

# LAYING THE SARGODHA AND OTHER, GHOSTS OF '65

Fourteen years after the "22 day war" between India and Pakistan in September 1965, have emerged two books on the Pakistan Air Force's operations at that time. The "First Round" is in fact a slim volume authored by Air Marshal Asghar Khan which pre-empted the appearance of the second, lavishly illustrated volume on "The Battle for Pakistan" written, as can only be described, by proxy for Air Marshal Nur Khan and an unabashed eulogy to him. In these fourteen years, a great many events have taken place, a decisive war fought in December 1971 which created both history and geography and most of the principal personalities of '65 have retired or are no longer alive. If any purpose has been served by the second book, written by John Fricker, an old friend of the PAF, it is the need to set the record straight and, as it were, to finally lay the Sargodha (and other) ghosts of '65.

**T**HE Chief of the PAF in September '65 was Nur Khan but his air force bore the stamp and personality of his predecessor Asghar Khan. Nur Khan has just retired from Chairmanship of Pakistan International Airlines, Asghar Khan, in politics since retirement is presently in prison. The Chief of the IAF then was Arjan Singh, DFC who, with a distinguished career behind him, went on to be India's envoy in a number of countries. His Vice Chief was Pratap Lal, DFC who later succeeded him, was Chief during the epoch-making '71 war and is currently the joint Chairman of Air India and Indian Airlines. All four officers had served and fought together in the few squadrons of the Indian Air Force on the North-West Frontier and Burma and each certainly knew the personalities and strengths of the other. After the '65 war, there have been many occasions for the four to meet and, undoubtedly, discuss the '65 operations. There were no victors in '65, the war was too localised and short for that but lessons were learnt and shortcomings made up. The IAF's brilliant performance in '71 reflects that and this is comment enough.

Fricker's book, actually written nearly a decade ago for the PAF but only published recently,

is really meant for Pakistani consumption and perhaps to further the political or any other interests of the personalities mentioned. The book claims that the PAF, a smaller but highly trained and motivated force, achieved superiority over the bigger and better equipped IAF but this and other ludicrous claims are exposed when the facts are examined. Fricker's book claims "air-superiority" for the PAF in 36 hours, that not one Sabre was shot down in air combat by Gnats, that throughout the war the IAF could only destroy one tank on the ground, that not one PAF aircraft on ground attack missions was shot down by Indian ack ack guns, and so on.

Through Fricker's book, the Pakistan Air Force claimed that the "air superiority battle was won after the first 36 hours of war." This is constantly referred to throughout the narrative but either the definition is totally misunderstood or the P.A.F.'s spokesmen have lost the ability of rational assessment.

AIR SUPERIORITY, as defined by the "Dictionary of Modern War," reads as follows: A power is said to have air superiority within a given airspace when: (a) its aircraft of all types can operate without serious interference from the



enemy and (b) it can limit the enemy's aircraft to shallow penetration of the relevant airspace. The possession of air superiority confers two advantages: firstly, the whole range of transport and combat aircraft in inventory, including those types which cannot sustain air-to-air combat, can be used; secondly, the side which has air superiority normally also enjoys an information superiority, since its aircraft can conduct reconnaissance missions while those of the enemy are prevented from doing so. This is of crucial importance when the conflict includes mobile land operations.

The conduct of air operations in a non-nuclear conflict, can be said to consist of two phases: Phase I is a struggle for air superiority in which both sides use 'first line' fighters over the contested airspace, as well as anti-aircraft artillery and surface-to-air missiles and bombers/strike aircraft against enemy airfields and aircraft production centres. In Phase II, the side that has gained air superiority exploits it in order to give close-support, transport and reconnaissance aid to ground or naval forces.

The "36 hours" obviously allude to the period beginning from dawn on the 6th September and ending at dusk on 7th September. According to such a claim, the IAF "could not interfere with PAF ground operations thereafter," nor raid PAF air bases, nor operate reconnaissance aircraft by day, nor react to PAF daylight missions "deep inside Indian territory." What, then, were the facts?

On the 7th September, the IAF flew 44 offensive fighter bomber sorties—24 of them against Sargodha. On the 8th, when the PAF was "supposed" to have achieved air superiority, IAF fighter bombers flew 189 offensive missions, perhaps the highest in any single day's efforts! IAF Hunters and Gnats flew offensive fighter sweeps deep into Pakistan by day, provoking PAF fighter reaction with little success and, instead, shooting up targets of opportunity, Canberras on photo-reconnaissance flew a number of missions over Pakistan by day, including recce missions over the highly defended-

Ichogil canal, as was done with aplomb by No. 106 Squadron.

