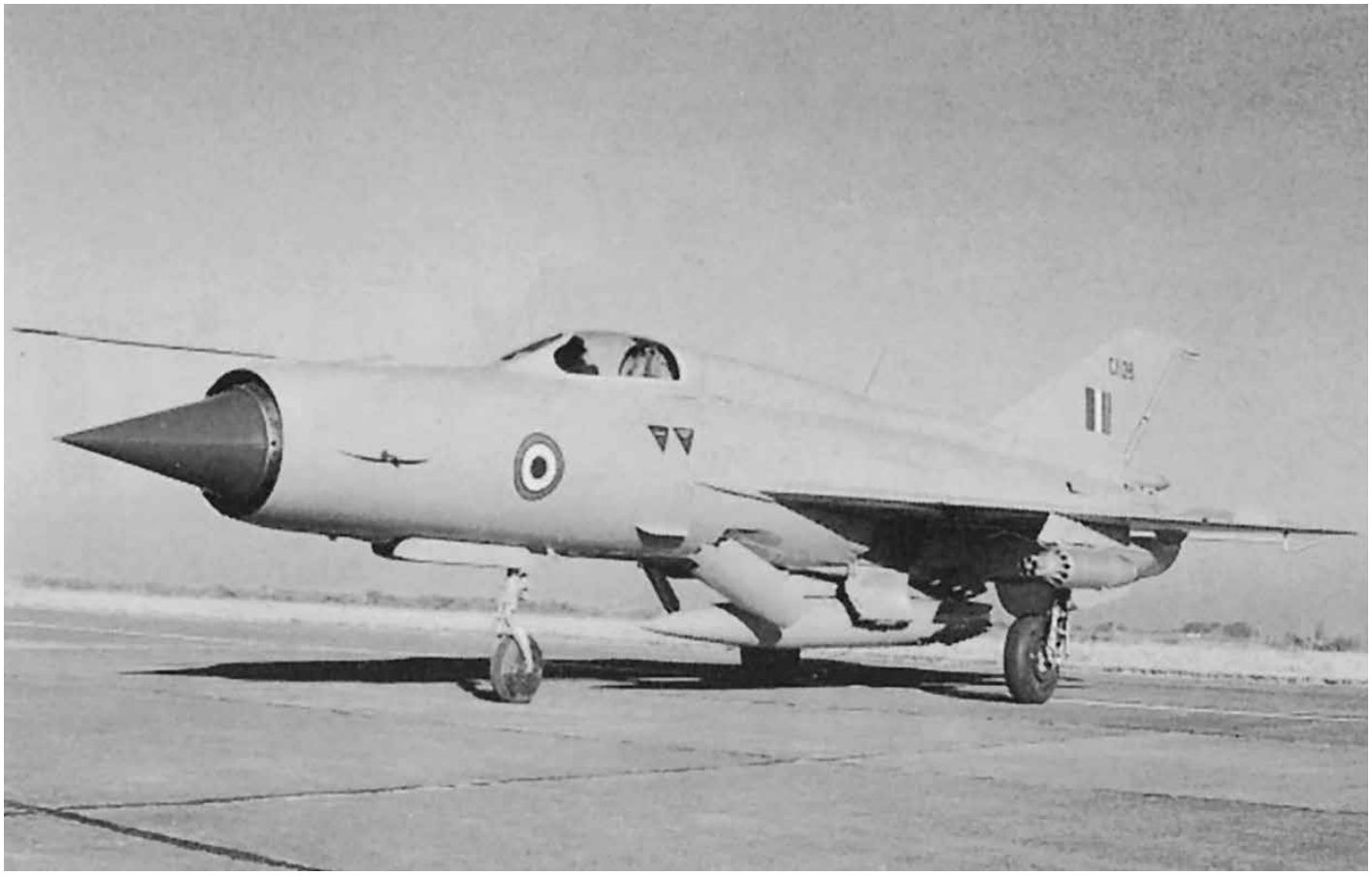
Air Marshal Philip Rajkumar writes on…..

….The MiG–21 upgrade saga and the step–by–step manner in which the IAF got its definitive MiG–21 bison



MiG–21FL (Type 77)

The earliest mark of the MiG–21 (NATO Code Fishbed) to enter the IAF's inventory in 1963 was the MiG–21F–13, also referred to as the Type 74. It could carry 2 x K–13 Infra Red (IR) homing air–to–air missiles (NATO code Atoll) and had a single 37 mm NR–37 cannon and a gyro gun sight with radar ranging. The role of the aircraft was primarily air defence.

This was followed in 1965 by the MiG–21PF (Type 76) which was the first version to be equipped with an Airborne Interception (AI) radar, the R1L. The MiG–21FL (Type 77), made its appearance in 1966 and was equipped with the R2L AI radar. These two versions did not have a gun and could only carry 2 x K–13 missiles. The small number of Type 74s and Type 76s were phased out by 1968.

As war clouds gathered over the sub–continent in March 1971, a podded gun carried at the ventral station was supplied by the Soviet Union, but only a PKI fixed gun sight was available for aiming. Trials were then carried out with the Gyro Gun Sight GGS Mk 4 by the Tactics and Combat Development and Training Squadron (now the Tactics and Combat Development Establishment) at Jamnagar in mid–1971 but the modification was not pursued because the sight had to be installed inverted to fit in the available space. The December 1971 Indo–Pak war convinced the operations directorate at Air Headquarters that the MiG–21 fleet had to have a gun with a predictor gyro sight and a request was made to the Soviets for a gun–armed version of the MiG–21.

The MiG–21 M arrives

In 1973 the Soviet Union offered an improved version of the MiG–21, the MiG–21M, which in the IAF was known as the Type 96. This version had an AI radar (the RP–21M) and a twin barreled GsH–23 internally mounted cannon which could fire 3000 x 23 mm rounds per minute and had a gyro gun sight as well. In addition, this was equipped with an improved ejection seat (the KM–1) which had ground level ejection capability. The Soviets offered this version with a new engine, the R–13–300, which had somewhat more thrust than the earlier R–11F2S–300