

NH90 HELICOPTER - 4th PROTOTYPE IN FLIGHT

Aix-en-Provence, 1 June 1999

The maiden flight of the fourth prototype of the NH90 (PT4) took place successfully on 31 May 1999, at Eurocopter Deutschland's test facility in Ottobrunn near Munich: the NH90 Programme, which represents a landmark programme for Europe's aircraft industry, has added a further important step forward.

The trial started at 16.33 p.m., lasting 1 hour and 5 minutes, and attaining 140 kts max speed and 5000 ft altitude. The NH90 PT4 was flown by:

- the experimental test pilots: HERBERT GRASER, and
 ANDREW WARNER
- the flight test engineer: DENIS HAMEL

The PT4, under Eurocopter Deutschland responsibility, was assembled with modules and components contributed by Agusta, Eurocopter of France, and Stork Fokker, the other three industrial partners in the programme.

The PT4 is representative of the Tactical Transport Version (TTH) of the NH90 and features, apart from the standard NH90 full glass cockpit, Fly-by-wire controls with Automatic Flight Control, the dual bus Core Avionic System; the dedicated Mission System. This includes Forward Looking Infrared, Helmet Mounted Sight and Display, Digital Map Generator, Weather Radar, Electronic Warfare System, Tactical Control and Tactical Communication System.

The PT4 is powered by two Turbomeca RTM322-01/9 engines.

PT4 will be dedicated to the qualification of above said mission and aircraft systems. In addition, a Rear Ramp System, which allows also the transport of a light tactical vehicle inside the TTH, will be tested.

The instrument panel lay-out complies with the common basic configuration featuring four 8x8 inch liquid crystal Multifunction Displays, with the complete provision for the fifth one (standard in the naval version of the NH90, NFH).

NHIndustries, prime contractor for the quadrinational NH90 Helicopter Programme (launched by France, Italy, Germany and The Netherlands), is pleased to report that the flight test crew confirmed their complete satisfaction with the NH90 in flight behaviour.

This first flight of the fourth prototype marks an important step of a successful development programme:

- The flight envelope has been opened up to 20.000 feet altitude, at speeds up to 190 kts, at extreme centres of gravity, at a max gross weight of 10.000 kgs, 12 deg slope landings, and rolling landings at speeds exceeding 50 knots.
- PT1 has been subject to installation of the General Electric-Alfa Romeo T700/T6E engines as the alternative motorization, after its initial flight activity with the Turbomeca RTM322.
- The PT1 has also performed during last summer ship trials in Italy. Within 2 days, 62 deck landings were successfully performed on a basic French La Fayette-class frigate, demonstrating the excellent manoeuvrability of the NH90.
- The PT2 flying activity continues intensively dedicated to Fly-By-Wire control system development.
- The PT3 flying activity is dedicated to development of the Core Avionic System, which comprises the Communication, Navigation, Automatic Flight Control, and Plant Management systems.
- PT1, PT2, and PT3 have now logged more than 420 flight hours.
- Industrial flight test crews, military flight test pilots and flight test engineers of the four nations are impressed by the excellent performance, the handling qualities, and the general behaviour of the helicopter.
- The Ground Test Vehicle (GTV) achieved a total of 450 test hours, contributing to obtain the clearances for the flight of PT1, PT2, PT3, and PT4
- For the tactical transport version (TTH) particular effort is dedicated to the evaluation of the Tactical Control System using the NH90 TTH Simulator, to the instrument panel and cabin lay-out optimisation, and to the completion and commissioning of TTH Mission Integration Rig.
- The final assembly of PT5, the naval version of the NH90 (NFH) is well progressing as well as other ground test activities contributing to the mission systems development and qualification.
- For the naval version of NH90 (NFH) development work is concentrating on the evaluation of the Tactical Control System using the NH90 NFH Simulator, on the cabin lay-out optimisation, on the detailed definition of the Helo/Ship interface, on the main rotor blades and tail boom automatic folding system optimisation, and on the commissioning of the NFH Mission Integration Rig.

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