

## Spotlight

## Gloster Meteor

24 Pages in detail

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Jets over North Weald

This month our Spotlight focuses on one of Britain's most famous aircraft, the pioneering Gloster Meteor. The only Allied jet to fly operations during World War Two, the Meteor never met its German equivalent, the Messerschmitt Me 262, in combat, but quickly proved its worth. It went on to become

the RAF's primary fighter in the 1950s, and a few remain airworthy today. We reflect on some of the ground-breaking machine's many roles.

#### Main picture

Gloster Meteor F.3 EE457 served with the RAF's 222 Squadron. Its flying days ended after it overshot on landing at Tangmere on October 7, 1947. KEY



Gloster **Meteor** 

# The Las

**Tom Spencer** outlines the service of the final Meteor day fighter... the F.8

loster's Meteor was the RAF's first jet fighter and served in a limited manner during the closing stages of World War Two.
Fighter Command gradually began replacing its home-based Spitfires with jets immediately after the war and, as production of the Meteor F.3 and F.4 increased, these supplanted them. As with the Supermarine thoroughbred it was replacing, the Meteor was developed incrementally to improve its performance.

To promote stability, some lateproduction E4s received a slightly longer nose but this then affected the aircraft's centre of gravity as fuel and ammunition were used and revealed the fin design was incapable of coping. This resulted in increased, and potentially dangerous, instability. A new, more angular (and elegant) fin design was trialled and contributed to significantly better handling. Meteor F.4 VT150 was then modified as the F.8 prototype and strengthened in several areas to allow for the increased stress anticipated. It also had the 30in (76cm) nose extension containing a 95 gal (432 lit) fuel tank and thus modified, VT150 flew for the first time from Moreton Valence, Gloucestershire, in the hands of test pilot Jan Żurakowski on October 12, 1948. Trials at the Aeroplane & Armament Experimental Establishment, Boscombe Down, Wiltshire confirmed the improvements in handling, and small increases in the limiting Mach number to 0.82, though these were minimal as the E8 was 600lb



# t of its kind

(272kg) heavier than the F.4... but with the same power. The trials also showed problems in spin recovery remained, but the new 'bubble' canopy and ejection seat were favourably received. The new mark was ordered into production and eventually 1,090 were built with the last, WL191, rolling off the line in April 1954.

#### Into service

Appropriately, the first Meteor F.8 for an operational unit was VZ348, delivered to 1 Squadron at Tangmere, West Sussex, on December 10, 1949. So began the type's career as the primary day fighter in Fighter Command, which lasted until spring 1957, by which time 30 RAF

and Royal Auxiliary Air Force (RAuxAF) squadrons had flown them. Although the first aircraft had gone to 1 Squadron at Tangmere, it did not begin full re-equipment until early August 1950.

The honour of being the first to fully convert to the Meteor F.8 went to 245 Squadron, which was part of 12 Group at Horsham St Faith near Norwich, Norfolk, under Sqn Ldr Cyril Counter.

Its first two E8s arrived on June 29, 1950 and it was fully equipped

by the end of August, though was sufficiently worked up to attend an Armament Practice Camp (APC) at Acklington, Northumberland, early that month. Ironically, 245 was also to be the last Meteor F.8 fighter squadron. During August, 1 Squadron was fully furnished with the F.8, with Sqn Ldr Hubert 'Dizzy' Allen's 43 Squadron following close behind.

However, amid much grumbling, in November the latter left its spiritual home at Tangmere and moved north to

Below Photographed in March 1952, Sqn Ldr 'Dusty' Miller in his Meteor E8 WH480 heads an immaculate formation from 41 Squadron.



## Spotlight on the Meteor F.8

began training with FRL, and on return then instructed their squadron mates.

The first five modified aircraft were returned on April 11 and 'dryprod' training began with FRL's Lancaster and Lincoln refuelling test beds; they also used the USAF YKB-29T Superfortress, which had been modified as a three-point tanker. The first 'wet-prod' was attempted by Sqn Ldr Counter on May 8, but having engaged the drogue, the hose burst and sprayed fuel all over his aircraft. Early difficulties were soon overcome, though, and most pilots became refuelling qualified. Further trials over the North Sea were conducted through the summer, with the fighters being vectored by ground control intercept

radar, which further enhanced the training value. The squadron proved the Meteor's endurance could be increased considerably, with the CO flying a three-and-a-half hour sortie with two refuellings on one occasion, though he noted he was "very sore" when he landed!

The squadron's unique capability culminated in its participation in Exercise Pinnacle that October. On the 3rd it maintained a standing patrol of three pairs off the Norfolk coast, countering intruding 'hostiles' and on the 9th two of 245's pilots uneventfully conducted the first night refuelling sorties. Although deemed to have been highly successful, when the trials concluded at the end of the month conservative thinking then stopped

further development until the end of the decade. However, the Meteors of 245 Squadron had pioneered a procedure that is key to RAF operations to this day.

#### Cold War

Four further squadrons received the Meteor F.8 during 1951, though just as significant were the deliveries in June of the RAFs latest fighter to 609 (West Riding) Squadron at Church Fenton. Over the next year, nine more RAuxAF units followed.

The emerging threat of Soviet long-range bombers flying across the North Sea made the two Leucharsbased squadrons very much the front line of Britain's air defences. Their main task was the defence of the Scottish industrial heartland

Below The proboscis-like refuelling probe of 245 Squadron's Meteor F.8 WA826 closes on the drogue of the tanker, during the successful 1951 trials. WAR LINDSAY



Meteor F. 8 Squadrons Of Fighter Command 1950-57									
Sqn	From	To	Code	Stn(s)	Sqn	From	To	Code	Stn(s)
1	Sept 50	June 55	JX	Tangmere	222	Sept 50	Dec 54	ZD	Leuchars
19	Apr 51	Dec 56	-	Church Fenton	245	June 50	May 57	MR	Horsham St Faith,
34	Aug 54	Dec 55		Tangmere					Stradishall
41	Apr 51	June 55	-	Biggin Hill	247	Apr 52	June 55		Odiham
43	Sept 50	Sept 54	SW	Tangmere, Leuchars	257	Oct 50	Mar 55	A6	Horsham St Faith.
54	Apr 52	Mar 55	: • ·	Odiham					Wattisham
56	Dec 50	June 55		Waterbeach	263	Oct 50	Apr 55		Horsham St Faith.
63	Dec 50	Jan 57		Waterbeach					Wattisham
64	Mar 51	Mar 57	(4)	Linton-on-Ouse,	500	Nov 51	Mar 57	÷	West Malling
				Duxford	504	Feb 52	Mar 57		Wymeswold
65	Feb 51	Feb 57	-	Linton-on-Ouse,	600	Nov 51	Mar 57		Biggin Hill
				Duxford	601	Aug 52	Mar 57		North Weald
66	Dec 50	Dec 53		Linton-on-Ouse	604	Aug 52	Mar 57		North Weald
72	July 52	Feb 56	*	North Weald, Church	609	June 51	Mar 57		Church Fenton
				Fenton	610	Mar 52	Mar 57		Hooton Park
74	0ct 50	Mar 54	4D	Horsham St Faith	611	Dec 51	Mar 57		Hooton Park
92	0ct 50	Feb 54	8L	Linton-on-Ouse	615	Sept 51	Mar 57		Biggin Hill
111	Dec 53	June 55		North Weald	616	Dec 51	Mar 57		Finningley, Worksop

