

Supplemental Type Certificate

Number SA1636WE

This Certificate issued to Aerospace Beech 18, Inc.
dba Aerospace Products
12653 Osborne Street Box 30 HGR. 541
Pacoima, California 91331-2158

*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 * of the Civil Air Regulations. *See page 6 of this STC for certification basis.*

Original Product Type Certificate Number: 765

Make: BEECH

Model: D18C, D18S, E18S, E18S-9700, G18S, H18, C-45G, TC-45G, C-45H, TC-45H, TC-45J (SNB-5), JRB-6

Description of Type Design Change: Installation of AiResearch TPE331 series engines, tricycle landing gear and ventral fin, extension of fuselage and related changes. See page 6 of this STC for required data.

Limitations and Conditions 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 conditions and limitations of Aircraft Specification No. A-765 applies except as noted on page 3 through 8 of this STC.

See attached STC SA1636WE Addendum, which is a part of this certificate.

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: December 28, 1966

Date reissued: January 23, 1998; September 27, 2004

Date of issuance: March 29, 1968

Date amended: August 1, 1968; April 20, 1972



By direction of the Administrator

(Signature)

Manager, Technical & Administrative Support
Staff, Los Angeles Aircraft Certification Office

(Title)

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

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

I. – Models: Beech D18C, D18S, E18S, E18S-9700, G18S, H18, C-45G, TC-45G, C-45H, TC-45H, TC-45J (SNB-5), JRB-6

Engines 2 AiResearch TPE331-1-101B conforming to AiResearch Equipment List No. 893401-1.

Fuel Aviation Turbine Fuels ASTM Designation D1655-66T, Type Jet A, Jet B and Jet A-1. Military Fuels MIL-J-5624G-1, Grades JP-4, JP-5 and MIL-F-5616 1, Grade JP-1 See NOTES 5 and 6.

Oil MIL-L-23699A (Mobil Jet II) required when operating in ambient temperatures Above 59°F (15°C).

MIL-L-7808D and MIL-L7808F may be used in lieu of MIL-L-23699A when Operating in ambient temperature at or below 59°F (15°C).

Engine Limits	Takeoff (5 min.)	Shaft Horsepower	575
	Maximum	Equivalent Shaft Horsepower	605
	Continuous	Shaft Horsepower	500
		Equivalent Shaft Horsepower	529
Propeller R.P.M.	Maximum	2000 (100%)	
Torque	Takeoff (5 min.)	1510 lb. Ft. (52.8 psi)	
	Maximum continuous	1313 lb. Ft. (48.0 psi)	
Turbine Temperature (See NOTE 3)	Takeoff (5 min.)	1100°F (596°C)	
	Maximum continuous	1060°F (571°C)	
	Starting transient (1 sec.)	1450°F (788°C)	

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

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

Oil Inlet Temperature	-40°F (-40°C) minimum +260°F (+127°C) maximum with MIL-L-23699A oil +200°F (+93°C) maximum with MIL-L-7808 oils.	
Propeller and Propeller Limits	2 Hartzell HC-B3TN/T10176 Diameter: 99 3/8 in. Max. 96 3/8 in Min. No further reduction in diameter is permitted.	
(Option 1)	Pitch settings at 30-inch station: Low pitch stop (min. Flt. Idle) $11.0^{\circ} \pm 1^{\circ}$ Start $3.25^{\circ} \pm .50^{\circ}$ Reverse $-8.0 \pm .5^{\circ}$ Feather $86.5 \pm .25^{\circ}$	
(Option 2)	2 Hartzell HC-B3TN/T10178H Diameter: 96 in. max. 93 1/2 in. Min. No further reduction in diameter is permitted. Pitch settings at 30-inch station: Low pitch stop (min. Flt. Idle) $10.5 \pm .2^{\circ}$ Start $2.5 \pm .2^{\circ}$ Reverse $-8.5 \pm .2^{\circ}$ Feather $-86.5 \pm .25^{\circ}$	
Airspeed Limits (CAS)	Max. operating speed Maneuvering speed Flaps extend speed a. Power Off b. Power On Landing gear operating speed Landing gear extend speed	240 MPH (208 knots) 153 MPH (133 knots) 165 MPH (143 knots) 134 MPH (116 knots) 160 MPH (139 knots) 160 MPH (139 knots)

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

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

C. G. Range +113.3 to +117 at 11,500 lbs.
(Gear Extended) +107 to +117 at 10,000 lbs. or less
Straight line variation between points given.
Moment change due to gear retraction -8.931 in. lbs.
See Volpar AFM D-105.

Max. Operating Altitude 16,500 feet

Max. Weights Takeoff	11,500 lbs.
Landing	11,000 lbs.
Empty Wing Weight	10,500 lbs.

The term "maximum zero fuel weight" is not utilized because of the possibility of operating the aircraft with either the wing baggage or auxiliary fuel tank configuration.

Fuel Capacity	No	Fuel Capacity/	Wt. Of Fuel/
<u>Location</u>	<u>of</u>	<u>2 Tanks</u>	<u>2 Tanks</u>
Main Tanks	(2)	100 gallons	670 lbs. required
Inboard Aux.	(2)	152 gallons	1018 lbs. optional
Rear Inboard Aux.	(2)	50 gallons	335 lbs. optional
Option 1 - Outboard Aux.	(2)	120 gallons	804 lbs. optional
Option 2 - Outboard Aux.	(2)	200 gallons	1340 lbs. optional
Option 3 - Outboard Aux.	(2)	330 gallons	2210 lbs. optional

See NOTE 1(a) and NOTE 2.
See Volpar Airplane Flight Manual D-105 for fuel management procedures.

