



# The Hawker Tempest

**Above**  
Hawker test pilot  
William 'Bill'  
Humble flying  
Tempest V NV696  
from Langley, Berks,  
on November 25,  
1944. This aircraft  
went on to fly with  
222 Squadron.

**T**he Hawker Typhoon proved to be the RAF's first 400mph (644km/h) fighter, although it failed to adequately fulfil the role it had originally been intended for. Due to poor performance at high altitude and a disappointing rate of climb, it was never an effective interceptor.

At low level it was far more potent, and was the ideal weapon for countering 'hit and run' raids by Focke-Wulf Fw 190s. It also proved to be a devastating ground attack aircraft, delivering mortal blows to German troops, trains and armour in the days and weeks after D-Day.

Given the Typhoon's success in all areas except the one it had been designed for, Hawker developed the concept, creating the Tempest. The thick wing of the Typhoon caused compressibility problems at high speeds, leading Hawker to instigate a new version with a much thinner wing. Initially called the Typhoon II, the name was eventually changed to Tempest when a number of other

changes were also incorporated, prompting Hawker to view the aircraft as, effectively, a new type.

As well as the new elliptical, laminar flow wing, designer Sydney Camm and his team came up with a new dorsal fin, and moved the fuel tanks from the wings to the fuselage, lengthening the latter in the process. The Napier Sabre engine that powered the Typhoon was retained, though it was upgraded in various forms during the Tempest's service life. Approximately 1,700 Tempests were built – only half the number of Typhoons produced – as development was curtailed by the end of the war and the advent of the jet age.

## Into action

The Air Ministry asked for multiple prototypes, to be fitted with different engines. A single Mk.I was given a Sabre IV, two Mk.IIs were Centaurus-powered, and the Mk.III

and IV had types of Rolls-Royce Griffon. The first to fly, however, was Mk.V HM595, which had the 2,200hp (1,640kW) Sabre II from the Typhoon. It got airborne on September 2, 1942, from Langley, Berks, in the hands of Philip Lucas.

The Mk.V turned out to be the only variant to see action in World War Two. The Mk.II was eventually produced, but did not enter service until after the war. The final Tempest was the Mk.VI, a single-seat fighter powered by a 2,340hp Sabre V. With attention turning to jet aircraft, only 142 of the 'ultimate' Tempest were built.

The first production aircraft flew in June 1943 and the Tempest-equipped 150 Wing was formed in April 1944, initially based at Newchurch, Kent, and commanded by Wg Cdr Roland Beamont. Operations consisted of high-altitude fighter sweeps and anti-shiping reconnaissance. Superb at low level, the aircraft was also employed to counter V-1 bomb

**SPOT FACT** The prototype TT.5 conversion made its first flight in May 1947

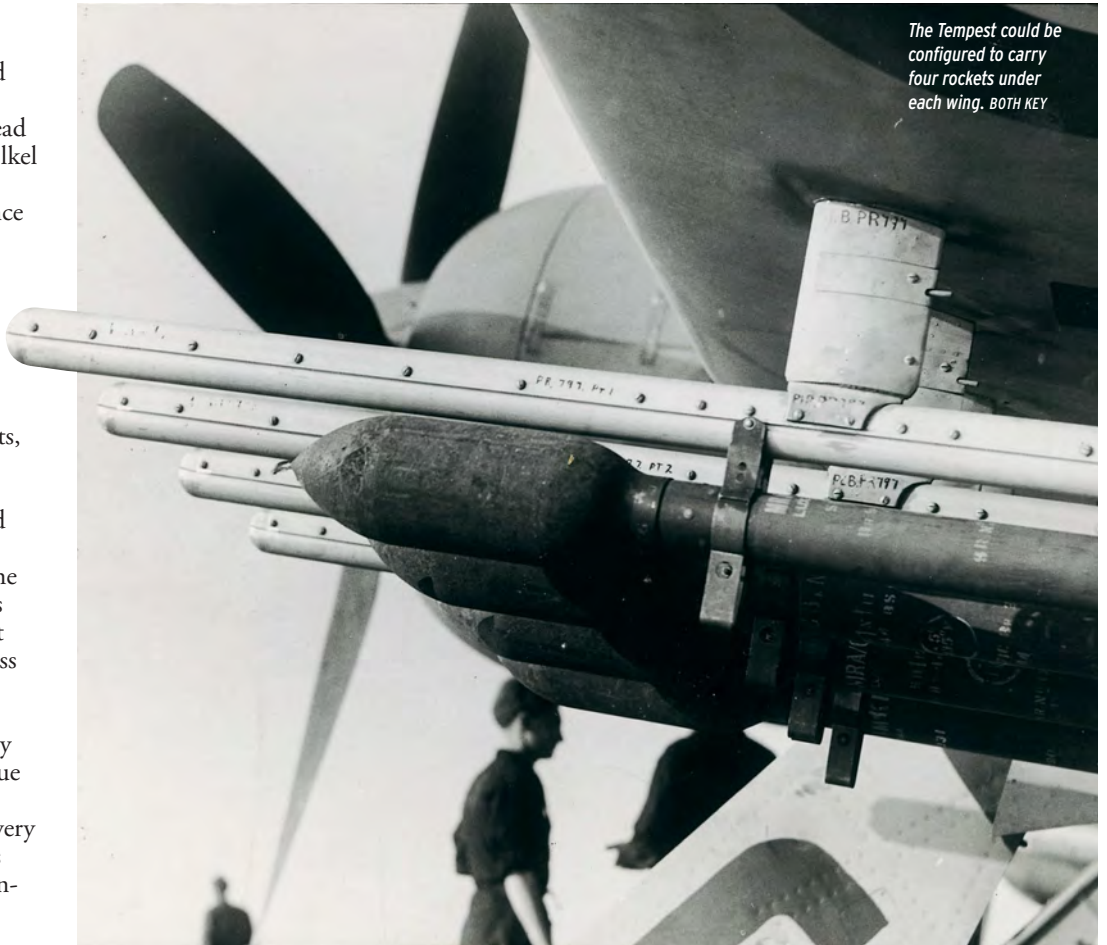
## Origin & history

attacks from June of that year.

In September, as the V-1 threat receded, Tempest units supported Operation Market Garden – the Allied attempt to seize a bridgehead over the Rhine. Later based at Volkel in the Netherlands, the fighters were used on armed reconnaissance operations behind enemy lines. Carrying drop tanks, they could fly far into enemy held territory and undertake pinpoint attacks. Thanks to their speed they could usually evade defending fighters.

Pilots scored a number of ‘kills’ against Messerschmitt Me 262 jets, avoiding the Luftwaffe machines in open combat where possible, but targeting them as they slowed to land. The Germans responded by installing ‘flak lanes’ around the approaches to their airfields. This led to several British losses, but at least 20 Me 262s were nevertheless claimed by Tempest pilots.