### SPOT FACT The Meteor was narrowly beaten into service by Germany's Messerschmitt Me 262



following which both squadrons flew down to Acklington on the 20th for their APC. Sadly, two days after arriving, 43 Squadron lost Plt Off Maurice Prior who crashed off Amble in poor weather.

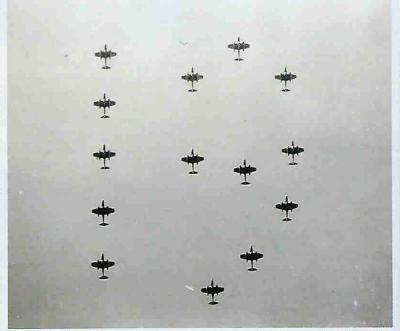
In January 1953 Wg Cdr Roy Lelong, a World War Two intruder 'ace', arrived at Leuchars as wing leader, and under him the wing worked up for the highlight of the year... the flypast for the coronation of Her Majesty the Queen on June 2, and the Royal Review at Odiham, on July 15. For the

Above
A colourful pair of
Meteor F.8s from 611
(West Lancashire)
Squadron Royal
Auxiliary Air Force
(nearest the camera),
with another pair
from 601 (County of
London) Squadron, on
static display at the
Royal Review, Odiham
on July 15, 1953.
PR ARNOLD

Right
On October 23, 1956,
19 Squadron flew
a magnificent '19'
formation with 14
Meteors over Church
Fenton, to mark the
unit's withdrawal and
re-equipment
with Hunters.
19 SON RECORDS

and their activities mirrored those of most other Meteor squadrons during the period. Routine scrambles and intercepts, often of RAF or USAF bombers and the annual largescale air defence exercise and APC predominated, as the chill of the Cold War gave added impetus to training. Both units also had an aerobatic team, and that from 43 led by Flt Lt Eric Wingham gave a much-praised performance at Cannes in September. The local newspaper admiringly described how they: "...exécuté d'énormes loopings magnifiquement...".

Both squadrons also got new COs in 1952 with Sqn Ldr Max Higson taking over 43 in February and Sqn Ldr Ron Wilson 222 on May 1, as the training routine continued. The annual air defence exercise in October 1952 was named Ardent,





#### Meteor targets



Resplendent in full regalia, Meteor F.8 WH364/U represented 85 Squadron at the RAF 50th Anniversary display at Abingdon, on June 14, 1968. R L WARD

Although the last Fighter Command Meteor F.8 squadrons had been withdrawn or re-equipped by early 1957, they did have a later renaissance. The Fighter Command Target Facilities Squadron had formed in August 1961, under the aegis of the Central Fighter Establishment, to provide airborne targets for intercept training by the command's Lightning and Javelin units.

It was based at West Raynham, Norfolk, and equipped mainly with Canberras; on April 1, 1963 it was renamed 85 Squadron which had stood down the previous day with Javelins. However, within days it moved to Binbrook, Lincolnshire, where Sqn Ldr A French took command in December. Under him the following September the Meteor F. 8 returned to the Fighter Command order of battle, when eight aircraft formed a Flight of 85 Squadron along with a two-seat T.7.

Unofficially designated as the F(TT).8, the Meteors towed banners for live firing by the Lightning units as well as acting as a form of aggressor opponent during exercises. True to its fighter roots the unit's Meteors were soon adorned in 85 Squadron's colourful black and red fuselage checks, and hexagon badge on the tail. They flew alongside the Canberras in this important combat support task

relatively uneventfully, until on May 2, 1966, WL106 burst a tyre when landing at Binbrook, swung off the runway and was written off. It was an 85 Squadron Meteor F.8 that ensured the type was represented at the RAF's 50th Anniversary display held at Abingdon, Oxfordshire, in June 1968, though by then Fighter Command had just passed into history having been amalgamated with its bomber counterpart into the new Strike Command on April 1.

In January 1969 Wg Cdr J B Cowton assumed command of the squadron and he oversaw the end of the increasingly dated Meteor F.8s. They were finally withdrawn from 85 Squadron in August 1970, though a handful remained with second-line units for several years.

#### 85 Squadron Meteors

F. 8 WF564/Z; WH291/T; WH301/T; WH305/S; WH364/U; WK654/Z; WK887/Y; WK914/Y; WL106

T. 7 WF816; WL378

#### Bottom left

The former capital of Malta, Città Notabile (also known as Mdina) is the backdrop for this 1953 photo of 609 Squadron Meteor F.8 WF645/D, while on APC at Luga. 609 SON ASSOC



Meteors prepare to receive fuel from a USAF Boeing YKB-29T Superfortress.







Just the handsome 34 Squadron badge on the intake declares

intake declares the ownership of Meteor F.8 WL175/B at Tangmere on October 1, 1955. J D R RAWLINGS

#### Right

The Meteor F.8 WK988 of Sqn Ldr 'Jas' Storrar, 610 Squadron, in the late 1956 snow at Hooton Park, Cheshire. H HOLMES

#### Below

The first four Meteor F.8s nearest the camera hail from 615 Squadron, while the remainder are 600 Squadron aircraft. All are pictured over the Channel around 1954. MOD latter the flypast of more than 600 aircraft included 16 Meteor F.8s. The annual war game Exercise Momentum quickly followed.

The year 1953 also ushered in a fully clear bubble canopy for the Meteor F.8, which helped in air combat training. However, by now the type's limitations were abundantly clear. During Momentum most practice 'raids' by Bomber Command Canberra and USAF B-47 jets came in above 35,000ft (10,668m), where the Meteor's lack of performance was brutally exposed, and they were largely ineffective.

