

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

E12EA  
Revision No. 6  
DEVORE  
12NS-350CBA  
August 21, 1978

TYPE CERTIFICATE DATA SHEET NO. E12EA

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E12EA) and the 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 Type Certificate holder's manuals and other approved instructions.

Type Certificate Holder                      DeVore Aviation Corporation  
Plainview, New York 11803

Model    12NS-350CBA

Type    Cylindrical case, self-contained, solid propellant, reloadable, electrically fired rocket

Thrust characteristics (nominal value)			
Temperature of Propellant	-30°F (-34.4°C)	60°F (15.6°C)	125°F (51.5°C)
Thrust, lb.	250	350	455
Duration, seconds	16.0	11.8	9.3
Rated impulse, lb-seconds	4025	4135	4215
Nominal rated thrust, lb. at sea level And 60°F Propellant Temperature	350		
Maximum usable impulse, lb-seconds At -20°F Propellant Temperature	4035		
Temperature Range			
Operating	-30°F (-34.5°C) to 125°F (51.7°C)		
Storage	-65°F (-53.9°C) to 160°F (71.1°C)		
Altitude Limits			
Operating and Storage	Sea Level to 35,000 ft.		
Propellant (Fuel)	AMF-2091 LV-MOD IV		
Principal Dimensions of case, in.			
Diameter	6.0		
Length, Over-all	28.00		
Weights			
Loaded (charged)	46.2 lb.		
Empty (expended)	23.9 lb.		
Ignition			
Recommended Current	25 amperes at 12 or 24 volts		
Duration of Interval	0.5 seconds maximum		

Notes    1 through 8

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## Certification basis:

Regulations and Amendments	<u>Engine Model</u>	<u>Date TC Application</u>	<u>Date TC E12EA Issued/Revised</u>
CAR 10	12NS-350CBA	January 18, 1965	January 26, 1965

Each engine and any replacement part manufactured in Canada must be designated as "import" and clearly labeled as such in accordance with CAR 10.30

Each individually imported engine must be accompanied by a Canadian Certificate of Airworthiness for Export, endorsed as follows:

"The engine covered by this certificate has been examined and found to comply with the U.S. Civil Air Regulations, Part 13 dated June 15, 1956, plus special conditions as incorporated into Aero Jet - General Final Qualification Test Program Report No. 8328-81F dated January 1964."

For engines imported from Canada to be eligible for export under a U.S. Export Certificate of Airworthiness, the importing country must notify FAA that it is willing to accept them as products manufactured in Canada under Canadian Ministry of Transport certification.

Production basis: None

- NOTE 1. Engines and igniters shall be rebuilt by Type Certificate holder or his authorized source only.
- NOTE 2. All 12NS-350CBA JATO installations basically shall be in accordance with the engineering criteria in Aerojet-Bristol-DeVore Report No. 981. Each new type installation shall be reviewed and concurred in by DeVore Aviation Service Corp. or its authorized representative and approved by the Federal Aviation Administration or by the Civil Aviation Authority of the country involved.
- NOTE 3. Maximum storage period shall be two years from shipping date stenciled on the unit. Temperature storage limits are -65°F (-53.9°C) minimum and 160°F (71.1°C) maximum.
- NOTE 4. 12NS-350CBA rocket engines may be carried on an aircraft ready for operation for a maximum of 1000 hours cumulative flying time or 24 months, whichever occurs first, in addition to the two year storage period.
- NOTE 5. The rocket engines may be fired prior to removal for pilot familiarization and checkout if desired.
- NOTE 6. The "Temperature of Propellant" is the temperature of the propellant mass. This temperature approximates the average of the temperatures to which the rocket engine has been exposed in the previous 24 hour period.
- NOTE 7. Thrust and impulse of this rocket engine increase slightly with increase in altitude. See 12NS-350 and 12NS-350CBA Aircraft Rocket Engines Operation & Service Instructions, STM 164.
- NOTE 8. Type Certificate E12EA originally issued to Canadian Bristol Aerojet, Ltd., of Winnipeg, Manitoba, Canada, was transferred to Aerojet-General Corporation on December 28, 1966. Engine of Serial Nos. 20001 through 21107 and 20007A through 21015A were manufactured in Canada under Canadian Department of Transport Engine Type Approval No. 7 Issue 1, dated October 9, 1964. Production of engines was under Canadian Department of Transport surveillance and not under an FAA Production Certificate. Canadian production has been terminated and no U.S. production is intended. This Type Certificate was reissued to Aerojet-General Corporation on the basis that Aerojet-General Corporation, by letter to the FAA dated May 23, 1967, assumed responsibility for conformity of the Canadian-built engines to type design and production standards. This Type Certificate was reissued to DeVore Aviation Service Corp., on August 31, 1971, and changed to DeVore Aviation Corporation August 11, 1978.

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