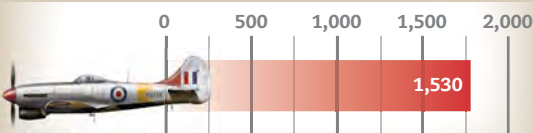
In the space of a few years, the Tempest had overcome some early engine reliability issues to continue the Typhoon’s fine record against ground targets, while also being very capable at higher altitudes. It was perhaps the RAF’s ultimate piston-engined fighter. ●



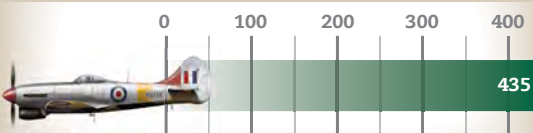
The Tempest could be configured to carry four rockets under each wing. BOTH KEY

### Hawker Tempest Mk.V

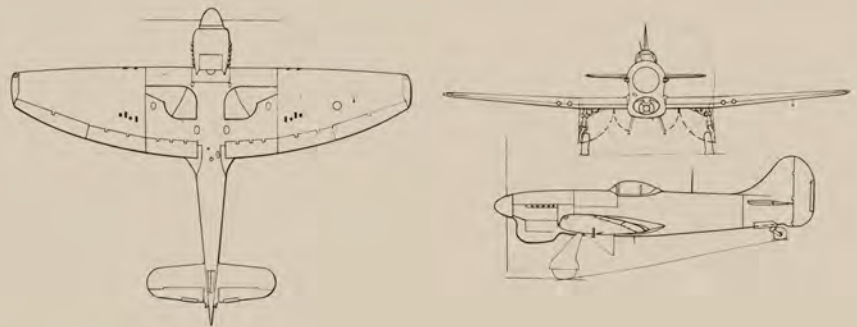
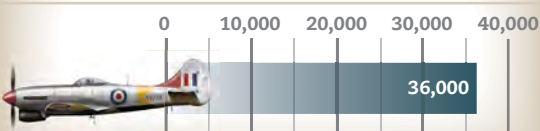
#### AT A GLANCE: RANGE (miles)



#### AT A GLANCE: SPEED (mph)



#### AT A GLANCE: CEILING (feet)



- Construction:** A total of 1,702 of all models were built.
- Powerplant:** One 2,180hp (1,625kW) Napier Sabre IIA, 2,200hp Sabre IIB or 2,260hp Sabre IIC 24-cylinder engine driving a four-bladed propeller.
- Dimension:** Span 41ft 0in (12.5m). Length 33ft 8in. Height 16ft 1in. Wing area 302sq ft (28 sq m).
- Weight:** Empty 9,250lb (4,196kg). Loaded 13,640lb.
- Performance:** Max speed 435mph (700km/h) at 17,000ft (5,182m). Service ceiling 36,000ft. Initial rate of climb 4,700ft per min. Typical range 740 miles (1,190km). Max ferry range 1,530 miles.
- Armament:** Four Hispano II (later Hispano V) 20mm cannon in the wings; two 1,000lb bombs or eight 60lb rockets under wings.
- Crew:** One.

**Note:** performance and weights varied according to role and configuration.



# Spotlight

## Hawker Tempest

# Hawker'

By the time the Tempest entered service many of its pilots were seasoned veterans, well up to capitalising on its superb qualities. **Graham Pitchfork** profiles a trio of Tempest exponents

**N**ew Zealander Harvey Sweetman joined the Royal New Zealand Air Force in April 1940.

Immediately after completing his training in November 1940 he accompanied many of his fellow countrymen and headed for Britain, destined to become a fighter pilot.

Sweetman quickly established himself as an aggressive pilot, first with 485 Squadron RNZAF before transferring to another 'Kiwi' unit, the newly formed 486 Squadron.

He was involved in numerous engagements with the enemy before 486 gave up its Hurricanes for Typhoons. In May 1943 Sweetman

was awarded the DFC, with the *Auckland Star* newspaper describing him as a "forceful, straight-shooting pilot".

With his first tour at an end, he joined Hawker as a production test pilot for Typhoons. He returned to 486 in February 1944 as a flight commander just as the unit was

re-equipping with the Tempest V, one of three squadrons forming 150 Wing in 85 Group.



# s Finest

## V-1 menace

Shipping reconnaissance sorties and fighter sweeps over northern France strafing ground targets became Sweetman's standard fare. Two days after D-Day (June 8, 1944) the squadron's Tempests were in action over the Normandy beachhead but within a week, England came under attack from the new 'terror weapon', the V-1 flying-bombs launched from sites in the Pas de Calais region of northern France.

An air defence system of anti-aircraft guns and balloons was established over southeast England to combat the 'doodlebugs'. At the same time, a concentrated bombing

offensive was mounted against the launch ramps, and fighters patrolled to engage the 'Divers', the codename given to the V-1s.

Having moved in April 1944 to the advanced landing ground at Newchurch near Ashford in Kent, 486 began patrolling off Beachy Head on June 16. Constant patrols were staged from dawn until dusk, and Sweetman achieved his first success towards the end of that first day when he shot down a V-1 as it passed Hythe at low level.

Over the next three days he destroyed two more. By mid-July his tally of flying-bombs had risen to nine, plus one shared.

## Rules of engagement

During the early days there were frequent difficulties co-ordinating the activities of the fighters with those of the anti-aircraft batteries, and the squadron suffered a number of unexplained crashes. In early July the system was re-organised with the guns re-sited on the coast, and 486 Squadron tasked to patrol the 'forward inland area', a line three miles in from the coast.

Downing a V-1 was a high-risk activity, with the weapon likely to explode and shed debris immediately in front of the attacker. The majority either blew up in the air after a burst of cannon or plummeted to the

Below

Sqn Ldr J Iremonger, OC 486 Squadron, briefing his pilots at Grimbergen, near Brussels. Sweetman is next to him with his hand to his mouth. ALL VIA CHRIS THOMAS



**SPOT FACT** A streamlined 45 gall (205 l) drop tank was developed specifically for the Tempest



**Above**  
New Zealander  
Harry Sweetman.

**Right**  
A V-1 over Kent  
being chased by a  
Tempest.

ground. This was not always the case however.

On August 8 Sweetman's penultimate victory was achieved in dramatic fashion. Despite shooting off one of the V-1's stubby wings as well as its pulse-jet engine, the 'terror weapon' did not explode and it reached Hastings before finally coming to earth.

His eleventh, and final, flying-bomb victory came the following day and by early September the first phase of the 'anti-Diver' war was over, with 486 Squadron being credited with 223 kills, making it the second highest scoring unit.

### Missiles and jets

Early in September 1944 the Squadron moved overseas to Grimbergen in Belgium as part of 122 Wing commanded by Wg Cdr Roland 'Bea' Beamont. On September 13, Sweetman flew as top cover to the CO of 3 Squadron, Sqn Ldr Ken Wigglesworth DFC, who led a section to locate and strike the sites of the V-2 guided ballistic missile.

The formation of eight Tempests located and strafed a site near The Hague when Wigglesworth's JN818 flew into the debris and he was killed. At the age of 22, Sweetman was promoted to squadron leader to replace Wigglesworth.

Also part of 122 Wing, 3 Squadron was tasked to provide bomber escort and ground attack sorties in support

of the advancing Allied ground forces. At the end of November Sweetman was on a fighter sweep over Germany when he shot up and damaged a

Messerschmitt Me 262 jet fighter as it taxied on Rheine airfield.

Early in 1945 he returned to Hawker at Langley as a test pilot before attending 3 Course at the Empire Test Pilot's School at Boscombe Down. He returned to New Zealand and in February 1946 was appointed the chief flying instructor at the RNZAF pilot training school at Ohakea. He died in January 2015.

### Wing formations

When Warren Schrader – another New Zealander – joined 486 Squadron in early March 1945 he

was already a very experienced fighter pilot. Flying Spitfires over Italy and Albania, his aggressive fighting spirit had earned him a DFC. After returning from a sortie over Italy with white

coolant smoke streaming from his engine, he became known as 'Smokey', a nickname that stuck with him for the rest of the war.