One pilot on 43 Squadron described how the Meteor: "... wallows like a sick cow above 30,000ft." Thus, late in the year, 66 Squadron at Linton-on-Ouse, North Yorkshire, followed in early 1954 by 92 Squadron, began re-equipping with Canadair-built Sabres, though most of Fighter Command soldiered on with Meteors. The Sabres were delivered in tactical camouflage, which through 1954 became the norm with the RAF's more operationally focused ethos.

#### Withdrawal

Most squadrons plodded on through the year and the Meteors played a major part in Exercises Dividend and Haul during July, the latter participated in its only major air defence exercise with the Meteor during Beware, between September 23-29, as within a month it had begun re-equipping with Hunters, making it Fighter Command's shortest-lived Meteor F.8 squadron. Two others, 64 and 72, converted to the night fighter role.

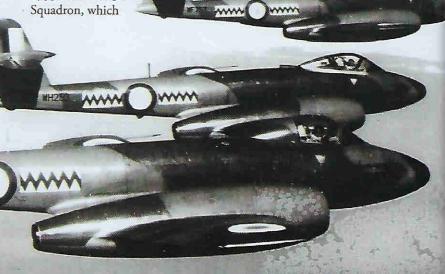
The arbitrary decision to stop all RAuxAF flying came in 1957, which left 245 under Sqn Ldr G M Smith in the unenviable position as being both the first and last Meteor



involving maritime air defence procedures. On August 1, 1954, 34 Squadron under Sqn Ldr A F Wilson's leadership became the last Meteor F.8 unit when it re-formed at Tangmere in a wing alongside 1 and 29 Squadrons. Within a month it had created an aerobatic team and in October provided an eightaircraft formation over Plymouth. It quickly settled into the day fighter routine of practice scrambles, and intercept training. At the same time in Scotland, 43 Squadron received the first Hunters to enter service, followed by 222 that began re-equipping on December 2.

It was the start of a rapid rundown of Meteor numbers, as eight squadrons switched to the Hunter during 1955. One was 34

F.8 squadron. They flew on Exercise High Diver to intercept French aircraft and then on Exercises Kingpin, Adex and Calculus before the indignity ended on March 22, when its first two Hunters arrived. The squadron flew both types on Exercise Vigilant during May but before the month was out, 245 Squadron was fully equipped with Hunters and the Meteor F.8 had passed from Fighter Command frontline service.



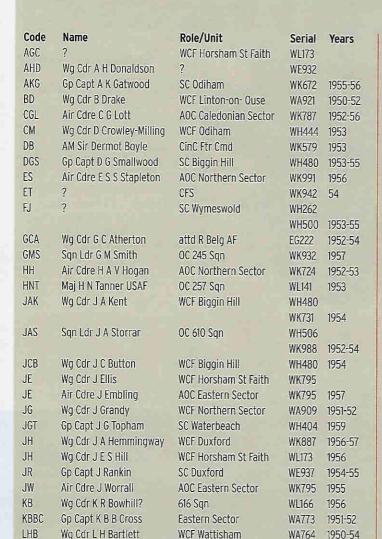
#### Meteor personal codes

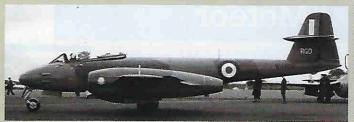
The Meteor F.8s flown by senior officers that carried the ultimate personalised number plate are identified here.

With the introduction of wing leaders within Fighter Command from 1941, and without any apparent rules, senior officers in flying appointments applied their initials to their personal aircraft, often in a similar form to squadron codes.

Post war, this privilege was usually, though not exclusively, accorded to officers of wing commander rank or above, particularly to those filling the posts of Wing Leader/Wg Cdr Flying and Station Commander, as Gp Capt Billy Drake recalled: "In April 1951 I became Wing Commander Flying at Lintonon-Ouse - a 'plum' posting for a fighter pilot, and no mistake. By this time fighter squadrons had given up carrying their wartime-style code letters and had reverted to colourful unit markings. To identify my own aircraft, WA921, I reverted to my old 'BD' on the fuselage as I had done during the war, but in addition had the whole tail unit painted bright red. It was with a heavy heart, therefore, when I handed over to Wg Cdr Lionel Malins - who naturally also painted initials on his Meteor!"

The application of the initials followed no set pattern and the practice was seen extensively throughout the 1950s on Meteor-equipped units and stations. At least one officer also migrated the scheme to his period of loan service with the Belgian Air Force.





Gp Capt Roy Dutton, Station Commander Waterbeach, Cambridgeshire, starts his Meteor F.8 WH404 at RAF Honiley, Warwickshire, on August 26, 1956. His initials 'RGD' are discreetly painted on the camouflaged vertical fin. A PEARCY



Linton-on-Ouse Wing Leader Wg Cdr Billy Drake scrambles from West Raynham in his Meteor F.8 WZ921/BD during an exercise in 1951, GP CAPT B DRAKE

Code	Name	Role/Unit	Serial	Years
MWSR	Air Cdre M W S Robinson	AOC Caledonian Sector	WK787	1956
NW	?	SC North Weald	WK786	1952
PB	Wg Cdr W Pitt-Brown	WCF Horsham St Faith	VZ559	1951
PB	Wg Cdr P P C Barthrop	WCF Waterbeach	WH415	1953-56
PFS	W/g Cdr P F Steib	WCF Church Fenton	WF677	1954-56
PM	Wg Cdr P G H Matthews	WCF Leuchars	WK814	1953
PT	Sqn Ldr P D Thompson	SLF Biggin Hill	WL134	1955
PW	Wg Cdr P R W Wickham	WCF Duxford	WK887	1955
RA	AVM R L R Atcherley	AOC 12 Gp	WF707	
			WK680	
			WK927	1951-55
RCH	Wg Cdr R C Haines	SC Turnhouse	WL116	1957-58
RDY	Wg Cdr R D Yule	WCF Horsham St Faith	WF695	1954
RGD	Gp Capt R G Dutton	SC Waterbeach	WH404	1956-57
RGD	Sqn Ldr R G Dixon	12 Gp Comm FIt	WK969	1957
RIKE	Gp Capt R I K Edwards	SC Tangmere	WL176	1954
RLRA	AM R L R Atcherley	AOC Ftr Cmd	WK818	1955
SCW	Gp Capt S C Widdows	Eastern Sector	WA773	
			WK795	1951-52
SS	Wg Cdr D G Smallwood	WCF Biggin Hill	WK951	1953
VSB	Air Cdre V S Bowling	AOC Northern Sector	WK991	1953-55
VSB	AVM V S Bowling	AOC 11 Gp	WK943	1956

This table is adapted from one contained in the book Combat Codes compiled by Vic Flintham and Andrew Thomas, published by Pen & Sword. It contains a full explanation and listing of British, Commonwealth and Allied air force unit codes since 1938 and is the most comprehensive work on the subject.

