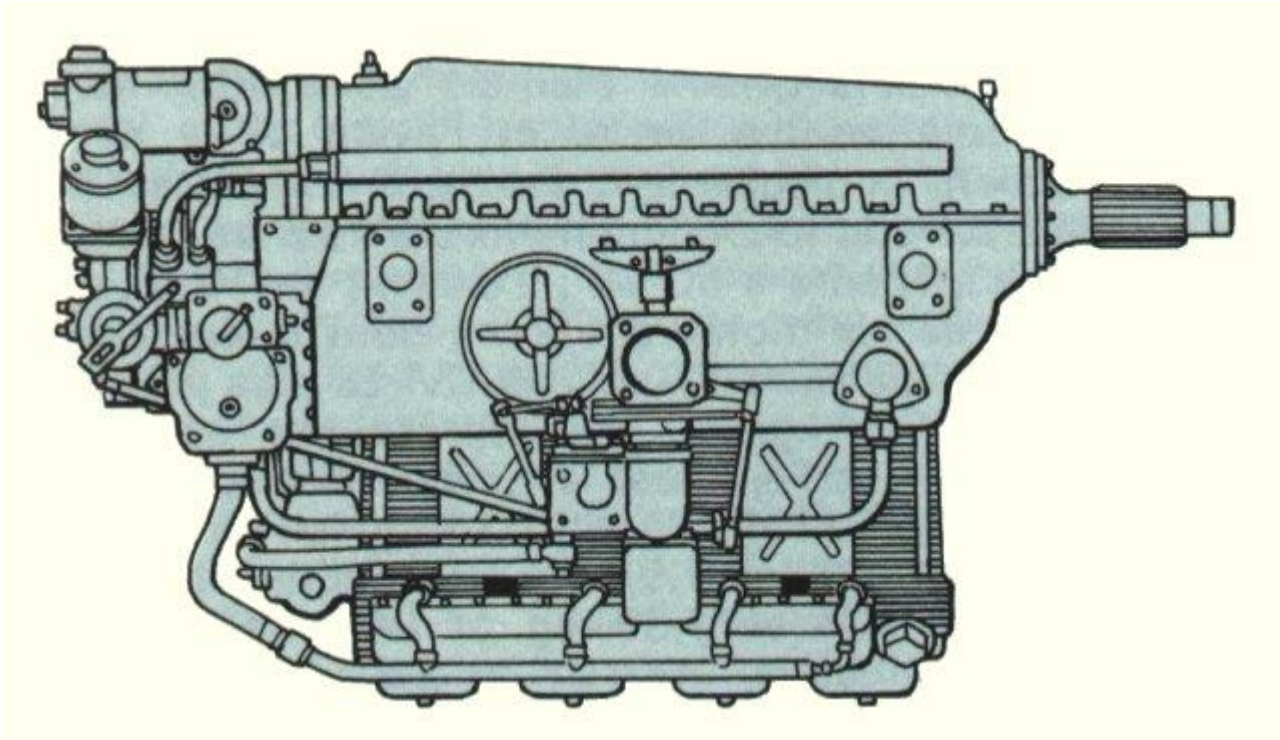


De Havilland Gipsy Major



La Société **de Havilland Engine Company** est une émanation de la société [de Havilland](#) constructeur aéronautique et a commencé son existence comme la «Division moteur de la Société de Havilland Aircraft», en 1926, en produisant le célèbre moteur d'avion [de Havilland Gipsy \(en\)](#)¹. La société a fusionné avec la [Bristol Siddeley \(en\)](#) (BSEL) en 1961 devenant par la suite avec BSEL une partie de [Rolls-Royce Limited](#) en 1966.

La société a été officiellement formée à Stag Lane en février 1944 et a plus tard déménagé dans une usine à Leavesden louée par le gouvernement en 1946, qui avait été auparavant un site de production des [Handley Page Halifax](#). C'est maintenant l'emplacement des [Warner Bros. Studios Leavesden](#). Elle a produit l'un des premiers turboréacteurs le [de Havilland Goblin](#) qui est entré en service au début de l'après-guerre dans le chasseur [de Havilland Vampire](#). Le plus tard turboréacteur [Ghost](#) propulsait les premières versions du [de Havilland Comet](#) avion de ligne et le chasseur [de Havilland Venom](#). La société a ensuite développé le turbomoteur [de Havilland Gnome](#), sous licence de la conception [General Electric T58](#), mais la société a été absorbée par les moteurs Bristol Siddeley en 1961; Bristol est elle-même devenue par la suite une partie de Rolls-Royce Limited en 1966.

Le Gipsy Major était un moteur en ligne, quatre cylindres inversés. Le refroidissement était assuré par air, ce moteur fut utilisé dans les années 1930, par exemple sur le D.H.82 [Tiger Moth](#) ou encore sur le [D.H.86](#). Sa puissance pouvait atteindre 145 ch.