As Schrader joined 486 at Volkel in Holland orders were received to cease attacks against ground targets since casualties had been high. Fighter sweeps in large wing formations were the new order of the day, often as escort to Typhoons. As the Luftwaffe was making few forays into the battle area, the period was a frustrating one for Tempest pilots, relieved only when they struck at flak posts during the Allied airborne landings during



"Constant patrols were staged from dawn until dusk and Sweetman achieved his first success towards the end of that first day when he shot down a V-1 as it passed Hythe at low level"

the crossing of the Rhine.

As April began, the situation changed and the month proved to be an incredibly hectic, and fruitful, period for 486 as the German military machine made a final stand. A thousand hours were flown during the month, over 30 enemy aircraft were shot down and ground attack sorties were resumed.

On the 7th Schrader was leading a flight of eight when he was called in to hit a large enemy force in the little town of Leese. The eight Tempests strafed a concentration of vehicles just yards ahead of friendly forces.

Three days later he led a standing patrol when he spotted a Focke-Wulf Fw 190 closing in on a flight of Typhoons. He engaged the enemy, which immediately jettisoned its overload tank, but Schrader closed in and shot it down.

## Fighter harvest

The squadron moved into Germany on April 12 and took up residence at the old Luftwaffe airfield at Hopsten. The following day, 486 lost its very popular CO when Sqn Ldr Keith Taylor-Cannon was shot down and within a few days Schrader was promoted to command the unit.

Fighting was fierce, both on the ground and in the air. On April 15 the unit had a notable success when Schrader led nine aircraft on an armed reconnaissance. The formation encountered a flight of Fw 190s heading west and he turned his formation to engage.

The New Zealanders selected their own targets. Schrader attacked one and fired a long burst causing the enemy to roll over on fire and crash. Spotting another trying to escape, he gave chase and opened fire – it also exploded. Squadron pilots accounted for at least another four Fw 190s.

The following evening, Schrader led a formation and saw two Fw 190s circling over their airfield at Neustadt. Approaching from out of the sun, he was seen just as he was about to engage them. During a turning fight, Schrader hit one of the '190s, which flicked and went in. Another took him on but his wingman tackled it forcing the enemy to crash near the airfield.

Schrader also had successes against ground targets and on the 19th he and his wingman strafed enemy

bombers at Neuberg. Two days later he added to his score in air-to-air victories. He caught a Messerschmitt Bf 109 about to land at Schwerin. The pilot saw him, retracted the undercarriage and climbed away, but Schrader had the advantage and sent it down.

## Ten in a sortie

The Allied advance into Germany was rapid, and 486 moved to the former Luftwaffe airfield at Fassberg on the 26th. A substantial pre-war station, it provided some comfort for personnel who had spent the last few months in tented accommodation.

On the 29th Schrader was leading eight Tempests when he was diverted to intercept enemy aircraft threatening a British bridgehead on the River Elbe. He saw two Fw 190s and attacked one, sending it plummeting to earth where it exploded. Almost immediately he spotted a bomb-carrying Bf 109, closed to 300 yards (274m), fired a deflection shot and the fighter fell.

Separated from the rest of the formation, Schrader and his wingman continued to patrol. They saw another Bf 109 and both Tempests attacked – the enemy fighter crashed.

The two pilots were not finished; Schrader saw a pair of Bf 109s near Hamburg so he and his wingman picked one each. Schrader's amazing marksmanship was again in evidence and his opponent was sent hurtling to the ground. His No.2 attacked the second and it disappeared with its undercarriage down and trailing smoke.

The rest of Schrader's flight had also enjoyed success and this one sortie had accounted for ten enemy destroyed, two 'probables' and three damaged. Schrader had destroyed three of them with a fourth shared with W/O N Howard.

Schrader's final success in this remarkable three-week period came on May 1 when he caught a Bf 109 near Lübeck and two bursts of fire destroyed it.

The following day, Schrader was sent to command 616 Squadron, the RAF's first jet squadron, which was sharing Fassberg. After a brief familiarisation flight, he led a flight looking for the jet's first air-to-air combat but success eluded them before the war finished a few days later.

He led a successful patrol on the 3rd when he and his No.2 strafed



aircraft on the ground at Schönberg in Schleswig-Holstein, destroying three of them. A few days later, it was announced that Schrader had been awarded a bar to his DFC.

He returned to his homeland and flew with New Zealand National Airways Corporation, rising to be the chief pilot before retiring in 1976.

## Liberated

Sqn Ldr Frank Jensen DFC AFC, CO of 181 Squadron, was leading a 'vic' of three Typhoons in JP513 on October 25, 1943 when he was shot down near Caen. He crash-landed in a field and was soon captured. He spent the rest of the war as a prisoner and, after enduring the 'Long March' to the west across Poland, Czechoslovakia and Germany in the bitter weather of early 1945; he was finally liberated in May 1945 and repatriated to England in early June.

After a period of rest and leave he was appointed to lead 183 Squadron based at Chilbolton and equipped with the Bristol Centaurus-powered Typhoon II. The unit had seen much service in Germany and most of the pilots were waiting to be demobbed – Jensen noticed that "they tended to be ill-disciplined".

New pilots arrived and exercises were intensified with training being conducted at the Armament Practice Camp at Fairwood Common in South Wales. Later in the year, the unit took on the 'number plate' of 54

Above  
Warren 'Smokey'  
Schrader.

Left  
Tempests of 122 Wing  
crossing the Rhine.

**SPOT FACT** Six prototypes were made, all with different engines

Squadron, which had recently been disbanded.

On June 6, 1945 the victory parade and flypast to commemorate the end of the war was held in London with HM King George VI taking the salute in The Mall. A lone Hurricane led the flypast of 306 aircraft drawn from 35 squadrons – Jensen led 54's formation.

### Tribal descent

Towards the end of the year, 54 Squadron pilots ferried Tempest VIs to the Middle East to re-equip the units in the area. They routed through France, Italy and Libya

**Right**  
Jensen's Tempest VI NX131 over Aden. Note the squadron leader's pennant under the cockpit.



“Jensen had the rocket rails removed from his aircraft to be replaced with bomb racks. He took off to drop supply containers to Wilson who spent an uncomfortable night in hostile territory...”



**Above**  
Tempest Vs of 486 Squadron at Volkel.

**Right**  
Schrader's personal Tempest NV969.

before landing at Fayid in the Canal Zone. On arrival, Jensen was appointed to command 8 Squadron based at Khormaksar in Aden, taking over in February 1947.

The squadron was converting to Tempests from Mosquitos and Jensen was soon in action against dissident tribesmen in the Western Aden Protectorate. Trouble with local tribes was never far away.

In July 1947, the ruling Sharif of Beihan – in what was Aden but is now Yemen – requested assistance to stop the harassment of his villages by a nomadic tribe, the Bal Harith. Jensen flew to the area in a locally based Wellington and leaflets were dropped to warn the tribe.

On the 16th Jensen led four Tempests, all armed with 60lb rockets and cannons, to the area. Wind conditions were difficult and after one attack by Jensen, his No.2, Fg Off F G Tanner AFM, flying NX198, crashed near the target and was killed. Jensen returned in the afternoon with two other pilots and they destroyed the target when 18 direct hits were registered. Peace was restored in the area.

### Rocket diplomacy

After three months of relative quiet, the Quteibi tribe intensified its attacks and looting on the Lahej to Dhala road in the Radfan Hills, 30



miles north of Aden. Avro Ansons dropped warning leaflets that action against the tribe would begin in seven days if they failed to comply with government orders. They were then given 48 hours' warning to evacuate their women and children.

On November 27, 1947 operations began when Jensen led six Tempests into the fray and Avro Lincolns based in the Canal Zone joined in. Jensen's formation carried out a rocket assault against Thumeir, the Quteibi capital, when part of the town was destroyed, but the fort was undamaged. Two further strikes were carried out in the afternoon.