Note: The authors would welcome any additions or corrections to this list via: flypast@keypublishing.com

WCF - Wg Cdr Flying SC - Station Commander AOC - Air Officer Commanding CinC - Commander in Chief OC - Officer Commanding

WA764

WH401

WK741

WF677

WCF Linton-on- Ouse

SC Linton-on-Ouse

WCF Church Fenton

1950-54

1953-54

1953

1957

1 M

MP

MS

Wg Cdr L A Malins

Gp Capt M G F Pedley

Wg Cdr M J A Shaw





Andy Hay artwork of a Meteor F.8 that served at North Weald with 111 Squadron

Artwork Gloster Meteor F.8 WL123 of 111 Squadron RAF in 1954. ANDY HAY-2018 In the years following World War Two, the Gloster Meteor quickly became the RAF's leading fighter as jets gradually replaced their piston-powered predecessors. The F.8 was the most numerous variant built. With its greater fuel capacity, more powerful engines and enhanced tail section it was considered a vast improvement over the earlier F.4,

and was used operationally by the Royal Australian Air Force in the Korean War.

Closer to home, Meteor F.8s equipped several RAF squadrons, including No.111, which was re-formed at North Weald on December 2, 1953. Our subject, F.8 WL123, is among those to have flown from the Essex airfield. The unit's Meteors arrived relatively

late in the type's 'career' and were replaced by Hawker Hunters in June 1955 – No.111 went on to operate the Hunter-equipped Black Arrows display team.

The unit was the last frontline RAF squadron to be based at North Weald, and moved to Wattisham in Suffolk in 1958. Meteor WL123 was sold for scrap on July 27, 1959.



1,157 F.8 variants were produced

## S S

## **Spotlight**

Gloster **Meteor** 

# Low-Lev



s the legendary Spitfire was replaced by the jet-powered Gloster Meteor in the day fighter role after World War Two, the new aircraft also usurped its propeller-driven predecessor for reconnaissance.

The programme did not start well, though. Flt Lt Rodney Dryland DFC took the prototype Meteor FR.5, a conversion of F.4 VT347, into the air for the first time on June 15, 1949. The aircraft suffered structural failure over Moreton Valence airfield, Gloucestershire, and the 27-year-old test pilot was killed.

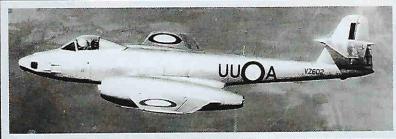
Gloster returned to the fighterrecce (FR) market with the F.8based FR.9. Squadron Leader Janusz 'Zura' Zurakowski carried out the maiden flight on March 23, 1950. Up to three cameras could be housed in the FR.9's nose fairing, while retaining the four 20mm cannon of its forebear. The last of 126 FR.9s was delivered to the RAF on August 14, 1952.

Initially FR.9s were fitted with a single F.24 camera with 100 exposures, remotely controlled by the pilot for vertical or oblique, low- or high-level photography. A lighter F.95 camera was adopted in time and, with minor modifications, three could be carried in the nose.

The F.95s allowed sharp images to be taken from as low as 150ft (45.7m) and speeds of up to 400kts. There was no means of sighting the camera and skills had to be acquired by intense training and hard experience; FR

VZ603





Above Training for FR pilots was provided by 226 OCU with several Meteor FR.9s, one of which was VZ602. AUTHOR'S COLLECTION

Right
During the Suez operations in November 1956, 208
Squadron Meteors provided a Battle Flight at Ta' Oali
for the air defence of Malta. 208 SON RECORDS



## Recce

pilots became something of an elite. Personnel were posted for training to 226 Operational Conversion Unit (OCU) at Stradishall, Suffolk. A small FR Flight had been established with a quartet of FR.9s to relieve the burden on the frontline units.

#### German debut

The new variant was intended for service in West Germany and had an inauspicious beginning when the first example was damaged during transit in November 1950. Meteor FR.9 VZ585 arrived at 2 Squadron, Bückeburg on December 1 to begin replacing Spitfires. After pre-flight checks, the CO, Sqn Ldr Bob Pugh, carried out the first acceptance sortie on the 16th and within a month 'A' Flight was fully equipped.

The unit was fully

furnished by the time it went on its first Armament Practice Camp to the northern German island of Sylt, the following June. In March 1953, after several incidents along the border with the Soviet Zone, 2 Squadron flew low-level sorties in armed aircraft, searching for any unusual military activity.

By this stage 79 Squadron was also flying the FR.9 having re-formed in the role in Germany in November 1951, becoming operational the following spring. Both units trained hard and regularly participated in exercises with NATO allies through to 1956, when they re-equipped with the Supermarine Swift FR 5.

#### Canal zone tension

It was in the Middle East that FR.9s were the busiest. In the Suez Canal

Meteor FR.9 pilots became experts at finding trouble spots, from the Soviet border to Arab rebel strongholds.

#### Andy Thomas explains

Zone of Egypt, fighter-recce was in the hands of 208 Squadron under Sqn Ldr Tony Morello at Fayid, where its first three aircraft, VZ588, VZ591 and VZ592 arrived on

January 26, 1951.

The following month the unit moved to Kabrit where it completed its conversion, but the stay was also brief because 208 transferred to Abu Sueir that September. The hot and dusty conditions highlighted several problems, not least cracked windscreens due to the temperature changes when climbing to very high levels. Nonetheless, 208 was soon achieving its allotted task.

This was a time of great upheaval in the Middle East and the newly formed Nationalist Government that had overthrown the Egyptian monarchy, in July 1952, began a 👂

The CO of 208 Squadron during the mid-1950s was former Battle of Britain 'ace' Sqn Ldr Tom Neil. WG CDR T F NEIL

#### Below

FR.9 VZ603 of 2 Squadron on a training sortie over Germany in 1951, RAF GERMANY







By the mid-1950s, detachments of Meteor FR.9s from 208 Squadron were regularly sent to work in the Aden Protectorate, transiting via numerous airfields such as Masirah.