On the contrary, after the futile attack on Halwara and Adampur by Sabres on 6th September, not once did the PAF attempt to raid an IAF base by day; who claimed the "air superiority" anyway?

The book is an undisguised reflection of the official P.A.F. approach, is full of hyperbole, inaccuracies and wishful thinking. Thus the strangely-concluded pronouncement that the IAF was mortally afraid of the Starfighter and thus labelled it "Badmash." Perhaps the PAF does not know that the Sabre was called "Bandar," these being only code names, not references to their attributes!

Thus such dramatic drippings as in the reference to Nur Khan's leadership "without which Pakistan may have failed to survive" or the "fact" that Pakistani hill tribes have a natural affinity for the air.

#### **Air Force Orders-of-Battle**

At any rate, it is hardly necessary to debate these opinions nor the intention here to recount the strategies and operations of the 22-day campaign on the ground and in the air. Comprehensive official accounts of specific battles or unit histories have gradually emerged and certain details are only now being declassified. However, it may be necessary to briefly review the pattern of events that preceded the Indian counter-attack across the Punjab border on 6th September 1965 which in itself marked the culmination of numerous factors in that fateful year.

Out of this overview emerges the part played by the Indian Air Force in these operations, detached only so far as it serves to set the record straight, thus far so warped by Pakistani propaganda, but in reality the IAF's efforts were totally intertwined with the political and military impact on the Indo-Pakistan sub continent.

It is well understood that the IAF was subjected to certain restraints imposed by the politi-



cal wisdom of the time which, if militarily uncomfortable on occasion, was certainly in accordance with the principles established by a mature and sensible will to prevent the situation escalating into hostilities. Pakistan, however, launched a second invasion of Kashmir and escalated the conflict either by design or a series of miscalculations. India's reaction, always, was one of "measured response." If thus observed, there could be some sense in the otherwise military nonsense of sending obsolete Vampires into the arena of battle, of not mounting a preemptive blow on Pakistani air bases, of not providing air support to the Indian Army on the first day of its drive across the Punjab borders and of not hitting at strategic targets such as harbours and oil storage facilities.

There was no air war in the east, despite the provocations of a single PAF Sabre squadron from Dacca. Political implications in the sensitive eastern regions made it necessary to ignore Pakistani cheek and Chinese threats but the I.A.F. nevertheless, perforce, maintained 9 squadrons of fighters and bombers in the Eastern Sector and not one aircraft was moved to the Western Sector during the 22-day conflict.

In September 1965, even though the Indian Air Force was the numerically *larger* air arm in the sub continent, it was virtually on par in terms of strength with the Pakistan Air Force on the Western front. The order-of-battle was, in this Sector :

*Indian Air Force*

- Hunter F.56 (3 squadrons)
- Mystere IVA (4 squadrons)
- Gnat Mk.1 (3 squadrons)
- Canberra B(1)58 (2 squadrons)
- Canberra PR 57 (1 squadron)
- Vampire FB52 (1 squadron)

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14 squadrons

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*Pakistan Air Force*

- F-104A Starfighter (1 squadron)
- F-86F Sabre (7 squadrons)
- B-57B (2 squadrons)
- RT-33 (1 squadron)
- RB-57B (1 squadron)

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12 squadrons

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The Pakistan Air Force, however, had a number of tactical advantages. It possessed a well planned network of main and secondary air bases, a high-powered and comprehensive radar coverage and, its trump card over the still sub-sonic, gun-equipped I.A.F., a squadron of super-sonic F-104A Starfighters and the Sidewinder air-to-air missile which also armed the F-86F Sabres. Against this homogeneous, U.S. trained and supported arm, the Indian Air Force had a larger variety of fighter types, a handful of MiG-21s still not operational, a number of air bases either too far forward or some distance removed from the scene of intense action. These were :

**Main air bases**

<i>Indian Air Force</i>	<i>Pakistan Air Force</i>
Pathankot	Sargodha
Adampur	Peshawar
Halwara	Chak Jhumra
Hindan	Risalwala
Ambala	Pasrur
Jamnagar	Karachi
Sirsa	Multan

The U.S. had not fulfilled its commitment to provide long range radar to the IAF and there was merely one mobile, radar installation of Soviet origin at Amritsar which, however efficiently manned, still left wide gaps in the radar coverage



of Indian (and Pakistani) air space. IAF fighters had frequently to rely on their own visual sighting in contrast to the PAF which were guided and controlled by the main radar stations at Sakesar and Badin plus a host of smaller stations.