Over the next two days, Jensen led further rocket attacks against other villages and forts in the area. Over 200 rockets were fired and there were no civilian casualties.

A four-day truce was called but the Quteibi chiefs failed to turn up to negotiations and it was decided to

'visit' the houses of two important chiefs. Jensen led five Tempests; four made a successful rocket attack against one of the houses at Jimil and a fifth dropped two 500lb bombs on a second dwelling. This was sufficient to persuade the chiefs to negotiate.

### Ultimatum

The Bal Harith tribe had been quiet since the operations of July but by the end of the year they were causing more trouble. After airing their grievances in the latter part of 1947 the government instructed the tribe to accept the rule of the Sharif. They failed to obey the judgement passed and the Governor of Aden decided the tribe must be punished.

An ultimatum was delivered to its leaders and leaflets were dropped from an Anson but the tribe failed to comply. A plan was drawn up and this included the use of three

Lincolns based in the Canal Zone.

Once a decision had been taken to mount attacks, the pilots of 8 Squadron were flown in a Wellington to familiarize themselves with local landmarks and future targets, all in an area 20 miles north of Beihan.

Operations began on February 20, 1948 when Jensen led two dive-bombing sorties dropping 500-pounders on Omatam. Insufficient damage was caused, so new tactics were devised for the following day.

One aircraft in each formation carried two 1,000lb bombs fitted with 11-second delay fuses and dropped from low level. Another two carried eight 60lb rockets to destroy any buildings after the bombing attack. Later in the day, Jensen returned to lead another similar sortie and the village of Bisha was left in ruins.

With most of the important towns and villages in the Bal Harith area damaged, it was decided to concentrate on cultivated areas in an effort to limit the food supply. The best method was found to be dive-bombing with 1,000-pounders fitted with delay fuses.

The action began on March 2, Jensen leading several sorties over the next two days when bombs were followed by rockets. After three days, the mission was accomplished but not before Jensen suffered an engine failure; he managed to make an emergency landing at Khormaksar.

Early in April it was announced that Jensen had been awarded a bar to his DFC for his leadership during the numerous operations over the past year.



**Left**  
Danib village after an attack by Jensen's Tempests of 8 Squadron.

## Man down

Jensen was back in action on April 12, 1948 when 8's Tempests were tasked to attack three forts in the southeast corner of the Radfan. A faction of the Haushabi tribe had improperly garrisoned these forts despite warnings that they would be attacked.

Jensen led six Tempests at dawn and each pair was allocated one of the forts. A low cloud base thwarted some and the six Tempests returned to Khormaksar to refuel. A second assault was mounted when the weather had improved and the forts were destroyed.

On the fourth and last sortie of the day, Flt Lt J A Wilson in NX140 was forced to land in the target area and was slightly injured. An Anson was scrambled and was over the site in 30 minutes.

Tempests established standing patrols and Jensen had the rocket rails removed from his aircraft to be replaced with bomb racks. He took off to drop supply containers to Wilson who

spent an uncomfortable night in hostile territory before a ground patrol reached him at dawn.

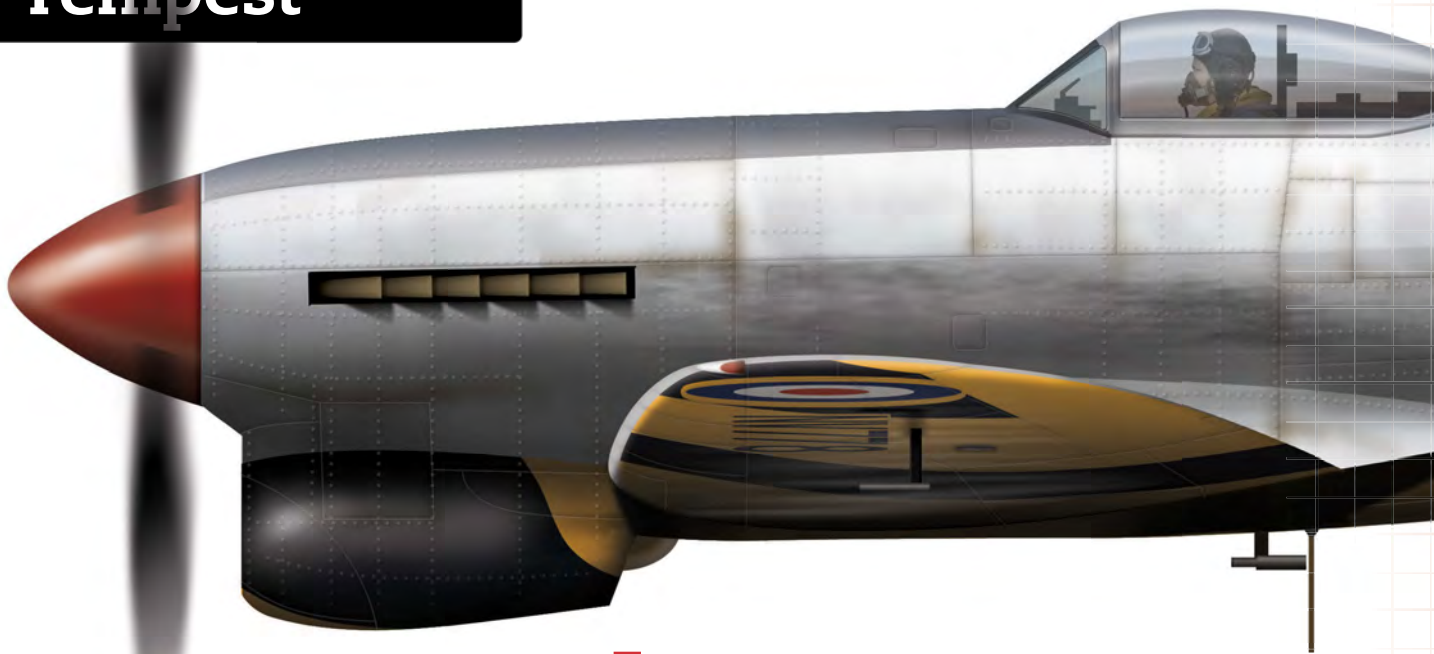
Early in June, Jensen broke his leg during a party in the Officer's Mess while "upholding the honour of the squadron". It was not until December that he returned to full flying duties.

Jensen handed over command of 8 Squadron in August 1949. He had played a major role in 13 separate missions against dissident tribesmen in a series of 'air control' operations that have received very little attention from historians. He went on to have a distinguished career in the RAF, retiring as a group captain having added a CBE to his gallantry awards. ●

**Below**  
Jensen mounting his 54 Squadron Tempest II MW800 at Chilbolton, June 1946.







# Hendon. Survivor

Andy Hay artwork of a Tempest now preserved at the RAF Museum

**Artwork**  
Hawker Tempest  
TT.5 NV778 served  
as a target tug with  
233 OCU from 1952  
until 1955.  
ANDY HAY-2016

**A**fter World War Two, a number of Hawker Tempest Vs were converted into target tugs. Among them was NV778, which is now on display in its distinctive silver, yellow and black markings at the RAF Museum in Hendon.

