# Camouflage & Markings

35p

No. 15

Republic P-47 Thunderbolt U.S.A.A.F., E.T.O. & M.T.O., 1942-1945





P-47C of the 62nd FS, 56th FG, displaying type recognition bands in white on nose and tail and the yellow outline to fuselage cocarde. Fuselage number is early 'plane-in-group identification marking. (USAF)

# REPUBLIC P-47 THUNDERBOLT

THE Republic P-47 Thunderbolt leaves its mark on the pages of military aviation history as the biggest and heaviest single-seat propeller driven fighter to see service in the Second World War and also as the most redoubtable ground attack aircraft of that conflict. Even though it was outclassed by the P-51 Mustang in the pure fighter role, many of the USAAF's top aces obtained all their victories while flying Thunderbolts. The aircraft was also produced in larger numbers than any other US fighter type-15.683 by the time production was terminated. Three-quarters of the Thunderbolts used by operational units of the USAAF saw service in the European and Mediterranean Theatres of Operations (ETO & MTO) and it is with these aircraft, used against Nazi Germany, that this part of Camouflage and Markings is concerned.

The first production Thunderbolts were completed in March 1942, but these, and the remainder of the first production models, the P-47B, were used for training purposes in the United States. The first war-worthy Thunderbolt was the P-47C and many of those produced during the autumn of 1942 were crated and sent by sea to the United Kingdom. It was January 1943, when the re-assembled aircraft were flown in England and then assigned to three fighter groups of the Eighth Air Force.

#### Camouflage

P-47Cs and all subsequent factory camouflage painted models were finished to standard Army Air Force requirements. Upper surfaces of wings, tail and fuselage were given a coat of matt Dark Olive Drab

lacquer, shade No. 41, specification 14105, while all lower surfaces were sprayed with Neutral Gray, shade 43, specification 14105. The division between the olive drab and grey on the fuselage sides followed a wavy pattern. On P-47Cs and early D models, the line of division between the two colours ran back from the trailing edge of the wing to a point just below the leading edge of the horizontal tail. With later D models the olive drab was brought further down the rear fuselage and then swept up almost vertically to meet the leading edge of the tailplane. On the nose the division between the two colours was usually just below the bottom of the centre cowling panel. The actual line of demarcation between olive drab and grey was entirely at the whim of the paint sprayer and thus no two machines were identical in this matter.

Dark Olive Drab finishes were rarely, if ever, very uniform. Staining by oil, fuel and exhaust gases plus sun fade and abrasion produced light and dark effects on the original shade. The grey finish was similarly affected but never to the same degree as Dark Olive Drab which contained pigment very prone to colour change.

Towards the latter part of 1943 when camouflage was no longer considered so important, several Thunderbolts had all surfaces waxed to reduce drag and obtain more speed. The waxing produced the expected shiny surface but at the same time darkened the appearance of both Olive Drab and Neutral Gray. The wax also tended to become engrained with dirt and if neglected gave an aircraft a very grubby appearance indeed.

### **Detail Markings**

The factory finish camouflage did not extend to internal areas or detail parts. Zinc Chromate primer was used on most exposed internal airframe components of the P-47 and had a pale greenish-yellow appearance. In the cockpit this was tinted with black enamel to prevent glare. The armour plate to the rear of the pilot's seat was also finished in this fashion. Gun barrels were in their metal finish and undercarriage oleo legs were chromium plated, but the oleo gear struts were finished in olive drab.

The propeller boss was aluminium finish and the Curtiss propeller in black camouflage lacquer (shade 44), excepting the four inches from the tip of each blade which was in yellow (shade 48). On the propeller cuff, vellow half inch high stencilling gave the serial number and associated data on each blade. In December 1943, a technical order was issued and stipulated that propeller blades, design Nos. A-2721107 and C-38213306, used in sets in Aeroproducts and Curtiss propellers respectively, were to be identified by a yellow stripe,  $\frac{3}{8}$  inch wide and  $\frac{3}{8}$  inch inboard of the yellow tip section. A.O. Smith blades used in sets in Curtiss propellers were to have two 3/8 inch yellow stripes, one 3 inch inboard of the vellow tip section and the second 3 inch inboard of the first. These markings both appeared on P-47 propellers during 1944 but photographic evidence suggests the programme of application was of limited duration.

Numerous half and inch high maintenance directions and technical data markings appeared at appropriate points on the Thunderbolt and were in black on olive drab, Insignia Blue on Neutral Gray. Red warning markings were applied over both surfaces, the most notable of these being the 'No Step' patches on the wing flap roots. Republic also applied white on black transfers (decals) at some points.