Bottom right During 1953, Meteor FR.9s of 2 Squadron monitored possible

monitored possible troop movements along the border with the Soviet Zone of Germany. D GORDON policy of non-co-operation with the British. Daily patrols photographing and monitoring the Egyptian Army's movements began amid increasing tensions.

Exercises with local British Army detachments, regular security patrols around bases and air combat training with other units also took place. Nonetheless, 208 still found time to form an aerobatic team.

Although not recognised at the time, though, this was very much an operational theatre. In October 2003 the fact was acknowledged by the retrospective award of the 'Canal Zone' clasp to the existing General Service Medal.

There was unease elsewhere in the region, too, and in April 1953 four aircraft flew to Sharjah in the southern Gulf. En route on the 4th of that month, Fg Off Austin in WB117 ran out of fuel and had to force-land in the Qatari desert but was rescued unharmed.

From Sharjah the other three jets conducted patrols of the approaches to the Buraimi Oasis, to provide visible support to the Sultan of Oman and to prevent the infiltration of troops and supplies from Saudi Arabia. This was the first of several sorties flown by the Meteors over the Arabian Peninsula.

In May, Sqn Ldr Tom Neil became CO and the situation in the Canal Zone had deteriorated such that by December, there was a genuine fear of attack. Meteors flew daily sorties in pairs to monitor the situation around Egyptian camps.

The rise to power of Colonel Gamal Abdel Nasser in the spring of 1954, and an agreement that British forces would leave by 1956, eased the situation. In January 1956 the squadron relocated to Hal Far, Malta, and moved again in March to the new base at Akrotiri, Cyprus.



"This was very much an operational theatre. In October 2003 this was acknowledged by the retrospective award of the 'Canal Zone' clasp to the General Service Medal"

Peripatetic life

At the southern end of the Arabian Peninsula lay the British colony of Aden and the Aden Protectorate. These were bordered to the north by the Yemen, strongly in the Egyptian sphere of influence. As a result, there was friction within the tribes in the Protectorate and along the border.

Consequently, in June 1956 Flt Lt Mike Bradley led a four-aircraft detachment to Khormaksar for six weeks. They updated the imagery of several up-country landing strips and took oblique photographs of the sensitive border area around Beihan.

The rugged landscape, range to the targets and extreme temperatures presented significant challenges for pilots and groundcrew alike. Tribesmen throughout the Protectorate were generally hostile and although pilots carried a 'goolie-chit' (a document promising



### Spotlight on the Meteor FR.9



recompense if the downed flyer was helped to safety), it was only later discovered to be written in the wrong language!

The detachment returned to Cyprus, where recce sorties were flown in support of the security forces battling EOKA (National Organisation of Cypriot Fighters) terrorists. A more dangerous situation developed after the Egyptians nationalised the Suez Canal, resulting in a large RAF build-up on Cyprus.

Therefore, in early August 208's Meteors returned to Malta where they were based at Ta' Qali. There was no set task for the short-ranged FR.9s in the brief yet intense action against Egypt that began on October 31, but 208 Squadron maintained a 'Battle Flight' to intercept any unidentified aircraft approaching Malta. Normal operations resumed in mid-November.



#### Arabian action

Following the success of the earlier Aden detachment, on January 12, 1957 the CO, Sqn Ldr Thorne, led another quartet of FR.9s for a period in the Protectorate. They were soon busy with border patrols and updating mapping.

More significantly, the Meteors supported the resident Venomequipped 8 Squadron with prestrike recce and post-mission battle damage assessment. This proved to be so highly valued that two more FR.9s joined the detachment.

During an aircraft swap on February 25, three FR.9s (VZ577, WB138 and WX976) returning from Aden were heading for Diyarbakır in eastern Turkey, when they encountered bad weather. Short on fuel, all three force-landed in the Iraqi desert and although the pilots were rescued unharmed, the jets had to be abandoned.

In Aden, 8 Squadron remained heavily committed around Dhala and Beihan, where Yemini infiltration was fermenting resistance to British administration. When a patrol of the Cameronians

(Scottish Rifles) was ambushed in a pass south of Dhala, air support was called in and the rebels were strafed. The FR.9s covered the area to locate rebel positions and the tribal settlement at Ad Danaba.

There was also unrest in the Lodar district around the village of Ana Mishal where the Aden Protectorate Levies came under heavy attack, and aircraft were called in to cover their withdrawal. It was during these operations near Thumier on March 24 that FR.9 VW370 was shot down by intense small arms fire. Flying Officer James Mansfield was strafing rebels when one engine was hit and set on fire. Sadly the 24-year-old ejected too low and was killed.

Left to right Meteor FR.9 VZ578 of 208 Squadron at Masirah, 1955. M BRADLEY

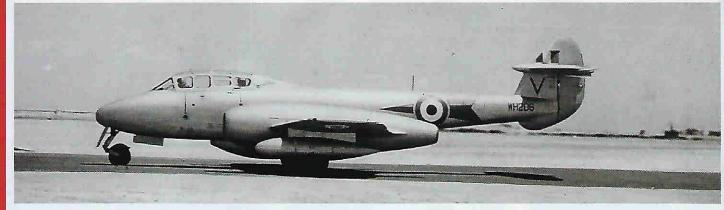
Meteor FR. 9 VZ604 of 208 Squadron at Khormaksar in 1957. 8 SQN RECORDS

The sad remains of FR.9 WH539 after it encountered a sandstorm and ran out of fuel while northeast of Khormaksar, on October 1, 1958, forcing the pilot to eject.

AUTHOR'S COLLECTION



### SPOT FACT A modified Meteor I, powered by two Trent turbine engines became the first turboprop aircraft to fly, on September 20, 1945



Above For training tasks, 8 Squadron's 'C' Flight employed a Meteor T.7 two-seater. 8 SON RECORDS

Below Meteor FR.9 VZ601 of 8 Squadron's 'C' Flight at Khormaksar, in late January 1958. AUTHOR'S COLLECTION By this time the age and operating environment of the Meteors were taking their toll, and this was exacerbated by an increasing lack of spares. The situation was aggravated further at the end of May when 208 was ordered to send a detachment to the Gulf because of further trouble in Central Oman.

Three FR.9s led by Flt Lt J R Johnson flew to Bahrain, from where they began operations in concert with a detachment of Shackletons and four Venoms from 8 Squadron. Tasks were similar to those in Aden in providing pre- and post-strike recce for the Venoms that initially were to destroy rebel-held forts.

