



Hawker Siddeley

Harrier



Hawker Siddeley Aviation Limited,
Richmond Road,
Kingston-Upon-Thames,
Surrey,
England. KT2 5QS

Issue No. 2 July 1974 HSK 151
© Hawker Siddeley Aviation Limited 1973.
Subject to existing rights of third parties.

Introduction

The Hawker Siddeley Harrier – the only operational jet V/STOL fighter in the world today brings a new dimension to the conduct of future military operations.

Whereas modern fighter aircraft are totally dependent on long, well-prepared and carefully maintained runways, the V/STOL capability of the Harrier allows it complete flexibility of operation. Depending on the situation a Harrier force can operate from main bases, small airstrips, roads, or fields and is ideally suited for dispersed site operation adjacent to the Army in the field.

At sea, the Harrier can operate *without modification* from the decks of small ships, or from aircraft carriers, without the need for expensive catapults and arrestor gear.

The British Royal Air Force has five squadrons of Harriers in service in England and Germany, with a further 15 aircraft on order. The United States Marine Corps have three squadrons in service, with 110 Harriers on order.

Harriers have also been ordered for the Spanish Navy.



Only the Harrier can offer all the capabilities of conventional jet fighter aircraft without being tied to long, expensive and vulnerable runways or requiring special launching and recovery equipment at sea. The Harrier's unique ability to survive ensures that a country can now have a viable striking force in wartime and a credible deterrent in peacetime.

The Harrier is the aircraft of the future – available today.



Operational Capability

The Harrier is designed to carry out all the principal roles expected of a fighter aircraft, i.e. strike, close air support, reconnaissance and interception. In addition, it can operate equally well in these roles from aircraft carriers or from the decks of small ships.

The Harrier is powered by a Rolls Royce Pegasus 11 turbofan developing 21,500 lb. (9,750 Kg) thrust.

The Ferranti Inertial Navigation and Attack system cannot be jammed and ensures a very high probability of success on single pass attacks at low level.



Strike

The Harrier is equipped with a full range of armament – bombs, rockets, fire bombs and 30 mm cannon – and can carry weapon loads of up to 8,000 lb. (3,630 Kg). With a typical warload it can attack targets 360 nautical miles (670 Km) from the take-off point. Since this point can be very much further forward than the main operating base, the effective penetration distance into enemy territory can be extended considerably.



Close Air Support

The Harrier is the only jet fighter which can be deployed in the field with the Army to provide the rapid and flexible response which is a pre-requisite of success in modern warfare. Speed of reaction, short flying distance and a warload of up to 8,000 lb. (3,630 Kg) enable the Harrier to deliver far more ordnance on target in a given time than conventional fighters based many miles from the battle area.



Equipped with a 5-camera reconnaissance pod to supplement the pilot's observations, the Harrier provides Commanders with up-to-the-minute information to assist them in directing operations.

Reconnaissance







Interception

Armed with Sidewinder Air-to-Air missiles and 30 mm cannon the Harrier's high thrust to weight ratio, rapid climb and acceleration, and outstanding manoeuvrability give it an excellent air to air fighting capability. Moreover, the ability to vector its thrust in flight gives the Harrier a unique operational feature by which it can out-maneuvre conventional aircraft.



The Harrier was designed to live and operate in the field and great emphasis was placed in providing a high degree of reliability and ease of maintenance. These features have now been amply demonstrated in the results achieved in service with the British Royal Air Force since 1969 and in the United States Marine Corps since 1971.

Maintenance



Flying the Harrier

In spite of its unique capabilities, flying the Harrier is merely an extension of normal flying techniques involving the use of only one additional lever in the cockpit. Any qualified jet pilot can transition readily to the Harrier and Royal Air Force pilots with no more than 500 hours total flying time are now flying the Harrier in front line service.



Reliability

During U.S.M.C. trials in 1972 only 12.2 maintenance man hours were required per flight hour. Maintenance effort on the flight line for periods of intensive operations is less than 6 man hours per flight hour.



The Sea Harrier

It has been appreciated for many years that a V/STOL aircraft can add a new dimension to Naval Air Power, reversing the trend for ever larger and more expensive aircraft carriers operating heavier and more complex conventional aircraft. The Sea Harrier could achieve this objective by providing fixed wing air power at sea from any ship capable of operating large helicopters. This embraces platform ships with an aft landing area, existing aircraft carriers which can operate the Sea Harrier without reliance on flight deck machinery, or new-build all-purpose ships such as the Royal Navy Through-Deck Cruisers or the United States Navy Sea Control Ships.

The experience already gained in operating the Harrier from 18 ships of 8 different Navies has shown that the aircraft is entirely compatible with the ship environment.



The Sea Harrier could carry out the primary missions of Air Defence, Surface Reconnaissance and Strike. Secondary roles include the capability to perform strikes against shore targets and to act in concert with helicopters or surface vessels in the Anti-Submarine Warfare role.

Operational Roles



Aircraft Configuration

The Sea Harrier would utilise the existing engine and airframe of the R.A.F. and U.S.M.C. aircraft with a number of avionic changes to enhance its capability to perform the Air Defence, Reconnaissance and Strike missions. These changes include the addition of a forward looking radar mounted in the nose to detect airborne and surface targets, and a revised navigation and attack system. The aircraft could also carry Air-to-Surface missiles such as the Martel.



The Sea Harrier is being designed now to meet the requirements of the Navies of the world tomorrow.