#### National Insignia

While the camouflage on early Thunderbolts was consistent, the variation in the National Insignia was considerable. Early arrivals in the UK had 45 inch diameter cocardes on the upper left and lower right wing surfaces and 36 inch diameter cocardes on the fuselage. On the wings the cocarde was centred on a panel line just outboard of the centre aileron hinge. On the fuselage the centre of the cocarde star was 20 inches from the intercooler doors so that the forward edge of the whole marking was just clear of these. Because of the RAF's fear that any radial engined fighter in a combat area ran the risk of being mistakenly identified as an FW 190, special recognition markings and alterations to the National Insignia were introduced. The cocarde under the right wing was painted out and an enlarged marking, usually 59 inches in diameter, was applied 82 inches from the wing tip, some 17 inches further inboard then the regulation position. Another 59 inch diameter cocarde was painted under the left wing. The fuselage cocarde had a 2 inch wide yellow outline applied (either in Identification Yellow, shade 48, or the British equivalent). The special recognition markings were all in white and took the form of bands round the nose and across both horizontal and vertical tail surfaces. The 24 inch cowling band was measured from the



The special propeller blade identifying marks referred to in the text are seen here on two P-47Ds of the 57th FG. Both aircraft have the red nose band and propeller boss that were official Mediterranean theatre markings. The battle number of the 64th FS (scorpion emblem) aircraft is on the underside of the cowling band, but that of the 65th FS (red rooster emblem) is on the leading edge of the wing. Both numbers are in white. (USAF via R. L. Cavanagh)



front lip, taking in the curve of the nose. A 12 inch band centred 26 inches from the tip of the fin was applied to the vertical tail, while an 18 inch wide band was painted round each horizontal stabiliser and elevator, and centred 33 inches from the outer extremity. These markings were first applied in February 1943 and, apart from the usual slight variations in measurements that were inevitable where more than one depot did this work, were fairly consistent while camouflage finish was in force. The lowering of the aircraft radio-call number on the P-47D-5-RE and subsequent models, saw the white fin band brought down to a point centred 32 inches from the top of the fin.



Mike Bailey



The location of the original cocarde can be distinguished outboard of the enlarged marking on the wing of this P-47C. (USAF)

The radio call-number, or designator as it was formerly known, was made up from the digits of the aircraft's serial number, less the 4 prefix and omitting the hyphen. Thus P-47C-5-RE serial number 41-6325 was identified on the tail as 16325. These radio callnumbers were always factory applied in Identification Yellow. Size of characters was  $7\frac{1}{2}$  inches high with a maximum width of 5 inches. Spacing between the figures was  $1\frac{1}{2}$  inches. Positioning on the tail fin for the P-47C model was parallel with the aircraft's longitudinal axis, the lower sides of the figures being 3 inches above the centre rudder hinge. Thunderbolts produced by Republic's Evansville factory (identified by the RA suffix to the model designation) began to arrive in the UK in the summer of 1943 and although similar to the P-47C series were designated P-47D-RA. On these machines the top of the call-number was in line with the top of the rudder trim tab, but commencing with the first P-47Ds from Farmingdale and all Evansville machines after the P-47D-3-RA, the call-number was always centred, as previously stated, on the centre rudder hinge. Figures were then spaced one inch apart as the call-number often ran to six digits instead of five.

**Unit Markings** 

The 4th, 56th and 78th Fighter Groups assigned to the Eighth Air Force's VIII FC (Fighter Command) were equipped with P-47Cs between January and

Coloured drawings on opposite page:

366th FG, May 1944. NI in factory location 404th FG, June 1944. Full AEAF stripes 373rd FG, August 1944. AEAF stripes on u/s only 50th FG, December 1944. 1st TAF 354th FG, January 1945. 355th FS nose marking 371st FG, January 1945. 1st TAF 48th FG, April 1945 406th FG, May 1945 368th FG, May 1945 April 1943. Operational training of these groups was modelled on RAF fighter practice and the influence of the experienced British force extended to the form of unit markings displayed on the Thunderbolts. Identification was on a squadron basis as with RAF units. Two letters grouped together on one side of the fuselage cocarde were the squadron code and a single letter on the opposite side of the cocarde was the individual aircraft identification within the squadron. On Thunderbolts the squadron letters were painted forward of the National Insignia on both sides of the fuselage. The standard size of all letters was 24 inches high and they were usually in solid block form and white in colour. Unlike the Eighth's heavy bombers the size and positioning of Thunderbolt unit letters was remarkably uniform even to the last days of the war; and also unlike the heavy bombers these letters became the verbal and visual means by which both air and ground crews identified an aircraft. Additionally, the aircraft's individual letter was often the initial letter of a pilot's name, and even if this were not the case, a pilot tended to use the letter of the aircraft he had first been assigned to on all the replacement machines he would subsequently fly during his operational tours. For example, Don Blakeslee, the colourful leader of the 4th Group, had personal aircraft marked C, while top ace Francis Gabreski of the 56th Group used A. The individual aircraft letter was sometimes repeated on the underside of the white noseband in black or dark blue. As aircraft were generally parked on their dispersal points nose towards the perimeter track, this enabled personnel seeking a specific machine to identify it readily while driving along the perimeter track.