### Origins of the '65 Conflict

However, tracing the origins of this war, the first act was in the Rann of Kutch, an uninhabited expanse of sand and salt-flats at the southernmost end of the Indo-Pakistan frontier. In January 1965, an Indian police patrol discovered that the Pakistanis had established a 20-mile track between Surai and Ding, couple of miles south of the Indian border in this inhospitable terrain, marshy and submerged for some months in the year. Meetings to resolve the problem were infructuous and the local Rangers were reinforced by both sides, the Indian Central Reserve Police establishing a post at Vigokot, south-east of Kanjarkot. The Pakistanis, however, moved their 51st Infantry Brigade (18th Punjab, 8th Frontier Force, 6th Baluch plus batteries of field guns and heavy mortars) from their Malir Cantonment to the Sind-Kutch border.

On April 9th, the Pak Army attack with artillery overwhelmed the Indian post at Sadar, but not before the policemen held out for most of the day, and only then did the Indian Army (a Brigade at Bhuj) take over responsibility for the border. Whilst futile dialogue continued in an effort to resolve the dispute, there were intermittent exchanges of artillery fire and Pakistan's 8th Infantry Division moved to Sind from Quetta, commanded by (then) Maj. Gen. Tikka Khan, supported by the 12th Cavalry and 19th Lancers. On April 23-24, a Pak. Brigade attacked, supported by tanks and medium artillery, and a grim battle took place at Bier Bet and three other points simultaneously. Indian forces had been reinforced by the 50 Parachute Brigade but no tanks were deployed in support and against the guns of 12th Medium Regiment (Pak Army) were only the light field guns of the 17th Para Field Regiment (Indian Army). Nevertheless, Indian efforts were only directed towards fighting a holding action which was all that was needed to meet the military and political requirements of the moment, with the

Rann of Kutch expected to be flooded in a few weeks.

Pakistan's version (in Fricker's book) is that in February 1965 Indian forces *with air support* overran and occupied a Pakistani outpost at Chhad Bet in the Rann of Kutch. This is belied by the fact that only a small number of Rajkot Rangers and Central Reserve Force policemen were in the area before the Indian Army assumed responsibility in April. The only aircraft in the entire Kutch area, and which came in later, were a handful of venerable Auster AOP aircraft providing observation for the Indian 11th Field Regiment. The air base at Jamnagar was largely

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### The action in Kutch was the first open throw of the dice...

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used for armament training and housed no combat units although Poona, much further away, had Canberra bomber and maritime reconnaissance squadrons based there. No Indian Air Force bombers "intruded" over Pakistani territory, as charged, but an IAF photo-reconnaissance unit flew day sorties over Indian positions in the last week of April to establish very clearly the use by Pakistan of Patton tanks which the American aid-givers had undertaken, were not meant for use against India! On 26th April 1975 Flying Officer Utpal Barbara of No. 101 Squadron, flying a Vampire (PR)T.55 trainer took excellent photographs of Pattons near Bier Bet and Point 24, about seven miles south of the international frontier, making repeat passes in clear weather from 100 feet above ground level.

The action in Kutch was the first open throw of the dice, in an area of Pakistan's choice, but for years there had been references to a jihad-type liberation of Kashmir and bodies of razakars and mujahids were being raised, trained and indoctrinated. Cease-fire violations were on the increase, 448 in 1963 jumping to 1522 in 1964 and over 1800 in the first seven months of 1965. The most serious, and dangerous, attempt was made in May '65 when the Pak. Army tried to cut the Srinagar-Leh road, India's lifeline to Ladakh but this was swiftly countered by the capture by an Indian battalion of Pak. posts overlooking Kargil.





*Scramble ! Actual scene at an IAF fighter base in September 1965, with Gnats being scrambled in response to enemy air activity.*

The Indo-Pakistani agreement on the Kutch-Sind border was ratified on June 30, 1965 with the hope that this would also "contribute to a reduction of the present tensions along the entire border" along which the two armies faced one another but this was to be in vain. A regular mujahid force had been formally embodied by President Ayub Khan's ordinance on June 11 1965. Amongst ordinances promulgated in June, one provided for the recall of air force reservists. The Pakistan Air Force, trained and equipped for a confrontation with the Indian Air Force, was alerted and prepared for combat.

P. A. F. reconnaissance-bombers made clandestine practice runs over the main Indian air bases at Jamnagar, Adampur, Halwara and Ambala as early as 20 April 1965, as the captured diary of a Pakistani pilot revealed later.

Training of infiltrators commenced in May 1965, under the overall direction of Maj. Gen. Akhtar Hussain Malik, GOC 12th Pak. Division with headquarters at Murree; raised as the so-called "Gibraltar Forces" were companies with evocative names such as Khalid, Khilji, Babar etc., the force commanders assembled in the

second week of July and were addressed by President Ayub Khan.