Source : https://fr.wikipedia.org/wiki/De_Havilland_Engine_Company
http://jnpassieux.fr/www/html/Gipsy_Major.php

Version anglaise

The **de Havilland Gipsy Major** or **Gipsy IIIA** is a four-cylinder, air-cooled, inverted inline [engine](#) used in a variety of light [aircraft](#) produced in the 1930s, including the famous [Tiger Moth biplane](#). Many Gipsy Major engines still power vintage aircraft types. Engines were produced by de Havilland in the UK and by the Australian arm of the company, [de Havilland Australia](#), the latter modifying the design to use [imperial measures](#) rather than the original [metric measurements](#).

Design and development

The engine was a slightly modified **Gipsy III**, which was effectively a [de Havilland Gipsy](#) engine modified to run inverted so that the cylinders pointed downwards below the [crankcase](#). The Major was also bored-out (118 mm from 114 mm) compared to the Gipsy III, increasing displacement from 5 L to 6.1 L. The inverted configuration allowed the [propeller](#) shaft to be kept in a high position without having the cylinders blocking the pilot's forward view over the nose of the aircraft. One initial disadvantage of the inverted configuration was the high oil consumption (up to four pints per hour) requiring regular refills of the external oil tank; this problem improved over time with the use of modified [piston rings](#). First built in 1932, total production of all Gipsy Major versions was 14,615 units.

Further development

In 1934, when [Geoffrey de Havilland](#) needed a more powerful engine for his twin-engined transport aircraft, the four-cylinder Gipsy Major was further developed into the 200 hp six-cylinder [Gipsy Six](#). In 1937 even more power was needed for the new [D.H.91 Albatross](#) four-engined transatlantic mailplane, and so two Gipsy Six cylinder banks were combined to form one 525 hp (391 kW) [Gipsy Twelve](#) 12-cylinder inverted [Vee](#). In military service, the Gipsy Twelve became known as the [Gipsy King](#) and the Gipsy Six the [Gipsy Queen](#). The advent of World War II cut short all civilian flying and after the war de Havilland was too busy concentrating on jet engines to put much energy into its piston engines. The Gipsy did not go without a fight though. In Canada the Gipsy Major was the engine of choice for the [DHC1 Chipmunk](#) trainer, which replaced the Tiger Moth trainer in [RAF](#) service after the war. By then however, the Gipsy Major was eclipsed by the [Blackburn Cirrus Major](#) in Britain and the American [Lycoming](#) and [Continental horizontally opposed engines](#) abroad. (In a twist of irony, the Blackburn itself was based on [Frank Halford](#)'s old [ADC Cirrus](#) engine; Blackburn had bought the licence in 1934). In its final [supercharged](#) form, the Gipsy Major used in helicopter applications delivered 220 hp (164 kW). By 1945 the Gipsy Major had been cleared for a world record 1,500 hours [time between overhaul](#) (TBO), surpassing its previously held world record of 1,260 hours TBO achieved in 1943. 1,000 hours TBO had earlier been achieved in 1938.

Variants



[Supercharged](#) Gipsy Major 50

Gipsy Major I

Gipsy Major IC

Higher [compression ratio](#) (6:1) and maximum RPM for racing use.

Gipsy Major ID

Fuel pump added, plus screened ignition harness and priming system.

Gipsy Major IF

Aluminium [cylinder heads](#), 5.25:1 compression ratio.

Gipsy Major II

Variable pitch propeller

Gipsy Major 7

Military version of Gipsy Major 1D, increased climb RPM.

Gipsy Major 8

Sodium cooled exhaust valves, cartridge starter for DHC Chipmunk.

Gipsy Major 10

Electric starter option.

Gipsy Major 30

Major redesign, bore and stroke increased. 6.5:1 compression ratio.

Gipsy Major 50

Supercharged. 197 hp.

Gipsy Major 200

Designed as a light helicopter engine. 200 hp.

Gipsy Major 215

Turbo-supercharged helicopter engine. 220 hp.

[Alfa Romeo 110](#)