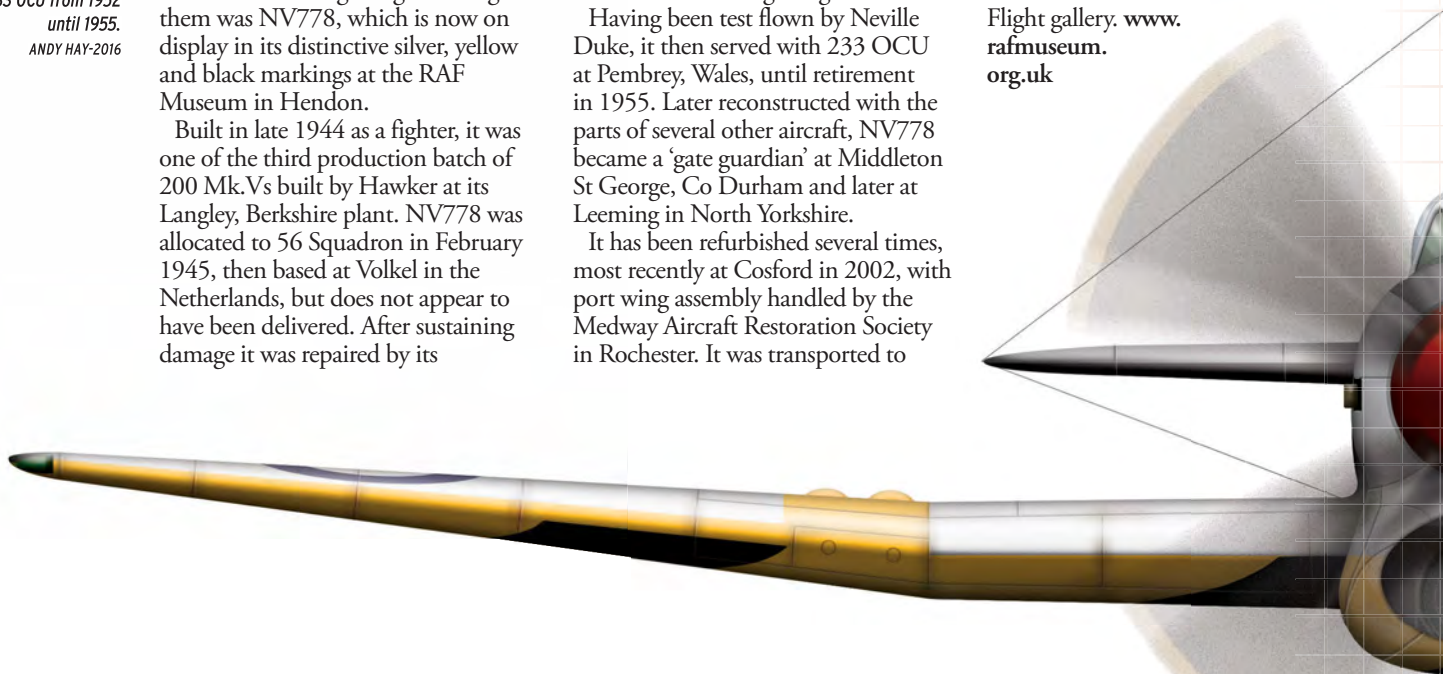
Built in late 1944 as a fighter, it was one of the third production batch of 200 Mk.Vs built by Hawker at its Langley, Berkshire plant. NV778 was allocated to 56 Squadron in February 1945, then based at Volkel in the Netherlands, but does not appear to have been delivered. After sustaining damage it was repaired by its

manufacturer and eventually passed on to No.5 MU at Kemble, Glos, where it was kept in storage before being converted into a target tug in 1950.

Having been test flown by Neville Duke, it then served with 233 OCU at Pembrey, Wales, until retirement in 1955. Later reconstructed with the parts of several other aircraft, NV778 became a 'gate guardian' at Middleton St George, Co Durham and later at Leeming in North Yorkshire.

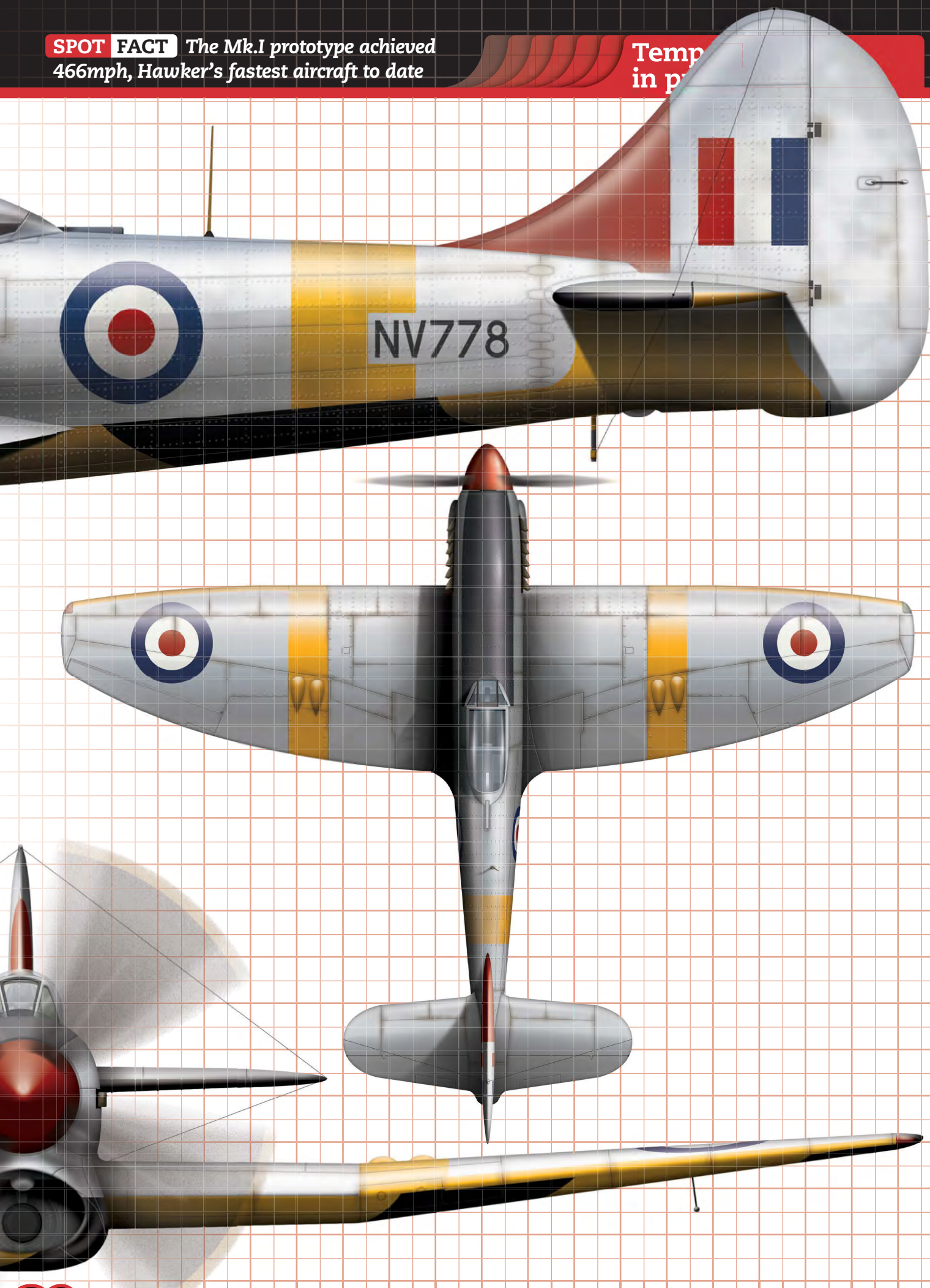
It has been refurbished several times, most recently at Cosford in 2002, with port wing assembly handled by the Medway Aircraft Restoration Society in Rochester. It was transported to

Hendon on May 6, 2003, where it was re-assembled and suspended from the ceiling in the attraction's Milestones of Flight gallery. [www.rafmuseum.org.uk](http://www.rafmuseum.org.uk)



**SPOT FACT** The Mk.I prototype achieved 466mph, Hawker's fastest aircraft to date

Temp  
in p



Hawker  
Tempest

Chris Thomas explains why the Tempest V ruled the roost and gained the respect of Luftwaffe jet pilots

## V for

**Below**  
Tempest V EJ705  
of 80 Squadron at  
Volkel; this aircraft  
had three, and one  
shared, Bf 109s to its  
credit when flown by  
the unit's pilots. *AWM*

**R**egarded by Luftwaffe pilots as a dangerous opponent, the Hawker Tempest V is often hailed as the zenith of British wartime piston-engined fighter development. Supermarine admirers would probably beg to differ, citing the Spitfire XIV and the F.21, which just crept into the reckoning, as superior.