"Operation infiltration" was launched from the forward base at Kotli on 1st August, the ceasefire line being crossed over high mountain and thick woods under cover of darkness. The armed infiltrators dribbled into the state of Jammu and Kashmir simultaneously from the south-western tip of Jammu, to Poonch and Uri in the West, Tithwal in the north-east, Guraiz in the north and to Kargil in the north-east, but the

Indian Army, on alert, upset the strategem and the invasion was a fiasco.

Intervention by regular Pak. Army forces appeared imminent and U.N. Observers were appalled at the quantity of Pak. artillery that was pounding the Indian positions along the cease fire line. Probing attacks in the Keran, Uri, Chhamb and Mendhar sectors were repulsed. By August 23rd, PAF aircraft were pressed into support of the trapped infiltrators, C-130s and helicopters dropping supplies to isolated bands whilst reconnaissance missions by jets looked for escape routes.

However, it was abundantly clear that further infiltration could only be checked by the Indian Army sealing the main entry routes. Accordingly, units of the Ind. Army crossed the CFL in the Tithwal Sector, captured important posts and continued the advance upto the Kishenganga river. The strategic Haji Pir pass was skillfully captured by a company of the 1st Parachute Regiment on August 27th and the Uri-Poonch bulge straightened out by another column advancing from Poonch.



By the 29th August, the Pakistanis were desperate with every one of their objectives having failed. A last effort to cut the Indian communication lines by the Khilji Force was a fiasco and the raiders were captured or scattered. The massive miscalculation stood exposed and like a gambler, raising the bid to stake his all in a last throw, the Pakistan Army was flung into the fray, whatever the consequences.



*All systems go! Hunter FGA 56 fully checked out and prior to take off on combat air patrol. Hunter squadrons also carried out the bulk of interception and offensive-support tasks in '65.*

#### **Pakistan's offensive in the Chhamb**

At 4 a.m. on September 1st 1965, the curtain went up on the final drama in 1965—full scale war which was precipitated by the Pakistan Army launching a carefully prepared offensive in the Chhamb Sector, codenamed "Operation Grand Slam". In the first phase, the Pakistani 7th Infantry Division supported by an armoured brigade with Pattons was to capture the strategic town of Akhnoor on the Chhamb and get astride the road through it from Jammu to Rajouri and Poonch. In the second phase, the capture of Jammu city was envisaged.

Indian troops in the Chhamb consisted of 191 Infantry Brigade, part of the 10th Infantry Division, and a squadron of light AMX-13 tanks. After intense artillery bombardment and a fourth massive offensive, the sheer weight of Pakistani armour pushed Indian troops back in stages to the Munnawar Tawi. By 1630 hours, the situation was becoming grim and the high-level defence committee reviewing the situation at New Delhi came to the conclusion that air strikes were imperative to support the thin line of defence against Pakistan's massive thrust. It was critical to gain the hours of darkness to regroup and reinforce the Indian troops before Akhnoor. At just after 1700 hours, the decision was conveyed

to the Air Force and Air Marshal Arjan Singh ordered the Officer Commanding Pathankot air base to launch air strikes against Pak. armour in the Chhamb.

It is necessary here to recount the reasons why, when the situation demanded a commensurately strong reaction, the Indian Air Force first committed its obsolescent Vampires to strike at the well prepared enemy. During August, whilst Indian troops were hunting the valleys and mountains of Kashmir for infiltrators, the Indian Air Force fully supported the operation with transport aircraft and helicopters. As the terrain was difficult, and mobility essential for rounding up the enemy, the I. A. F. not only flew troops in and out of action, improvised Mi-4 gunship helicopters machine gunned and bombed concentrations of the raiders. The narrow valleys and imposing mountains however made close air support by jet fighters extremely tricky. A relatively lower-speed, high manoeuvring type aircraft might be effective and for the purpose a Vampire Squadron (No.45) was moved from Poona to Pathankot to remain on stand-by for such contingency purposes. The Vampire F.B. 52 had served as a front-line fighter from 1949 but had been relegated for advanced training since the early sixties. No.45 Squadron was a train-



ing unit, albeit with some experienced pilots, and the only formation with aircraft fully armed and fueled when the signal for action was received on the 1st September evening. Since the time factor was critical, a four Vampire sortie was launched and just before 1800 hours, the first

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**The Mystere IVA fully earned its pay in the ground attack role.....**

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I.A.F. aircraft struck at the Pakistani Pattons. A second and third flight of four Vampires each followed and the fact that Pakistani ground forces were cowering in shelter from this literal bolt from the blue, was confirmed by the urgent demand for air cover, overheard by monitoring stations. The P.A.F., on alert since the early morning, vectored an airborne patrol of four Sabres to the Chhamb and the Vampires, hopelessly outclassed and no match for the next generation Sabre were scattered, two being shot down over the battlefield, a third crashing behind Indian lines whilst the fourth was recovered in damaged state.

