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**NB EMBARGO DATE: Tuesday September 19th
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**This is the first film ever to be released
of the HAWKER P.1127 vertical take-off strike
fighter, powered by the BRISTOL SIDDELEY PEGASUS
lift/thrust engine: this represents a completely
revolutionary break-through in the history of
aviation.**



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"PEGASUS-POWERED HAWKER P.1127 ACHIEVES TRANSITION"

Today at Hawker Aircraft's airfield at Dunsfold, the Hawker P.1127 vertical take-off strike aircraft - powered by the Bristol Siddeley Pegasus lift/thrust engine - carried out successful transitions from vertical to horizontal flight.

This follows on the completion of hovering trials and a series of test flights in which the aircraft made conventional take-offs and landings.

These are the first transition flights to be achieved by this aircraft or by the Pegasus engine, and they represent an important milestone in the application of the "vectored thrust" principle to engines designed for vertical take-off.

ACTUAL TRANSITION:

Transition with the Pegasus is brought about by very simple means. The whole thrust of the engine is delivered through four movable nozzles which are directed downward for take-off. When the aircraft has climbed vertically to a suitable altitude, they are gradually rotated backward so as to give the plane forward acceleration. When flying speed has been reached, the nozzles face directly backward so that the whole power of the engine is available for forward propulsion. It should be emphasized that this remarkable achievement has been brought about by the use of only one engine - an engine which can both lift an aircraft and make it fly horizontally.

This is the principle of "vectored thrust" as opposed to the combination of vertical and horizontal thrust provided by the separate engines system. The advantages of "vectored thrust" include the simplicity both of design and maintenance which comes from the use of a single engine. Moreover, it can be seen that the whole of the installed power is available for take-off, and by using movable nozzles, more economical use can be made of the available thrust than is otherwise possible with any combination of vertical and horizontal thrust.

This system also avoids most of the ground erosion problems which are normally associated with fixed lifting engines, because taxiing and all ground running can be done with the nozzles facing backward.

Although the Hawker P.1127 is a transonic aircraft, the Pegasus engine is equally suitable for supersonic operation. It can be used to advantage in single, twin and four-engined configurations for military and commercial transports and long range aircraft where vertical and short take-off characteristics are necessary.

Several major aircraft constructors in Europe and America are studying projects using the Pegasus, ranging from supersonic strike fighters to commercial transports.

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