As 8 Squadron's 'ops' diary noted: "The difficulties were manifold. The area was less explored than Tibet 50 years ago, and the maps were not only inaccurate but sometimes grossly erroneous."

The area around Nizwa in the lee of the Jebel Akhdar mountain was often shrouded in haze. It was usually 400 miles (643km) to the targets from Bahrain and more than 200 from a refuelling stop at Sharjah, where the weather was normally inclement. Despite the difficulties, the RAF supported the

ground forces and gradually the rebel forts were destroyed, except for the great round tower at Nizwa, which seemed scarcely marked.

British and Omani forces reoccupied the towns and villages and by mid-August the surviving rebels fled over the vast heights of the Jebel Akhdar mountain. The Bahrain FR.9 detachment returned to Malta, although the Meteors in Aden remained in situ.

In September it was announced that 208 was to re-equip with Hunters in early 1958, so in January the four Aden-based FR.9s and five pilots were transferred to 8 Squadron as 'C' Flight. The latter also gained a two-seat Meteor T.7 for routine check flying.

#### Sandstorm

Relative calm in the Protectorate enabled the Meteor flight to concentrate on training and low-level photography of the border, and a fifth FR.9 was added to the establishment in August 1958.

A huge sandstorm hit Khormaksar on October 1, arriving with just six minutes' warning. None of the aircraft airborne could be recalled in time and although some were diverted to Djibouti, Fg Off K A Small in FR.9 WH539 had insufficient fuel to do so. Landing at Khormaksar was out of the question, and so he made 8 Squadron's first successful ejection.

It had been decided to fully establish stability in Central Oman and to root out the remaining rebels from the Jebel Akhdar. Two squadrons of Special Air Service (SAS) troops were detailed and air support included a detachment of 'C' Flight's FR.9s to provide recce from Sharjah.

An air liaison party was assigned to co-ordinate activity with the ground forces. The Meteors provided photographs of likely rebel positions and features that were given such unlikely names as 'Vincent', 'Pyramid' and 'Beer Can', which proved invaluable to the planning of the assault.

On January 20, 1959, FR.9 WX978 was written off when a tyre burst on take-off from Sharjah. It veered from the compacted sand runway in spectacular style, at high speed, and demolished several weather installations before coming to rest just short of the control tower.



### Spotlight on the Meteor FR.9



#### "The area was less explored than Tibet 50 years ago, and the maps were not only inaccurate but sometimes grossly erroneous"

After lengthy preparations in which the Meteors played a key role, the final assault by two SAS squadrons on the Jebel Akdar began on the evening of January 29. The offensive was completely successful in re-establishing the Sultan's rule.

#### Show of force

The elements of 8 Squadron returned to Aden where in May there was renewed trouble in the Upper Aulaqi Sultanate, as Abu Bakr rebels took to the hills to the south. Many recce sorties were flown over the area but found no sign of them.

The following month, dissident tribesmen massed in the area north of Al Kara on the Yemen border and 8 Squadron was ordered to make a show of force in support of the local ruler. The Meteors of 'C' Flight dropped leaflets an hour before the first Venoms attacked. However,

instead of clearing the area the tribesmen assumed firing positions and hit several aircraft.

Leaflets were not all that 'C' Flight pilots dropped, as Flt Lt Fred Trowern recalled: "For small targets, such as caves, we would mark the targets for the Venoms by firing our cannons – a mix of high explosive and tracer rounds."

On August 1, 'C' Flight and its FR.9s became an independent unit, soon titled the Arabian Peninsula Reconnaissance Flight (APRF), though the move was not popular with the pilots.

The Abu Bakr continued to make trouble and in mid-March 1960 their mountain retreat on Jebel Hanak was pounded for 48 hours, as part of Operation Damon. Meteors of the APRF led waves of 8 Squadron Venoms and Sea Hawks of 806 Naval Air Squadron from HMS



Albion, and marked their targets in a brief, but successful demonstration.

The Flight's Meteors also monitored Soviet merchant shipping in the Red Sea, photographing deck cargo.

Much to the pilots' delight, in August the APRF re-joined 8 Squadron as 'B' Flight and took part in operations in the Al Qara and Sara areas; Flt Lt Seabrook took the opportunity to wage a small but successful war against dissident tribesmen north of Mukalla in an elderly FR.9.

Hunter FGA.9s had re-equipped 8 Squadron but 'B' Flight's Meteors soldiered on, albeit in poor shape. The twin-jets were gradually withdrawn as Hawker Hunter FR.10s arrived.

But there was one last hurrah for the Meteors. On July 29, 1961 a patrol of the Hadhrami Bedouin Legion (HBL) had been ambushed and sustained heavy causalities. Among the aircraft flown to Riyan to support the withdrawal of the HBL was a Meteor that located targets for attack by Hunters and Shackletons. At the end of the month, the FR.9 flew its last operational sortie with 8 Squadron, ending its service in some style.

Above left
During take-off from
Sharjah on January 20,
1959, this Meteor - FR.9
WX978 - burst a tyre,
swung off the runway and
was wrecked.
8 SON RECORDS

Above
An Air Liaison Officer
in a Land Rover usually
accompanied ground
forces to co-ordinate air
support during operations
in Aden. AUTHOR'S
COLLECTION



## Spotlight

### Gloster **Meteor**

Aviation historian **Malcolm V Lowe** details the development and RAF career of Armstrong Whitworth's radar-toting Meteor night fighters

Above right Gloster Meteor NF.14 NS725 of 25 Squadron, crewed by Flt Lt Morley and Fg Off Davis, being marshalled by Cpl Clark from its dispersal for a night take-off. ALL KEY UNLESS NOTED

Below A classic formation image of Meteor NE14s from 264 Squadron, with the CO's aircraft in the lead. Clearly visible is the long nose and 'bubble' canopy of the NE14 This unit flew from RAF Linton-on-Ouse, Yorkshire, during some of its time on the NE14.

## Nocturnal Marvel

loster's Meteor is fittingly regarded as one of the iconic products of Britain's aircraft industry. It was the first jet fighter to reach operational service with the RAF, and the type had an illustrious service career in British colours. Meteors were manufactured in a variety of significant versions, initially as single-seat day fighters and two-seat trainers, and later as a two-seat, radar-equipped night fighter. It was in the nocturnal role that the Meteor served well into the 1950s, and although 'afterdark' Meteors were regarded as an of jet-powered 'all-weather' fighters left the drawing board, they served the RAF well during their decade or

The history of the Meteor itself dates to the early days of successful jet engine development in Britain. Design work in earnest began during 1941, and the first Meteor flew in March 1943. Early production examples entered RAF service with 616 Squadron Auxiliary Air Force during the summer of the following year. The type duly proved to be successful and clearly also had considerable growth potential, resulting in continuing development by the Meteor's creator, the Gloster Aircraft Company.