The Pakistani armoured drive had been staggered but not blunted but by this time, the two Mystere IVA squadrons at Pathankot had launched their aircraft in successive waves. In the fading light, sixteen Mysteres of Nos. 3 and 31 Squadrons in waves of four aircraft struck at Pakistani ground forces, singling out tanks and gun areas with rockets and cannon. In the words of Wing Commander W.M. "Jim" Goodman, Commanding No. 31 Squadron, "our boys were in like a flash and in no time the whole place was ablaze with enemy tanks and vehicles. The morale of our force was just wonderful-.....I am sure the enemy will never forget the Mystere". As it was the Pakistani 13th Lancers had lost 14 tanks whilst some 30 vehicles of the supporting 9th Punjab had been destroyed, the infantry men being scattered. The critical hours of darkness had been bought for 191 Brigade by the I.A.F.

The Mystere IVA, conceived as an interceptor by the French, fully earned its pay in the ground attack role in Indian service. For the rest of the twenty-two day war, the Mysteres were to continue with their lethal tank-busting, their twin 30 mm cannon being augmented by a pack of 55

rockets in the belly and 38 rockets in underwing pods, fired in salvos that virtually bracketed the target tank. The Mysteres predominated in air activity first over the Chhamb and later Chawinda sectors, mounting strikes against Pakistani strong points, dumps and communication centres, dispersing armoured concentrations around Pasrur and Chawinda, and in support of the advancing I Indian Corps.

Pakistani propaganda made much of the Vampires lost to the unquestionably superior Sabre, so much so as to state that the IAF immediately withdrew Vampires from its entire inventory. The story of No. 45 Squadron's operations in 1965 certainly did not end on the 1st September. The Vampires were earmarked for a role in keeping with their vulnerability and, operating from Sirsa for the rest of the war, flew battlefield interdiction and attack sorties against enemy lines of communication and caused considerable disruption of movement and harassment.

#### **Gnats even the odds**

After the 1st September evening strike which staggered the Pak. Army offensive in the Chhamb--Akhnoor, the Indian Air Force urgently prepared to meet the Pak. Air Force challenge even as I.A.F. fighter-bombers continued to hit at enemy armour and troop targets west of the Munnawar Tawi. Deployed at the air base at Pathankot were only ground-attack aircraft and these were vulnerable to the marauding P. A. F. fighter force, covering their Army's push into territory and mounting "Cab rank" air patrols at height.

On the 2nd September, Air Headquarters directed that a detachment of Gnat fighters reinforce Pathankot and provide escort to the Mysteres engaged in ground-support of the Army.

No. 23 Squadron, the first formation to equip with the light-weight Gnat fighter, was based at Ambala and orders went out for two flights to deploy at Pathankot by the evening. The pilots chosen for the purpose were Squadron Leaders Johnny Greene, Trevor Keelor, AJS Sandhu, BS Sikand and Flight Lieutenants P S Gill, Janak Kapur, V.S. Pathania and Krishnaswamy.



Arriving at Pathankot in drizzle by dusk on the 2nd, the Gnat pilots were greeted by a grim atmosphere, the station facing the major responsibility for blunting the enemy advance and having lost three Vampires and their pilots in action the evening before. Any lack of organisation and accommodation (the Gnat pilots spending the night in makeshift cots) was made up by a heady spirit of confidence in their professional ability and desire to redress the situation as quickly as possible. The pre-dawn briefing at Pathankot was tense, but the tactical plan simple yet bold. If as was standard practice, the Pakistan Air Force's orbiting patrol was to detect and intercept Indian ground-attack aircraft approaching the forward defence lines, the Gnats would be waiting for them—but not as top cover as in orthodox tactics.

The P.A.F. was certainly unaware of the move of Gnats to Pathankot the previous evening, the nimble fighters having flown at very low levels so as to avoid radar detection. At 0700 on the 3rd September, a four-Mystere formation took off from Pathankot and, flying at 1500 feet above ground, set course for Chhamb by the now standard flight procedure, aiming for a point north of Akhnoor bridge, then swinging left into the Chhamb, thus scrupulously avoiding flying over Pakistani territory.

Four Gnats, led by Sqn. Ldr. Johnny Greene, followed the Mysteres in a finger four-formation, 1500 yards behind and at only 300 feet above the ground. Yet another four Gnats, led by Sqn. Ldr. Trevor Keelor, in what can only be described as a high level tactical formation flying at very low level—barely 100 feet above ground—followed 2000 yards behind to give cross cover to the fighters ahead. As the battle area approached, the Mysteres turned hard right to fly over the low hills and disappear from the scene as planned whilst the Gnats kept course at very low level and high speed.