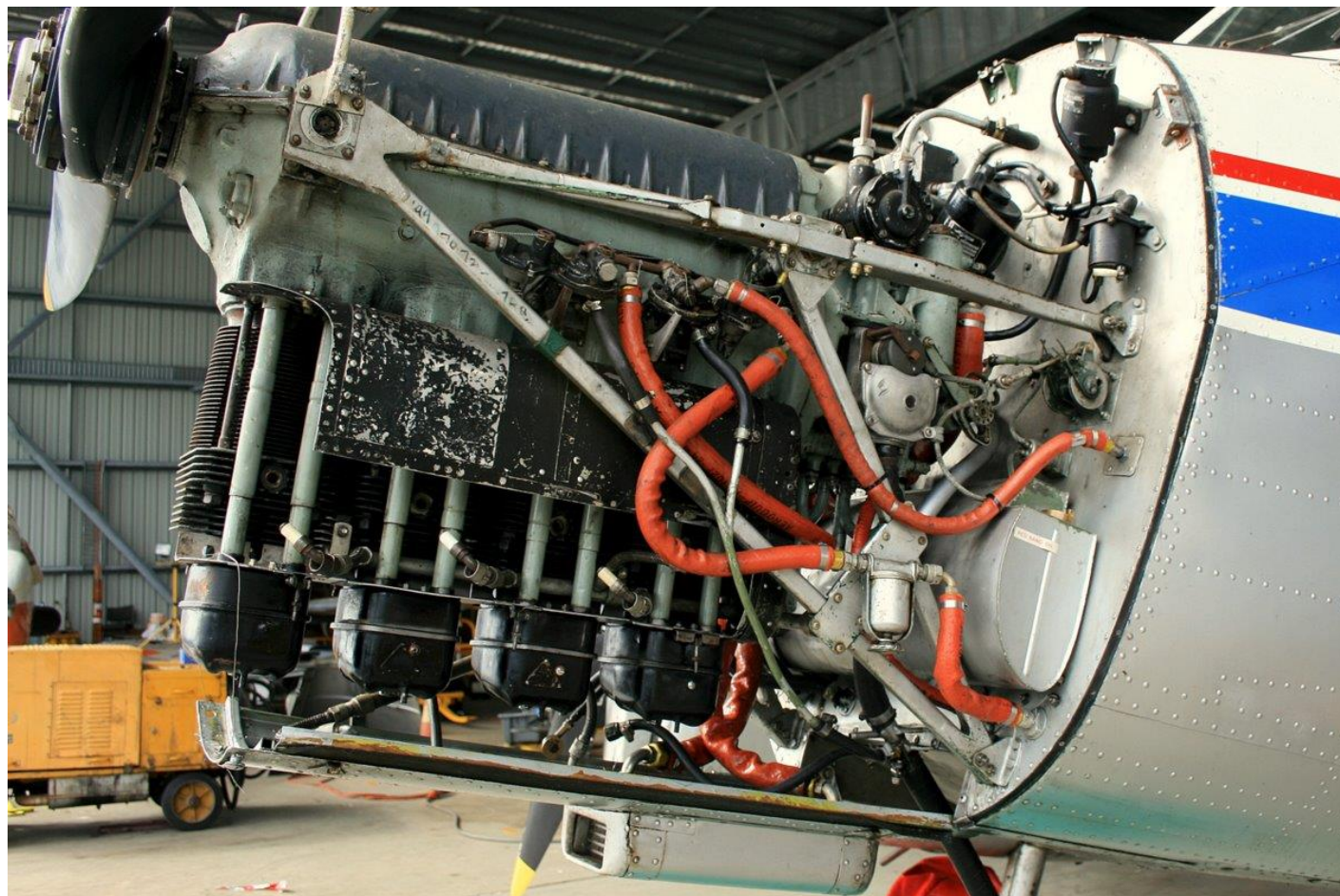
Alfa Romeo licence production/derivative

de Havilland L-375-1

US military designation for the Gipsy Major I

IAR 4-G1

[IAR](#) licence produced in Romania



Specifications (Gipsy Major I)



Gipsy Major on work stand

General characteristics

- **Type:** 4-cylinder air-cooled [inverted inline](#) piston aircraft engine
- **Bore:** 4.646 in (118 mm)
- **Stroke:** 5.512 in (140 mm)
- **Displacement:** 373.7 in³ (6.124 L)
- **Length:** 48.3 in (1227 mm)
- **Width:** 20.0 in (508 mm)
- **Height:** 29.6 in (752 mm)
- **Dry weight:** 300 lb (136 kg) Mk 1F to 322 lb (146 kg) Mk 1D

Components

- **Valvetrain:** OHV
- **Fuel system:** Downdraught [Hobson](#) A.I.48 H3M (Mk 1C and Mk 7) or H1M (others)
- **Oil system:** Dry sump, gear-type pump
- **Cooling system:** Air-cooled

Performance

- **Power output:** 122 hp at 2,100 rpm (cruise), 145 hp (108 kW) at 2,550 rpm (1 minute max)
- **Specific power:** 0.39 hp/in³ (17.6 kW/L)
- **Compression ratio:** 5.25:1 (Mk 1 and 1F) or 6.0:1 (others)
- **Fuel consumption:** 6.5 to 6.75 gph (28.4 to 30.7 L/h) at 2,100 rpm
- **Oil consumption:** 1.75 pints (0.99 L) per hour.
- **Power-to-weight ratio:** 0.48 hp/lb (0.78 kW/kg)

Source : https://en.wikipedia.org/wiki/De_Havilland_Gipsy_Major