The two-letter combinations used by the 4th, 56th and 78th groups had previously been allocated to the 52nd, 1st and 31st Groups respectively. These groups, flying Spitfires and P-38 Lightnings, had moved from England to Africa in November 1942, and the issue of the same code letters to the first Thunderbolt

squadrons was apparently a move to confuse, albeit temporarily, enemy intelligence as to the disposition and strength of USAAF units. Code letters were issued by the British Air Ministry at the request of the USAAF.

Prior to receiving the order to apply code letters, the 56th Group had started to apply its own form of 'plane-in-group identification markings. This was based on the old Air Corps system of allocating consecutive blocks of numbers between one and a hundred to Group headquarters and the three squadrons. In this case it is believed Group Headquarters used 01 to 09, the 61st FS (Fighter Squadron) 10 to 39, 62nd FS 40 to 69, and the 63rd FS 70 to 99. However, the 62nd fighter squadron prefixed its numbers with a figure 2 and the 63rd FS did likewise with a figure 3. These numbers were painted forward of the intercooler doors on both sides of the fuselage in approximately 15 inch high white characters. The system was only in being for about one month (Mid February-Mid March 1943) and it is doubtful if all the 56th Group's P-47Cs ever received these markings.

# Personal Markings

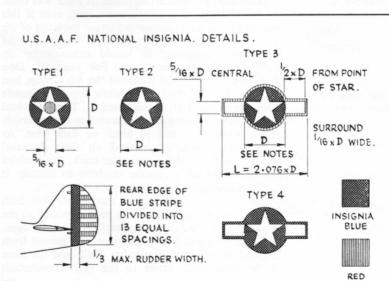
Like most combat aircraft the first Thunderbolts to arrive in England were not long in gathering unofficial decorations such as nicknames, personal motifs and mission and victory symbols. The left hand side was the natural side of entry to the cockpit and such insignia tended to appear in this area. Enemy aircraft destroyed, indicated by black and white German crosses or swastikas, were recorded on the fuselage just below the cockpit canopy. Mission completed symbols, usually in yellow, were recorded in the same area although these fighters flew so many missions that the ground crew found the painting of even a simple 3 inch yellow stroke a tedious job. The practice of recording operations flown tended to die out in the Eighth Air Force although there were always a few stalwart crew chiefs who continued to decorate their charges in this way.

It was also permissible for pilots and ground crew to paint their names on their particular aircraft. Again, these were usually painted on the left side of



'Pistol Packin Mama' and illustration denoting the pilot's affinity with Texas are examples of personal markings applied to the removable cowling centre panel of a 4th FG P-47D. Wheel hub disc has been decorated with miniature cocarde. (Photo: Garry Fry/4th FGA)

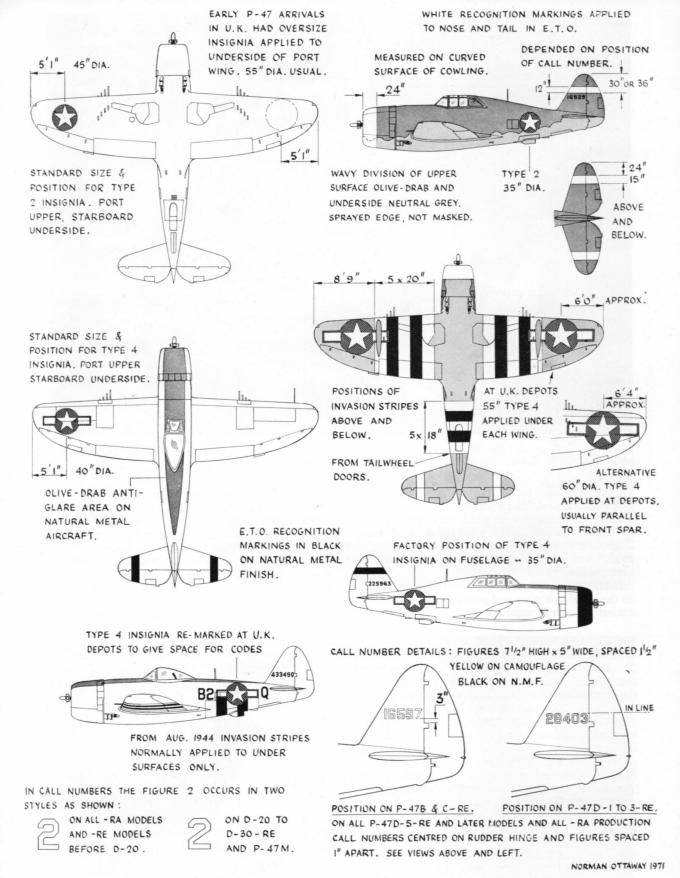
the fuselage near the cockpit, and rarely larger than in inch high letters. Nicknames and slogans were mostly in yellow paint as this did not spoil the camouflage effect, an absurdity in view of the brilliant white type recognition bands! Highly coloured paintings soon frequently appeared on the cowlings of P-47s, sometimes obscuring part of the white band, yet not incurring official displeasure. The centre panels of the cowling became the favourite site for such art because they could be detached and the