Oil Capacity 3 gallons (23 lbs.) total per aircraft
Above based on 7.7 lbs./gallons
See NOTE 1(b).

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

Control Surface Movements	Wing flaps		Down 45°
(See NOTE 7)	Aileron tab	up 22°	Down 19°
	Aileron	up 38.5°	Down 21°
	Elevator tab	up 12°	Down 19°
	Elevator	up 35°	Down 25°
	Rudder tab (Double)	right 29°	Left 29°
	Rudder tab (Single)	right 28-33°	Left 28-33°
	Rudder	right 19°	Left 19°

Serial Nos. Eligible (See NOTE 4) All D18C, D18S, E18S, E18S-9700, G18S, H18, C-45G, TC-45G, C-45H, TC-45H, TC-45J (SNB-5), and JRB-6 airplanes that are eligible for airworthiness certification under Type Certificate No. 765 and have been modified in accordance with FAA sealed Aircraft Technical Service Summary Drawing No. 874, revision Q, subsequent FAA sealed revision. Wing spar modifications in accordance with Supplemental Type Certificates No. SA832SW and SA895SW are also required.

Data pertinent to all models

Datum Located 102 in. forward of centerline of wing main spar. (Placard denoting Datum installed on bottom of fuselage)

Leveling Means Models D18C, D18S, SNB-5, JRB-6, C-45 series – leveling lugs on top of fuselage forward of cabin door. Models E18S, E18S-9700, G18S and H18 – Two extended screws on right side of airplane at bulkhead No. 8, aft of Emergency exit. Plumb bob is used to level.

Certification Basis a. Civil Air Regulations Part 3, effective 13 November 1945.
b. CAR 3 dated 15 May 1956 plus amendments 3-1 through 3-8 as applicable to the powerplant installation.
c. Those special conditions listed in FAA letters to Volpar, In., dated 26 January 1965, and 2 June 1965.

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

Supplemental Type Certificate No. SA1636WE issued 29 March 1968. Date of application of Supplemental Type Certificate 28 December 1966.

Equipment

The basic required equipment as described in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification. In addition:

- a. Volpar Aircraft Flight Manual D-105 plus revision 11 is required.
- b. Goodrich wheel 3-1174 brake 2-993 assembly and 8.50-10 Type III 10 PR tire.

NOTE 1.

Current weight and balance data including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

- a. The certificated empty weight must include system fuel (unusable) of:

	No.		
<u>Location</u>	<u>of Tanks</u>	<u>Fuel Capacity/ 2 Tanks</u>	<u>Unusable Fuel/ 2 Tanks</u>
Main Tanks	(2)	100 gallons	1 gallon
Inboard Aux.	(2)	152 gallons	½ gallon
Rear Inb'd Aux.	(2)	50 gallons	½ gallon
Option 1 - Outb'd Aux.	(2)	120 gallons	1 gallon
Option 2 - Outb'd Aux.	(2)	200 gallons	1 ½ gallons
Option 3 - Outb'd Aux.	(2)	330 gallons	2 ½ gallons

- b. The certificated empty weight must include system oil (unusable) of 1 quart total per aircraft.

NOTE 2.

Fuel weights in this data sheet are based on 6.7 lbs./gallon. For weight and balance calculations, fuel weights must be derived from the "Specific Weight vs. Temperature" chart, P. 2-14 in the Volpar Airplane Flight Manual D-105.

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

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

- NOTE 3. The turbine temperature (EGT) limits vary with ambient temperature. Refer to the OAT-EGT gage on the cockpit instrument panel and/or the applicable FAA Approved Airplane Flight Manual for the EGT limit for each ambient temperature.
- NOTE 4. CAUTION:
- Beech
- The approval of this change in the Type Design applies basically to the models noted on page 1 of this STC only. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of that airplane. This determination should include consideration of significant changes in weight distribution such as an increase in the fixed disposable weight in the fuselage. The above applies, as well, to modifications subsequently added to aircraft incorporating this change in Type Design.
- NOTE 5. Philips anti-icing fuel additive PFA-55 MB may be used if concentration delivered to airplane does not exceed 0.15% by volume. No fuel system anti-icing credit is allowed.
- NOTE 6. 80/87 minimum grade aviation gasoline or white gasoline is approved for emergency use. Do not exceed 1000 gallons per engine per 100 hours of operation. The amount of gasoline used must be entered in the engine log book.

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

Supplemental Type Certificate

(Continuation Sheet)

Number SA1636WE

(R) 09/27/04

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1636WE

NOTE 7. Aileron-Rudder Interconnect Rigging Table

Aileron Position

Rudder Travel

- | | |
|--|----------------------------------|
| 1. Neutral | 12°± Right, 12°± 1° Left |
| 2. Left Aileron Full Up
Right Aileron Full Down | 4°± 1/2° Right, 19°± 1-1/2° Left |
| 3. Left Aileron Full Down
Right Aileron Full Up | 19°± 1-1/2° Right, 4°± 1/2° Left |

- END -