Jet requirement
Events during World War Two
confirmed the overriding necessity
for radar-equipped night fighters.
At the end of the conflict, the



## Spotlight on the Meteor night fighter



"The advance of modern technology and performance required a new generation of night fighting warplanes for the post-war era"

RAF's nocturnal fighter force was concentrated on the de Havilland Mosquito, which had admirably fulfilled this specialised and increasingly sophisticated role. However, the advance of technology and performance required a new generation of night fighting warplanes for the post-war era, especially in the face of the increasing threat posed by the Soviet Union. In response,

Britain's Air Ministry formulated Specification F.44/46, which was released officially during early 1947, for an advanced, jet-powered night fighter Mosquito replacement. This requirement was later updated as F.4/48,

but led to a protracted development period in which an eventual frontline type emerged well into the 1950s, the delta-winged Gloster Javelin all-weather fighter. Clearly, an interim machine was needed until the F.4/48 requirement could be fulfilled, and thus was born the night-fighting Gloster Meteor. Adapting the single-

seat daytime

Above
Four RAF units flew the
Meteor NEII in West
Germany with 2 TAF.
Pictured is WD681,
operated by 87 Squadron,





Right A near perfect plan view of a Meteor NF.14, showing the upper surface camouflage pattern common to night fighter variants, and the distinctive wing and armament arrangement of these nocturnal two-seaters. MALCOLM V LOWE COLLECTION

Below The heavily framed, T.7-style canopy was retained on the Meteor NF.12. This example, WS697, was photographed in an image dated April 1954 while serving with 25 Squadron. MALCOLM V LOWE COLLECTION



Meteor, which did not have radar, into a capable night fighter seemed an obvious solution, but Gloster at that time was fully committed to day fighter Meteor development and manufacture. Therefore, the project was passed to Armstrong Whitworth Aircraft (AWA), another member of the Hawker Siddeley grouping that

also included Gloster.

Development work by AWA was covered by a different official Specification, F.24/48, issued in early 1949, and Operational Requirement OR.265. The new type was based on the existing Meteor T.7 two-seat trainer, because two crew members were vital, but many modifications were also necessary – although as much as possible of the existing Meteor structure was intended to be used to save time. The vertical tail design was altered from the T.7's prominent rounded shape to the F.8's more angular unit; the forward fuselage was completely revised and lengthened to allow radar to be installed, and the wings were



## Spotlight on the Meteor night fighter





modified outboard of the engines to give necessary greater span - similar to that of the early Meteor Mk.III. Armstrong Whitworth modified an existing Meteor T.7, VW413, into a trials/prototype configuration at Bitteswell, Leicestershire, and it first flew in late January 1949, with many of the intended changes incorporated. Further development work, and successful testing with the Aeroplane and Armament Experimental Establishment at Boscombe Down, led to production contracts that eventually included four distinct Meteor marks. The type was given the prefix 'NF', for night fighter, the first production model being the NF.11. It received the company designation G.41L, which eventually covered all of the nocturnal Meteors.

After-dark scrapper

The NF.11 was fitted with AI Mk.10 radar equipment (AI stood for Airborne Interception), developed from the US Westinghouse SCR-

720 series, although the different AI Mk.17 was tested in several early NF.11 airframes. Overall fuselage length was 48ft 6in (14.78m), with a wing span of 43ft (13.11m). The pilot sat in the front seat, with the radar operator/navigator positioned in tandem behind. Ejection seats were not used.

Armament for day fighter Meteors, including the F.8, comprised a standard layout of four 20mm Hispano cannons, two in each side of the forward fuselage. But, due to the installation of radar in the nose of night fighter Meteors, the weapons fit had to be re-located for the NF.11 and subsequent marks; the new variants, therefore, featured two cannons, with their ammunition fitted in each wing just outboard of the engine cowlings.

All versions of the Meteor night fighter were powered by the Rolls-Royce Derwent jet engine, two Derwent 8s being rated at 3,700lbst each powering the NF.11. They gave a potential top speed, according to widely quoted company figures, of

580mph (933km/h) at sea level, and 547mph at 30,000ft (9,144m); this represented a massive leap in performance over the Mosquito NF.36. Endurance was, however, rather poor (a problem with all early jet combat aircraft), and to that end a fixed ventral fuel fairing on the lower fuselage, and a jettisonable fuel tank beneath each wing just outboard of the engine cowlings, were carried as standard. The latter two tanks initially suffered from damage when the cannon armament was fired, until they were suitably strengthened.

Three NF.11 prototypes were eventually built. The first, WA546, initially flew on May 31, 1950 with test pilot Eric Franklin at the controls. They were followed by more than 300 production examples, all manufactured by AWA. The first NF.11 to reach the 'frontline' was delivered to 29 Squadron at RAF Tangmere during the summer of 1951, this unit performing the vital working-up on the new type.

Above, left to right A principal user of the Meteor night fighter was 85 Squadron, which flew all nocturnal versions except for the NF.13. In this line-up, crew leave their aircraft during a training exercise, with NF.14 WS744 nearest to the camera.

A long-surviving Meteor NF.14 is WS788, which originally flew with 152 Squadron before conversion as an NF(T).14 trainer when the type was withdrawn from service. It later served as a gate guard at RAF Leeming and is currently being restored by the Yorkshire Air Museum, Elvington. This image was dated 1991.

The first of three NF.11 prototypes was WA546, which initially flew during May 1950. Here it displays the distinctive T.7-style canopy, with small 'T' aerials beneath the rear fuselage for radio altimeter equipment.

#### Left

A classic air-to-air image of an NF.11, WD618, of 85 Squadron. This unit's familiar hexagon marking is visible on the lower section of the fin, as well as the red and black checkerboard flanking the fuselage roundel.



"...due to the installation of radar in the nose of night fighter Meteors, the weapons fit had to be relocated for the NF.11 and subsequent marks"

### SPOT FACT The first F.4 development aircraft flew in summer 1945, but didn't reach squadrons until 1947



Above
A nostalgic air-to-air
image of several
frontline RAF aircraft
of the 1950s, led by
Canadair Sabre Mk.4
XB992, and including
Canberra B.2
WETI2 with Meteor
NF.14 W5797 in the
foreground.