The bait had worked, for 30 seconds before arriving over the Akhnoor bridge, Amritsar radar control had warned of vigorous PAF reaction. There seemed to be plenty of Pak. aircraft airborne at the time but at least six Sabres and two Starfighters were being vectored to intercept the

Mysteres. With their wards out of the way, the Gnats were released to hunt the hunters and the forward formation of Gnats zoomed up, turning starboard, still in finger-four formation, and in steep climb to reach 30,000 feet in less than 90 seconds. Keelor's Gnats, keeping up with Greene's formation on the left to cover their flank, first saw the Sabres, coming in at 2 o'clock diving from about 5000 feet above. Even as Keelor called Greene to "turn hard right, Sabre at 4 o'clock", a Sabre, which was intent upon latching behind the forward Gnat formation, rushed into Keelor's turn. Keelor had to ease off his turn, ease off power, deploying dive brakes and putting nose up to permit the Sabre to continue to rush into his front. Keelor snapped back his dive brakes as the Sabre slid in ahead and now, closing very fast, fired a short burst from 450

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**The Sabre went out of control, flicking from left to right . . .**

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yards, saw cannon strikes on the fuselage and right wing of the Sabre which started disintegrating, large chunks flying off. The Sabre went out of control, flicking from left to right even as Keelor fired two more bursts, the last from 200 yards whilst still high, at 27,000 feet. As the Sabre flicked over its back, Keelor recalls vividly the two Sidewinder missiles still attached to the Sabre's wings, confirming reports that even the Sabres in PAF service were missile-armed. As the Sabre went into an earthward plunge, Keelor broke left and turned through 360°, circling to look for other Sabres but he and his wingmen Krishnaswamy seemed alone and low on fuel, the Gnats being permitted no more than 3 to 5 minutes combat, they returned to Pathankot, landing at 0732. The IAF had shot down its first P.A.F. aircraft and the Gnat had earned its subroquoit "Sabre Slayer".

Back at Pathankot, Flt. Lt. Pathania of the first section described his dog fight with two Sabres and a Starfighter. Having been separated from his formation in the fast manoeuvring battle, Pathania was engaged by the P. A. F. aircraft, both of whom he battled in what was to become typical tactics. Each time his Gnat got behind the Sabre, both pulling scissor manoeuvres, the Starfighter would dive into the melee. As the



Gnat broke into the Starfighter, cannons blazing even at high angles off, the supersonic Starfighter would accelerate to climb away. As Pathania reversed to follow the Sabre, the Starfighter would dive again till Pathania, very low on fuel, broke off action and returned to Pathankot. Pathania's labours were, however, rewarded the very next day when, in the day's second sortie to escort Mysteres over the Chhamb four intervening Sabres were intercepted by Gnats at 1515 hours. Without further aplomb, Pathania shot down a Sabre in a fighting chase, another Sabre being damaged by combined action of the other Gnats.

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#### **The Panthers of No. 23 Squadron were in full kill**

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In Pathania's words, "Now this particular Sabre headed towards Akhnoor, and I accelerated after him. We were really down to about a hundred feet, and just over Akhnoor. When I was within firing range—that is, about five hundred yards—and gave him the first burst, the Sabre being hit and started smoking. Although thick smoke was emitted, the Sabre was still pressing on, so I closed in further, by about a hundred yards and at about four hundred yards gave him another burst. This time I saw bits and pieces flying from the Sabre. But the aircraft did not explode. So I pressed on, and fired a third burst at about three hundred yards; by now the Sabre was emitting thick black smoke. And finally, when I found that my guns had stopped, I rolled out to have a good look and found that there was no canopy left in the Sabre and I could not see any pilot inside the cockpit."

The "air" balance was being restored and the *Panthers* of No. 23 Squadron were in full kill. Through the twenty-two days of shooting war, this unit maintained its record of being the top-scoring fighter squadron of the I.A.F.

The traditional values of air combat were re-confirmed in the few, classic, air engagements that took place between opposing fighters in September 1965. The man-machine combination, decisive on terra firma, is even more critical in the air. It is the high standard of training in peace time and degree of independence or improvisation ingrained that comes to the fore in

war. The fighter pilot's ability, courage and resistance to physical and psychological stress is shown up in the naked arena of air combat. As for his mount, of decisive importance in air combat are the fighter's attributes in terms of vertical acceleration, rate and radius of turn, climb performance and horizontal acceleration.