The only question that matters is how did it match up against the latest German equipment during its 12 months of operations?

It was May 1944 before the Tempest became fully operational, by which time the Newchurch Wing (comprising Nos 3 and 486 (New Zealand) Squadrons; plus 56 Squadron equipped with Spitfire IXs, awaiting Tempests) was flying mainly uneventful shipping reconnaissance sorties or 'Rangers' – attacking ground targets. D-Day passed without action, but on D+2

a sweep behind the Normandy beachhead, led by Wg Cdr Roland Beamont, found five Messerschmitt Bf 109Gs in line astern, 5,000ft (1,524m) below.

Taking 3 Squadron down to intercept, Beamont was able to close in and choose his target: "They were travelling at approximately 300mph and did not realise they were being bounced until just before I had opened fire, when the enemy aircraft broke to port and dived for cloud with violent evasive action.

"I opened fire at about 500 yards' range closing to pointblank, and saw strikes at the end of the burst on the starboard side of the fuselage. The enemy aircraft immediately poured smoke and flames. I had to break to starboard in order to avoid collision and then to port when I saw [it] clearly enveloped in flames in an inverted dive.

"I broke to starboard as I finished

my attack and heard a loud bang and saw a strike on my starboard wing."

Beamont's number two, Flt Sgt 'Lefty' Whitman, wrote in his combat report: "Before making an attack myself, I looked behind and saw two Me 109Gs slightly above on the port quarter diving in to attack out of the sun.

"I throttled back and the leader overshot. I opened fire at 300 yards with ASI [airspeed indicator] 370mph with 15° deflection. The enemy did a climbing turn to port and I saw two strikes, one in the wing root and one in the cockpit, and then the target blew up."

Meanwhile Flt Lt A R Moore easily overhauled and shot a third Bf 109 down in flames. The Tempest had opened its air combat account in no uncertain manner.

This would, however, be an isolated encounter with the



**SPOT FACT** It was faster at lower level than all other WW2 propeller-driven aircraft

**Tempest in Combat**

# Victory



Luftwaffe, for on June 13 the first of the V-1 flying-bombs arrived over southeast England, and nearly three months of intensive flying against the pilotless aircraft followed. The Tempest's high cruising speed, rapid acceleration and stable gun-platform combined to make it the most successful fighter against the flying bombs.

The two Tempest units were joined by 56 Squadron late in July and – together with a detachment from the Fighter Interception Unit (operating at night) plus newly established 80, 274 and 501 Squadrons – in August they were credited with around 800 V-1s destroyed.

## Treetop combat

By early September, Allied advances had reduced the incoming 'doodlebugs' to a relative trickle. With 501 Squadron left in the UK to deal with the residual threat, the other five Tempest units joined the 2nd Tactical Air Force (TAF) at the end of the month.

While operating from Grimbergen in Belgium, on the way to its winter

quarters, 56 Squadron opened its score in style. Twelve Tempests, led by Sqn Ldr 'Digger' Cotes-Preedy, a former Typhoon, Gloster and Napier test pilot, encountered 20 to 30 Focke-Wulf Fw 190s already engaged with Spitfires, and stormed into the melee.

Cotes-Preedy closed to within 30 yards of his target and sent it down streaming smoke, while Fg Off David Ness RCAF chased and destroyed a Focke-Wulf before climbing back to 3,000ft where he sighted another diving away for home.

The combat report filed by Ness reveals the typical way in which a Tempest could handle a Fw 190: ➔

**Top**  
Tempest V EJ750, flown by Wg Cdr J B Wray when he shot down two Me 262 fighter-bombers.  
CHRIS THOMAS © 2016

**Above**  
Wg Cdr John Wray, 122 Wing's 'Wingco Ops', with his personal Tempest, EJ750, which carried his initials. J B WRAY

**Above left**  
A 486 Squadron Tempest heading for the runway with an 'erk' perched on the wingtip to guide the pilot along the pitted and much repaired taxiway.  
RNZAF

**6:1**

was the Tempest's success ratio in combat with other fighters

**SPOT FACT** The second prototype, Mk.I HM599, first flew in February 1943, five months after the Mk.V



**Above**  
A Tempest V of 274 Squadron shortly after D-Day. PAC

**Below**  
Ground and aircrew struggling to free 'U-for-Uncle' of 80 Squadron from Volkel's mud, late autumn 1944. AWM

"I overtook him very fast, doing approx 350, and as I closed he turned into me. I fired a one-second burst from about 200 yards, 20° deflection, seeing no strikes.

"We then had the turning match lasting four minutes, mainly at treetop height with the 'Hun' apparently anxious to go home. I found I was able to hold him in the turns, in the course of which I fired about three short bursts, seeing strikes on the starboard wing and a large piece coming off the port wing. I noticed vapour trails from both aircraft.

"The Hun then climbed and did a stall turn, immediately repeating the manoeuvre. The second time I overshot. Coming back for a final attack I saw his hood fly off and the pilot baled out, his parachute opening as the aircraft turned and dived straight at me. I took evasive action."

Despite unfavourable odds the Tempest pilots were credited with three Fw 190s destroyed, two 'probables' and one damaged, for no loss. This situation, with Tempests tackling larger enemy formations, would often be repeated but contacts with the Luftwaffe during the next few weeks would take a different direction.

### Rat catchers

The Luftwaffe had introduced its first jet, the Messerschmitt Me 262 and, fitted with bombs, small numbers had been operational since late August 1944. Banned by Hitler from going below 4,000m (13,000ft), and with an unsuitable bombsight, their results were not impressive. By late September Me 262s of I and III Gruppen of Kampfgeschwader (KG) 51 were attacking targets in the Nijmegen area, usually troop concentrations but also Allied airfields.

Although Spitfires of 412 Squadron RCAF had managed to overwhelm a '262 on October 5, the German jets proved difficult to counter, evading the defences to drop their bombs and eluding any pursuit with superior speed. Tempests arrived at Volkel, the most forward Allied airfield in newly liberated Holland, on October 1 and had their first sightings of the new foe the same day. A system of patrols was established, particularly to protect Grave airfield and their own base.

After several inconclusive encounters, when the '262s were able to draw away, success came on the 13th. Plt Off Bob Cole was on a defensive patrol at 14,000ft when he was warned of a jet's presence by another patrol. Flying a course to intercept, he met the enemy head on and pulled up to fire two long bursts as it passed 100ft above him.

Turning, Cole put his Tempest in a shallow dive at 480mph but was





**Above left**  
Armourers load belts of 20mm ammunition into a 501 Squadron Tempest. CE BROWN/RAF MUSEUM

slowly losing ground. Perhaps he scored some hits as eventually he saw dark grey smoke pour from the jet's two engines.

