

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

E21EA  
Revision 2  
Bristol Aerospace (1968) Ltd.  
15KS-1000-A1(B)  
September 14, 1970

TYPE CERTIFICATE DATA SHEET NO. E21EA

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E21EA) and approved data on file with the Federal Aviation Administration meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft specifications and applicable portions of the Civil Air Regulations/Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder: Bristol Aerospace (1968) Limited  
P.O. Box 874  
Winnipeg International Airport  
Winnipeg, Manitoba, Canada

Model 15KS-1000-A1(B)  
Type Cylindrical case, self-contained, solid propellant, reloadable, electrically fired

Thrust characteristics (Nominal value)

Ambient temperatures of propellant.	-65°F. (-53.9°C)	60°F (15.5°C.)	140°F. (60°C.)
Thrust, lb. (Nominal rated value 1000 lb.).	815	1062	1320
Duration, seconds.	18.0	14.0	11.5
Ignition lag, seconds.	0.21	0.11	0.09
Rated impulse, lb. -seconds at sea level.	15,000		
Maximum usable impulse, lb. -second.	14,400		
Temperature range			
Operating	-75°F (-59°C) to 140°F (60°C)		
Storage	-65°F (-53.9°C) to 140°F (60°C)		
Altitude Limit			
Operating	42,000 ft. above mean sea level		
Storage	35,000 ft. above mean sea level		
Fuel (Propellant) Solid	A-1 smokeless		
Ignition			
Recommended current	25 amps at 12 or 24 volts		
Duration of interval	0.5 seconds maximum		
Principal Dimensions of case, in,			
Diameter	10.30		
Length, over-all	33.45		
Weight, lb.			
Loaded (Charged)	144		
Empty	72		

Notes 1 through 4

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Certification basis: FAR 21.29 and CAR 13 effective 5 July 1955, and special test conditions consisting of tests described in Aerojet-General Corporation letter No. 300-3905 dated 15 December 1954, to the Bureau of Aeronautics, U.S. Department of the Navy.

Type Certificate Number E21EA issued 9 September 1969.

Date of application for Type Certificate 22 May 1969.

Part Requirements: Each individually imported engine or replacement part must be accompanied by a Canadian Department of Transport Certificate or Airworthiness for Export signed by or for the Minister of Transport endorsed as follows:

"The engine or replacement part covered by this certificate has been manufactured in conformity with data forming the basis for FAA engine type certificate No. E21EA (D.O.T. Aircraft engine type approval No. E-9)."

NOTE .1 Engines and igniters shall only be rebuilt by the manufacturer.

NOTE 2. All 15KS-1000-A1(B) JATO installations shall be basically in accordance with the engineering criteria in Aerojet-General Corporation/Bristol Aerospace (1968) Ltd. Report No. 981. Each new type installation shall be reviewed and concurred in by the manufacturer or its authorized representative and approved by the Civil Aviation Authority of the country involved.

NOTE 3. Maximum storage period is four years from shipping date stenciled on the unit. Temperature storage limits are -65°F. (-53.9°C) minimum, 140°F. (60°C) maximum.

NOTE 4. 15KS-1000-A1(B) rocket engines may be carried on an aircraft ready for operation for a maximum of 1000 hours cumulative flying time or 2 years, whichever occurs first. These allowances are in addition to the four year storage period.

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