Of the fighter vs. fighter dogfights during the 22-day war that stretched both man and machine to their limits, two may be recorded here. The first took place on 7th September over Kalaikunda air base, west of Calcutta, as I.A.F. Hunters on combat air patrol intercepted P. A. F. Sabres mounting their repeat strike on the airfield. Flt. Lt. Alfred Cooke of No. 14 Squadron IAF got behind a Sabre of, by curious fact, No. 14 Squadron PAF. The Sabre, with its low-speed manoeuvring flaps, has a better radius of turn than the Hunter, although the latter has better acceleration. As the Hunter was jockeying for position, the Sabre threw in a turn, forcing Cooke to mush out and the Sabre reversed, trying to get into the Hunter's turn. Cooke, in turn, carried out a reversal, trying to decay his speed and these scissor manoeuvres continued; the Sabre, in a bid to break out, would accelerate the moment Cooke would fall behind but, with better acceleration, the Hunter would get back into firing position and the Sabre would throw in a turn once more, the classic scissors being repeated again and again. After over ten minutes of this text-book, classic dogfighting, the Sabre finally straightened out and dived to accelerate and exit but Cooke reacted immediately with a burst of cannon, the 30 mm shells striking the Sabre which broke up and crashed not far from the air base, the entire sequence having been watched by hundreds of personnel below.

The other air combat which most vividly demonstrated the skill and spirit of the IAF fighter pilot, was on 18th September. Four Gnats, led by the legendary "Tiger of Pathankot" Sqn. Ldr. AJS Sandhu flew an offensive sweep into Pakistan south of Lahore in the hope of drawing out the P.A.F. into air combat which was increasingly rare. Amritsar radar control warned the Gnats of P.A.F. fighters being vectored towards them and moments later,



Sandhu identified the six Sabres. The Gnats climb-turned into the Sabres and Sandhu went after the lead Sabre, obviously flown by a highly skilled pilot as well. The action, which began at 20,000 feet, rapidly descended to lower altitude, the Sabre able to out turn the Gnat but Sandhu, with adroitness, relentlessly followed his adversary through every manoeuvre. The Sabre finally pulled his trump panic manoeuvre, doing a half roll and diving out whilst at only 3000 feet. The Gnat's recovery height from this dangerous manoeuvre is nearly 4000 feet and it would be suicidal to follow the Sabre but with incredible flying skill, Sandhu half-rolled and recovered within what should have been an impossible margin and with a well-aimed burst, shot down the startled Sabre, the entire episode being filmed by cine-gun camera and since then available at Air Headquarters as the record of a classic example of superb air combat action.

#### **The P.A.F.'s pre-emptive attempt**

The P.A.F.'s attempted pre-emptive strike on the most important forward IAF bases on 6th September was intended to neutralise India's air arm at the start of hostilities. Targets were Adampur, Halwara, Pathankot, Srinagar and Jamnagar air bases plus the radar stations at Amritsar, Ferozepur and Porbunder, for which some sixty P.A.F. Sabres and B-57s, covered by the Starfighter force, were earmarked.

In the event, the strikes were poorly executed, as admitted by the Pakistanis later and apart from Pathankot where a number of IAF aircraft were hit whilst on the ground, no air base was out of action even for a minute but the PAF lost four of the twenty-two aircraft that eventually took part in the attacks on 6th September.

Ten Sabres of No. 19 Squadron P.A.F. attacked Pathankot even as this huge air base, merely 90 seconds flying time from the Pakistan border, was recovering four Mysteres from a strike-mission over the Chhamb. A CAP section of two Gnats had barely landed and before the next section was airborne, the low-flying Sabres struck with rockets and guns, eventually destroying two Mysteres and a Vampire, Gnat, MG-21

and C-119 transport, six aircraft and not thirteen claimed by the PAF. The other raiding PAF forces did not even get to their targets. Four Sabres of No. 11 Squadron heading for Adampur were intercepted by Hunters near Tarn Taran and, jettisoning their load, turned back to Pakistan. The PAF claims to have shot down two Hunters and damaged three more in air combat are ludicrous and possibly fabricated to cover the fiasco of aborting mission after hardly crossing into Indian airspace. Flt. Lt. I.F. Hussain of the IAF, said by the PAF to be the one pilot whose Hunter was damaged in this action, in reality flew Mysteres and was nowhere on the scene!