Above right
The classic lines of
the NF.11, the first
production Meteor
night fighter version,
are beautifully
captured in this
air-to-air view
of WD597.

Right A posed, but nonetheless interesting study of an NF.11 while its crew climb aboard for a night exercise. The distinctive 'bump' of that mark beneath the radome is visible, as is the windscreen and sideways-hinged canopy, which were adaptations of the T.7 trainer arrangement.

#### Refined versions

Capable though the NF.11 was, there was room for the main onboard equipment to be improved. This led directly to the NF.12, fitted with AI Mk.21 radar, based on the US AN/APS-57 unit. The Mk.21 had considerably more range too, and was easier for the navigator to operate, as well as giving much higher definition on his screen in the rear cockpit. The different radar necessitated a slight nose stretch; an increase to the area of the vertical tail was also required. The leading edge was given a distinctive curved shape above and below the horizontal tail unit. Heavier than the NF.11, the NF.12 was fitted with more powerful Derwent 9 engines, quoted by the manufacturer as being of 3,800lbst.

Two NF.12 prototypes were converted from former NF.11 airframes, and the initial production example, WS590, first flew during April 1953. An initial RAF frontline recipient was 85 Squadron at RAF West Malling, which was already an NF.11 unit. Exactly 100 NF.12s were built.

Numerically next in line, although coming before the NF.12, was the NF.13. Just 40 examples of this Meteor were completed, from The final production Meteor night fighter was the NF.14. This mark at last did away with the heavily framed sideways-opening canopy of the earlier marks, which was based on that of the T.7, replacing it with a neat, fully transparent rearwards-sliding unit and a more angled windscreen. There was also a slight modification to the engine air intakes; different radar



intended NF.11 production. The NF.13 was a 'tropicalised' derivative of the NF.11, almost identical to that version except for equipment installed for operations in hot climates. This included cold air ventilation and an added radio compass for flight over featureless terrain. The NF.13 was slightly heavier than the NF.11. It is believed the first production example to fly (there was no conventional prototype) was WM308, in December 1952. The type entered service during the early months of 1953 with 39 Squadron, which was home-based at RAF Kabrit, in Egypt.

was intended, but with the service life of the type gradually winding down, the Mk.12's equipment was retained. There has been much debate about the fuselage length of this version, but measurements made of surviving examples confirm a similar length for the NF.12 and NF.14. An NF.11, WM261, acted as a development airframe, and 100 examples of the NF.14 were built. The first production model, WS722, flew in October 1953, and 25 Squadron was an initial frontline recipient during early 1954 at West Malling. The NF.14 has the distinction of being the very last of any of the Meteor line

## Spotlight on the Meteor night fighter

to be in production, with WS848 being completed at AWA's Baginton, Warwickshire factory where all night fighter Meteors were constructed.

Widespread employment

The principal RAF squadrons that flew the NF.11 included 29, 68, 85, 87, 96, 125, 141, 151, 256, and 264. In addition, both 5 and 11 Squadrons ended up with NF.11s on their books because of re-organisation, 5 Squadron being re-numbered from 68 Squadron, and 256 Squadron becoming 11 Squadron. Of these, No.29 had started the NF.11's service, and it also went on to be the final Fighter Command operator of this mark (in late 1957).

The NF.12 was principally flown by 25, 29, 46, 64, 72, 85, 152 and 153 Squadrons; 264 is often also listed as an NF.12 operator. The NF.13, never existing in large quantity, was employed by just two RAF units, 39 and 219 Squadrons, which used the NF.13 exclusively in the Middle East and Mediterranean. The RAF's 219 Squadron, for example, provided vital night fighter cover over the Suez Canal Zone until the British withdrawal, while No.39 later flew from Malta (including service during the Suez Crisis of 1956) and Cyprus.

The RAF squadrons operating the NF.14 as main equipment included 25, 33, 46, 60, 64, 72, 85, 152, 153, and 264. Essentially, however, the NF.12 and NF.14 were similar in capability, and so some units flew a mix of both types.

In addition to employing Meteor night fighter versions as their main frontline equipment, most, if not all of these squadrons also had one or more T.7 trainers on strength for general 'hack' duties



and continuation/refresher flying. Meanwhile, 228 Operational Conversion Unit acted as the main Meteor training entity for aircrew transitioning to nocturnal aircraft, and the NF.11, 12 and 14 all flew with this unit.

Although significantly rundown in comparison with its World War Two peak, the RAF of the 1950s was still a significant fighting force. It needed to be. The Cold War was at a dangerous juncture, and the importance of the Meteor force was reflected in the number of units committed to Britain's frontline defence, and of British interests overseas. The RAF's impressive lineup during June 1955 included the following squadrons with Meteor night fighters - Fighter Command 11 Group, 25, 29, 46, 85, 125, 152, 153 Squadrons; Fighter Command 12 Group, 264 Squadron; Second Tactical Air Force (2 TAF, West Germany), 68, 87, 96, 256 Squadrons; Middle East Air Force, 39 Squadron.

In RAF service, Meteor night fighters were contemporary with nocturnal versions of the Vampire and Venom, in some cases being replaced by or replacing these de Havilland twin-boom fighters in individual squadron line-ups. However, by the later 1950s, the performance of the NF.14 was pedestrian in comparison with the new jet-powered combat aircraft entering service, particularly as many had supersonic performance. The relatively rapid decline of the RAF's Meteor night fighter fleet reflected the fact that these aircraft represented essentially an interim type, with some Meteor units eventually transitioning to the Gloster Javelin. However, the final operational NF.14 unit, 60 Squadron in the Far East, flew the last official sortie during August 1961.

The success of the RAF's Meteor night fighter line though, led to interest from potential export customers, and eventually two-seat, radar-equipped Meteors flew for several overseas air arms. Notable among them was France, which used the type as frontline equipment and for trials and experimental work. In Britain, some redundant airframes gained a second lease of life as target-towing aircraft. Designated Meteor TT.20, they were re-worked by Armstrong Whitworth and by Royal Navy workshops; this version served with both the RAF (in small numbers) and the Fleet Air Arm, as well as experimental establishments and some foreign users.

Left
The RAF's 68 Squadron
operated Meteors in
West Germany from
the airfields at Wahn
and later Laarbruch.
Three of its NF.11s are
pictured with the famous
Cologne Cathedral in the
background.

Below
One of the initial users
of the NF.11 was 85
Squadron. According
to this image's official
caption, the unit
demonstrated to the
press during February
1952 the rapid take-off
capability of these new
night fighters at RAF West
Malling, Kent.

