-150T-135, Revision IR, AFMS-150T-135A, Revision IR, AFMS-151T-135, Revision IR, AFMS-151T-135A, Revision IR, or AFMS-152T, Revision 2, as appropriate, all dated February 25, 2009, or later FAA approved revision to any of these documents, must be maintained as part of the permanent records for the modified aircraft. Instructions for Continued Airworthiness are contained in Document No. ICA-150-5b, Revision A, dated June 05, 2008, or later FAA accepted revision is required. The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

**ADDITIONAL LIMITATIONS:**

**ENGINES:**

- (a) Number of engines 2
- (b) Engine Manufacturer Pratt and Whitney (UACL)
- (c) Engine Model Number PT6A-135 or PT6A-135A
- (d) Engine Operating Limits

**(PA-31T and PA31T2 Only)**

Condition	Shaft Horsepower	Torque Ft-lb	Prop Shaft Speed	Maximum Permissible Turbine Interstate Temp (deg C)
Takeoff	620	1714	1900	805
Maximum Continuous	620	1714	1900	805

**(PA31T-1 Only)**

Condition	Shaft Horsepower	Torque Ft-lb	Prop Shaft Speed	Maximum Permissible Turbine Interstate Temp (deg C)
Takeoff	500	1382	1900	805
Maximum Continuous	500	1382	1900	805

**PROPELLERS: (PA-31T and PA-31T1).**

- (a) Number of propellers 2
- (b) Propeller Manufacturer Hartzell
- (c) Blade Model T10178B-8R
- (d) Number of Blades 3
- (e) Hub Model HC-B3TN-3B
- (f) Propeller Diameter (inches) 93 inches
- (g) Propeller Type Hydraulically Operated, Constant Speed, Full Feathering, Reversible

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Date of Issuance: December 21, 2000

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*Limitations and Conditions (Continued):*

**PROPELLERS (PA-31T2) OR OPTIONAL PROPELLERS (PA-31T AND PA-31T1)**

(h) Number of propellers	2
(i) Propeller Manufacturer	Hartzell
(j) Blade Model	D8990SB
(k) Number of Blades	4
(l) Hub Model	HC-E4N-3N
(m) Propeller Diameter (inches)	90 inches
(n) Propeller Type	Hydraulically Operated, Constant Speed, Full Feathering, Reversible

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

The certification basis for this STC is the same as for the original certification basis for these model airplanes as defined in TCDS A8EA except for

14 CFR 23 Paragraphs 23.1, 23.21, 23.51, 23.53, 23.143, 23.149, 23.711, 23.905, 23.925, 23.929, 23.933, 23.939, 23.1027, 23.1041, 23.1045, 23.1141, 23.1163, 23.1183, 23.1301, 23.1513, 23.1521, 23.1541, 23.1543, 23.1545, 23.1549 which are amended by Amendment 23-57.

END