After a chase of about 40 miles, the '262 slowed a little and at last Cole was in with a chance: "I closed in to about 500 yards and fired one short burst, dead astern, which missed. I closed in to about 150 yards, still dead astern, and fired another short burst. The enemy immediately exploded, just as a doodlebug does."

This was an isolated success, although there were many encounters with what became known as 'Rats' and occasional claims for a 'damaged'. The defence was largely effective, however, as the jets were often forced to turn back, jettisoning their bombs.

## Change of tactics

A change of tactics came at the end of October 1944: in addition to patrols, Tempests were stationed at the end of Volkel's runway, ready to scramble and head for the jet bases when the Rats were at their most vulnerable, short of fuel and approaching to land.

In practice this proved difficult to achieve, the Germans responding by packing the surrounding areas with highly effective automatic flak and



**Left**  
Sqn Ldr 'Rosie' Mackie, CO of 80 Squadron, in his Tempest, NV700. IWM

mounting their own defensive patrols.

The next significant claim came on November 3 when Wg Cdr John Wray, commanding officer of 122 Wing, was conducting an 'air test'. Sighting a pair of Me 262s below, he dived, reaching 450mph before opening fire as he closed to within 600 yards of the starboard jet.

A three-second burst brought strikes on its tail and it disappeared, inverted, into cloud. Wray could only claim a 'probable', later downgraded to 'damaged'. But post-war research suggests his target, an Me 262 of 3/Kommando Nowotny, was indeed shot down.

A month passed before a Tempest pilot claimed another Me 262 in aerial combat, Canadian Flt Lt John 'Judy' Garland pursuing one apparently returning to its base at Rheine. Again its pilot chose to weave and turn

tightly, inducing a high-speed stall, followed by a flick roll which enabled the Tempest to close to 150 yards and open fire. The jet spun and crashed into woods.

Two weeks later John Wray attacked an Me 262 at low level. As the jet began to pull away Wray was about to give up the chase but then his target began to turn, eventually heading for its base. The Tempest gained on the jet, which began to weave violently, striking a rooftop with its wing tip and crashing into the Rhine.

A pattern was emerging: either a long-distance burst, which eventually

slowed the jet, or error by the pilot, typically turning or taking evasive action (other than speed in a straight line) were the catalysts for success against the '262s.

After lengthy chases the jets seemed to throttle back, perhaps due to fuel shortage, and their pilots' desire to reach base also left them vulnerable. Even though the bomber version of the Me 262 was armed with a pair of 30mm cannon, Luftwaffe pilots rarely took the initiative and attacked Tempests, and as far as is known none were claimed by jet pilots.

## Winter offensive

The nature of the air war changed with the launching of the German Ardennes offensive. In the opening skirmishes on December 17, 1944, nine Bf 109s were claimed destroyed as well as Wray's Me 262, mentioned earlier. Only two Tempests were lost – one to flak, the other to unknown causes.

Christmas Day brought the last jet claim of the year when New Zealanders of 486 Squadron encountered one during a patrol over the Ardennes. The lone German tried to overfly the Tempests but was attacked from below, head-on. Damaged sufficiently to render it an easier target, it was duly dispatched north of Aachen.



**Below left**  
A 486 Squadron Tempest in the shadow of the remains of a Volkel hangar.

**SPOT FACT** Gyroscopic gunsights were used in the post-war Mk.II, but not in previous models



**Above**  
Sqn Ldr David 'Foob' Fairbanks, a US citizen serving with the RCAF and the most successful exponent of the Tempest. W J HIBBERT

**Top right**  
Tempest V JN817 as flown by Sqn Ldr 'Spike' Umbers of 3 Squadron when he damaged an Me 262 on October 21, 1944. CHRIS THOMAS © 2016

**Above right**  
Tempest V NV753 of 486 Squadron RNZAF, April 1945. CHRIS THOMAS © 2016



**Tempest comparative tests**



A rare image of Tempest V EJ585 of 501 Squadron at Bradwell Bay, circa 1944. It was experimentally fitted with a short-lived apparatus codenamed 'Monica', used to help detect V-1s. KEY COLLECTION

In January 1944 the Air Fighting Development Unit (AFDU) at Wittering received an early production Tempest for comparative trials. The all-round view of its 'bubble' canopy was superior to most types in service at that time, with the exception of the Hawker Typhoon. Comparisons with the Mustang III, Spitfire XIV, Bf 109G and Fw 190A revealed the Tempest was faster than all of them below 20,000ft - for the Allied types by 15 to 20mph, and the Luftwaffe types 40 to 50mph. At higher levels the Mustang and Spitfire were faster, and while the Bf 109G could match the Tempest, the Fw 190A remained slower.

It could be out-turned, just, by the Mustang, and more easily by the Spitfire, but the Tempest could hold its own with the '190 and out-turn the '109. In roll rate it could not compare with the Fw 190 and was inferior to both the Mustang and the Spitfire, although the latter was only superior at speeds above 350mph. The AFDU was particularly impressed by the Tempest's remarkable acceleration in the dive - which, along with its steadiness as a gun platform, would be key to its success in combat over Europe.

Luftwaffe activity reached a peak with the infamous Operation 'Bodenplatte' on New Year's Day when some 900 fighters attacked Allied airfields in Belgium and Holland. Volkel, home of the Tempests and a rocket-Typhoon wing, was a prime target but, through a series of mishaps and errors, the base escaped largely unscathed. Some Tempests were already airborne when the attacks came in and others were scrambled, bringing down ten German fighters for no loss.

**Every man for himself**  
On the days in January and February 1945 when weather permitted

operations, large Luftwaffe formations outnumbered the Hawkers. Attack was the best form of defence and the Tempests usually hammered into the Messerschmitts and Focke-Wulfs. The tactic was largely successful as, by this stage in the war, the enemy included a significant proportion of inexperienced pilots.

On the last day of February, Sqn Ldr David 'Foob' Fairbanks, an American serving with the RCAF, led six 274 Squadron Tempests into an estimated 40-plus enemy fighters near Osnabrück. He was the 2nd TAF's top-scoring Tempest pilot with 11 confirmed 'kills' on type plus a Bf 109 while flying Spitfires.





This Luftwaffe armada was too much of a handful even for the Tempests, and it became a chaotic 'every man for himself' combat. With Fw 190s queuing behind them at every turn there was no time to keep the opposition in their sights. Four Tempests escaped, claiming five 'damaged' between them, but two had gone down, one of them flown by Fairbanks, whose last call had been: "Five on my tail!" Both pilots survived as prisoners of war.

February also saw the arrival of two more Tempest units in Holland – 33 and 222 Squadrons – which, joined by 274 Squadron, formed a new wing.

## Battles with Doras

In early 1945 the Jumo-engined Fw 190D-9, the 'Dora' variant, was in more widespread Luftwaffe service,



and while the Tempests usually had the better of encounters, much depended on the tactical situation and the experience of the pilots involved.

On March 7, New Zealander 'Rosie' Mackie, 80 Squadron's CO and an established 'ace' from the Mediterranean theatre, met a worthwhile opponent: "I picked out a long-nosed Fw 190 which, after several manoeuvres, dived vertically down to 3,000ft just below a five-tenths layer of cumulus cloud. I then found myself alone with this '190 over open country, so we proceeded to have a good uninterrupted dogfight.

"For over five minutes I tried to position myself for a reasonable shot at him, but he proved to be a very clueful opponent. We were both leaving almost continuous wing-tip trails.

"I found that with full revs and boost, I could gain slowly on him in about three complete turns, but when almost ready to open fire at him he would throttle back suddenly and turn sharply, causing me to overshoot.