The attack on Halwara, however, was the PAF's biggest disaster: of the four Sabres of No. 5 Squadron P.A.F. that set out, only one returned, and that in damaged state. Two Hunters of No. 7 Squadron I.A.F. were flying a CAP over Halwara to cover the landing of a flight of Hunters returning from a ground-attack mission when the Sabres, in pairs, flew in low, positioning themselves for an attack on the air base. As Flg. Off. A. R. Gandhi, with Flg. Off. P.N. Pingali as No. 2, dived to get behind the Sabres, another Sabre pair was spotted and the front pair split. Gandhi's Hunter received machine-gun bullets but, with the lead Sabre in his sights, Gandhi himself fired a cannon burst which virtually disintegrated the enemy aircraft. Gandhi's Hunter, however, was hit again, and out of control, skidded out of the sky, Gandhi ejecting safely.

The other Sabre, streaking out at low level, was hit by a burst of 20 mm cannon fired by ground defences and was seen smoking on his way westwards.

Meanwhile, the section second of Sabres flown, as discovered soon afterwards, by the PAF fighter aces Sqn. Ldr. Sarfaraz Rafiqui and Flt. Lt. Yunus Hussain, were intercepted by another Hunter CAP of No. 27 Squadron, flown by F/Lt. D.N. Rathore and F/O V.K. Neb as No. 2. The action, as written in the de-briefing report,

*Contd. on page 40)*



The NASA mission planning for the Space Shuttle programme through 1991 envisions more than 500 flights with a wide variety of individual and multiple payloads—including the European Space Agency's Spacelab and commercial satellites. The first 28 operational missions are almost completely assigned with major "cargo" and filled out with small five by five cubic foot sized self-contained experiment packages.

The *Columbia*, which was scheduled for launch late in 1979, is at the NASA's Kennedy Space Centre, Fla. (KSC) undergoing pre-launch installation and testing. It was transported from its Rockwell International assembly plant in Palmdale, Calif., overland to to Dryden Flight Research Center at Edwards Air Force Base in March and then flown piggy back atop a 747 Shuttle Carrier Aircraft to KSC.

The first Shuttle spacecraft, *Enterprise*, which successfully completed the Approach and Landing Test program in 1977 at Edwards and the mated ground vibration tests at NASA's Marshall Space Flight Center, Ala. (MSFC) in 1978 and early 1979, is also at KSC where it is acting as a "pathfinder" for the ground handling equipment in the Vertical Assembly Building and at Launch Complex 39A. The *Enterprise* is not scheduled for space flight missions. The *Challenger*, the second scheduled operational spacecraft, is undergoing structural testing at Palmdale and will be returned to the assembly line in November where it will be outfitted with spaceflight systems for a late 1981 operational mission. The *Discovery* and *Atlantis* are in early fabrication and are slated to be delivered to KSC in 1982 and 1983.

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(Contd. from page 34)

is described as follows: It was about 1840 hours when Rathore, who was about three miles from the airfield, caught a flash in the air in the vicinity of the airfield.

Pakistani Sabres were in a dogfight with another section of Hunters, led by F/O Gandhi, who were also airborne on a CAP. Rathore, warning Neb, immediately turned towards the airfield as another two Sabres jockeyed behind the first pair of Hunters. The action was confused but two aircraft were seen as shot down, exploding as they impacted on ground as Rathore, getting behind the Sabre, still turning to the right, closed in to 1,000 yards while at the same time instructing Neb to taken on the second Sabre, on the left. With max. acceleration and overtaking the Sabre rapidly, Rathore closed in to 650 yards before opening fire. He saw the hits registering on the Sabre and closing in still further, Rathore fired again, from 500 yards. This time the Sabre was mortally hit. It banked sharply to the left, and then dove into the ground, exploding in a huge ball of flame some five or six miles away from the airfield. This was the Sabre flown by Rafiqui, commanding No. 5 Squadron, posthumously awarded the Sitara-e-Jurat and

after whom the PAF base at Shorkot Road is now named.

Meanwhile, Neb had closed in behind the second Sabre. Neb, incidentally, had not done any air-to-air firing before and at the time of this engagement was still under operational training. Anyhow, closing in on the Sabre he fired a burst from about 400 yards. The Pakistani pilot (Flt. Lt. Hussain) at once abandoned his attack on the airfield and pulled up sharply. Neb, unsure of his accuracy because of lack of any practice, rapidly closed in to less than 100 yards and fired again on the sharply climbing Sabre, which presented a much better target this time. He saw pieces fly off the Sabre as his cannon shells found their mark on the Sabre's left wing. There was a puff of smoke which rapidly turned into a sheet of flame as the Sabre disintegrated in mid-air and fell to the ground.

The P.A.F. did not attempt to raid Halwara by daylight again but two more Sabres fell to No. 7 Squadron in air combat in the following days, including one to Flg. Off. P.N. Pingali, who was the only one of the four pilots on CAP not to have shot down a Sabre on the 6th evening. □