

# FIAT A.80

The Fiat A.80 was an 18-cylinder, twin-row, air-cooled, radial aircraft engine produced during World War II. Rated at 1,000 hp (745 kW), it was a more powerful development of the Fiat A.74.

**Manufacturer:** Alfa Romeo  
**Developed:** N/A  
**Type:** 18-cylinder air-cooled radial  
**Bore:** 140 mm (5.51 in)  
**Stroke:** 165 mm (6.50 in)  
**Displacement:** 45.72 L (2789.9 cu in)  
**Length:** 1,155 mm (45.47 in)  
**Width:** 653 mm (25.71 in)  
**Height:** 1,335 mm (52.56 in)  
**Dry weight:** 725 kg (1598.4 lb)

## Components:

- Valvetrain: One intake and one sodium-cooled exhaust valve per cylinder
- Supercharger: Single Speed, Single Stage. 4,100 m rated altitude
- Fuel system: 1 Fiat carburettor
- Fuel type: 87 octane
- Cooling system: air-cooled

## Performance:

- Power Output:
- 1,100 hp at 2,100rpm at Sea Level
  - 1,000 hp at 2,100 rpm at 4,100 m (13,500 ft)
- Compression ratio: 6.7:1  
Power-to-weight ratio: 0.6 hp/lb at cruise speed

## Variants:

The Italian engine designation system includes a suffix indicating major components or attributes. The most common were R for *Riduttore* - reduction gear and C for *Compressore* - compressor/supercharger, followed by a number indicating the rated altitude in hundreds of metres, two speed superchargers were indicated by a double figure such as 10/34.

### Fiat A.80 R.C.20

With reduction gear and supercharger, rated altitude 2,000 m (6,600 ft).

### Fiat A.80 R.C.41

With reduction gear and supercharger, rated altitude 4,100 m (13,500 ft).

## Applications:

- Aeronautica Umbra Trojani AUT.18
- Breda Ba.65
- CANSA FC.20
- Fiat BR.20
- Savoia-Marchetti SM.79

## Sources:

Gunston, Bill (1986). *World Encyclopedia of Aero Engines*. Wellingborough: Patrick Stephens.