"These tactics were to some extent successful and he actually took one wild shot at me on one occasion, but the deflection was full and he must

have been almost stalled at the time so I was not unduly worried. After each of these overshoots, I found myself back where I started, and so another vicious turning circle developed.

"Once or twice he attempted to dive away on the deck, climbing up again when I began gaining on him, and even went up into cloud which was not sufficient cover for him.

"Eventually, two Tempests of 274 Squadron arrived on the scene, which distracted the attention of the Hun sufficiently for me to get in a one-and-a-half-second burst with 30° deflection from approx 200 yards.

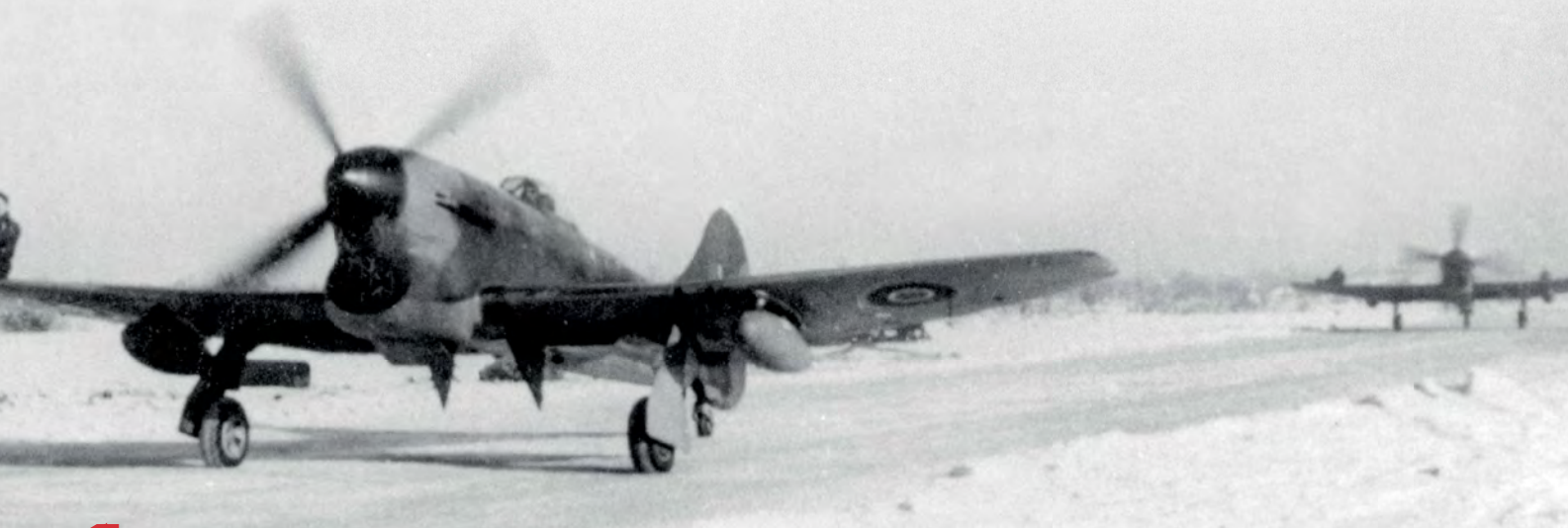
"On lowering my nose I saw that a fire had started right in the cockpit. The fire grew, developed into a huge sheet of flame and the enemy aircraft crashed in a mushroom of smoke and flame, north of Rheine."

## Exotic types

Concentration on ground targets, the priority for the Tempests, could be hazardous. On April 12, 1945 a section of four from 33 Squadron were thus engaged when they were spotted by a dozen Fw 190Ds of I Gruppe Jagdgeschwader 26, led by ➤

**Above**  
Tempests of 274 Squadron refuelling in the snow at Volkel early in 1945.  
W J HIBBERT

**Below**  
Tempests of 122 Wing had to cope with frequent bad weather in the winter of 1944/45. W J HIBBERT





**SPOT FACT** The first production Mk.V was completed on June 21, 1943, and test flown by Bill Humble



**Above**  
Sgt Bob Cole of 3 Squadron surveys the burned tail of his Tempest after flying through an exploding V-1. KEY COLLECTION

**Below**  
A pilot climbs into Tempest V JN768 of 3 Squadron at Newchurch in May 1944. KEY COLLECTION

the experienced Oberleutnant Hans Dortenmann.

Before the top cover (two of the four Tempests) had time to react, the Doras attacked the lower pair. Dortenmann later related how "seven of the eight" had been shot down, with only one, badly damaged, managing to escape. In fact, only two Tempests were lost; one pilot baled out successfully and evaded capture but the other, on only his second 'op', was killed.

The arch opponent, the Me 262, was seen less in the last months of hostilities but at least two more fell to the guns of Tempests. One was credited to 56 Squadron in January

and the other to 486's New Zealanders in April.

Fairbanks, dubbed 'The Terror of Rheine' by his squadron's diarist, had claimed another on February 11, shooting it down as it attempted to land at the German base. Recent studies reveal this was actually an Arado Ar 234 twin-jet bomber.

The last weeks of the war brought brief encounters with more exotic German types, including one involving four Focke-Wulf Ta 152Hs which intercepted four Tempests attacking rail targets. Accounts of the combat are difficult to reconcile, but it seems the RAF formation had split into two pairs. Wg Cdr Richard Brooker led the first pair but it was his No.2 who sighted an "Fw 190" at low level – which he was able to catch, turn inside and bring down.

The other pair sparred with the "Tank" fighters, claiming one damaged, but W/O Owen Mitchell, a newly operational pilot (albeit an experienced instructor), was caught in a low-level turning combat and fell to a Ta 152's guns. (Focke-Wulf designer Kurt Tank had been honoured with the 'Ta' suffix in place of 'Fw' for this radical rethink of the Fw 190.)

It seems another jet, a Heinkel He 162, can also be credited to a Tempest pilot. Fg Off Geoffrey Walkington of 222 Squadron claimed an unidentified type on April 19, but his description of the combat leaves little doubt it was one of Heinkel's diminutive jets.

### Scoreboard

The final official Tempest scoreboard totalled 240 enemy aircraft destroyed in the air – an impressive figure considering the many days lost

through bad weather and the type's primary role to seek out ground targets.

Two statistics from 122 Wing's Operational Record Book give some idea of the Tempests' prowess in the ground attack role. In February 1945, when rail targets had priority, no fewer than 484 locomotives had been put out of action; and in April, when the focus switched to road transport, 636 vehicles were claimed as destroyed and a further 1,476 damaged.

This was not without cost. Since the Tempests had arrived in 2nd TAF, 155 had been lost on operations with the loss of 93 pilots, 38 of whom survived as prisoners of war. Owing to a number of uncertainties it's difficult to categorise Tempest losses precisely, but it seems that nearly half may have been due to flak. Of the remainder, 50 could be put down to operational accidents, mainly engine failure, but only 26 were thought to be victims of enemy fighters.

This suggests a combat claim/loss ratio in excess of eight to one – or, if just enemy single-seat fighters are included (191 Bf 109 and Fw 190s claimed), nearer six or seven to one.

As for those elusive jets, Tempest pilots were officially credited with seven Me 262s, three Ar 234s plus one (unidentified) He 162 destroyed. Post-war knowledge adds at least another three to this total.

The true value of the Tempest was how it made life very difficult for the Luftwaffe's jet pilots; hence KG 51 Me 262 pilot Hubert Lange's assessment: "The Me 262's most dangerous opponent was the Hawker Tempest – extremely fast at low altitudes, highly manoeuvrable and heavily armed." ●

