Kinner B-5

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From Wikipedia, the free encyclopedia

The **Kinner B-5** was a popular five cylinder American radial engine for light general and sport aircraft of the 1930s.

B-5

A Kinner B-5 on display at the Old Rhinebeck Aerodrome in New York, as used in their Fleet Finch biplane.

Type	Radial engine
Manufacturer	Kinner Airplane & Motor Corporation
Developed from	Kinner K-5
Developed into	Kinner R-5

Design and development [edit]

The B-5 was a development of the earlier K-5 with slightly greater power and dimensions. The main change was the increase in cylinder bore from 108 mm (4.25 in) to 117 mm (4.625 in) and a corresponding increase in displacement from 372 cu in (6.1 liters) to 441 cu in (7.2 liters). One difference the B-5 had from radial engines of other manufacturers was that each individual cylinder had its own camshaft, a system also used by the contemporary Soviet-built, 8.6 litre-displacement Shvetsov M-11 five cylinder radial, while most other radial engine designs used a "cam ring" for the same purpose, connected to every cylinder's valves. The B-5 was a rough running but reliable engine. The B-5 and its derivatives were produced in the thousands, powering many World War II trainer aircraft; its military designation was **R-440**. The B-5 was followed by the R-5 and R-55.

Applications [edit]

- Fleet Fawn
- Fleet Finch
- Kinner Sportster
- Kinner Sportwing
- Lincoln AP
- Monocoupe 125
- Redfern DH-2
- Ryan PT-22 *Recruit*
- Savoia-Marchetti S.56

Specifications (Kinner B-5) [edit]

Data from Jane's all the World's Aircraft 1938[1]

General characteristics

- **Type:** Five-cylinder, air-cooled, radial
- **Bore:** 4.625 in (117.5 mm)
- **Stroke:** 5.25 in (133 mm)
- **Displacement:** 441 cu in (7.23 L)
- **Length:** 32.325 in (821.1 mm)
- **Diameter:** 45.375 in (1,152.5 mm)
- **Dry weight:** 295 lb (134 kg)

Components

- **Valvetrain:** 1 Inlet and 1 Exhaust valve per cylinder, individual camshafts for each cylinder
- **Fuel system:** 1x Holley or Stromberg Carburetor
- **Fuel type:** 73 Octane
- **Oil system:** Circulating dry sump system
- **Cooling system:** Air-cooled

Performance

- **Power output:** 125 hp (93 kW) at 1,925 rpm max; 89 hp (66 kW) at 1,725 rpm cruise
- **Compression ratio:** 5.25:1
- **Specific fuel consumption:** 0.60 lb/hp hr (0.365 kg/kw hr)
- **Oil consumption:** 0.025 lb/hp hr (0.0152 kg/kw hr)
- **Power-to-weight ratio:** 0.42 hp/lb at cruise

See also [edit]

Related development

- Kinner K-5
- Kinner R-5

Comparable engines

- Armstrong Siddeley Genet Major
- Shvetsov M-11

Related lists

- List of aircraft engines

References [edit]

1. ^ Grey, C.G.; Bridgman, Leonard, eds. (1938). *Jane's all the World's Aircraft 1938*. London: Sampson Low, Marston & company, ltd. p. 88d.

Wikimedia Commons has media related to ***Kinner B-5***.

Further reading [edit]

- Gunston, Bill (1986). *World Encyclopedia of Aero Engines*. Newton Abbot: Patrick Stephens. pp. 99–100.

External links [edit]

- http://www.oldengine.org/members/diesel/Duxford/usaero4.htm Archived 2019-06-03 at the Wayback Machine

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Categories: 1930s aircraft piston engines | Aircraft air-cooled radial piston engines

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