NOTES:
TYPE 1. INTRODUCED 1. JAN. 1921.
TYPE 2: INTRODUCED 18. AUG. 1942.
DIAMETER SPECIFIED AS 20"
MINIMUM, INCREASING BY 5"
INCREMENTS.
YELLOW SURROUND, SPECIFIED 2"
WIDE, APPLIED TO SOME U.K.
BASED AIRCRAFT FROM JULY
1942. ALSO USED IN NORTH

1942. ALSO USED IN NORTH AFRICA LATE 1942. DISCONTINUED AFTER APRIL 1943 IN BOTH AREAS. TYPE 3. INTRODUCED 29. JUNE 1943. DIA. OF BLUE DISC CONTINUED TO

DIA. OF BLUE DISC CONTINUED TO
BE NOMINAL DIAMETER OF MARKING.
TYPE 4. INTRODUCED 17. SEP. 1943.
OUTSIDE DIAMETER (11/8 × NOMINAL)
USUALLY TAKEN TO NEAREST INCH
e.g. 35" STAR - 39" O.D.
RUDDER MARKING DISCONTINUED
FROM AUGUST 1940.





Two early P-47Cs of 62nd FS with code letters. The farther aircraft has unusually small letters, apparently 18 inches high, while 'Happy', LM:R, has standard size 24 inch high letters. (USAAF)

work accomplished in a comfortable position. Painting a design on a cowl from a box or ladder was not very desirable or conducive to good work and many of these paintings were superb, being the result of several hours' labour in off duty hours. Sometimes when an aircraft was replaced, the painting adorned cowlings were removed to the new machine.

Other personal decorations involved fancy designs on the wheel hub discs and propeller bosses although the latter were rare until the winter of 1943–44.

#### New Enlarged National Insignia

When the enlarged National Insignia was ordered on 29th June 1943, Eighth Air Force fighter groups found that the white rectangle to be added on each side of the cocarde would in many cases obscure parts of the code letters. This was particularly so in the 4th and 78th Groups where the individual aircraft letter had been painted close to the cocarde. Therefore, when the new marking was applied, the aircraft letter was painted out and re-painted further back on the fuselage, often very close to the root of the tailplane. The matter was further complicated by the decision made at the factories to apply the new National Insignia to the fuselage at a point completely aft of the intercooler doors. This meant that depots in the UK had to paint out the factory applied 'star and bar' and place a new one further forward, to allow room for an aircraft letter to be positioned on the rear fuselage. As applied at depots, the forward bar of the

National Insignia extended across the top part of the intercooler doors. Some idea of how long it took to effect a change on the production line from 'the field' can be gauged by the fact that although representations were made soon after UK depots found themselves faced with this additional work, it was not until about a year and a few thousand Thunderbolts later that factory applied markings were repositioned further forward. This was during the P-47D-28 series and the positioning was very similar to that carried out in England.

'Star and Bar' markings under both wings of a 61st FS P-47D, 42-74620 (USAF)



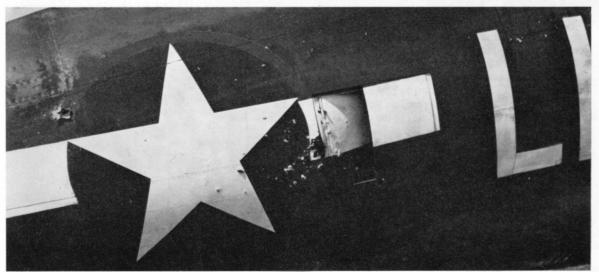


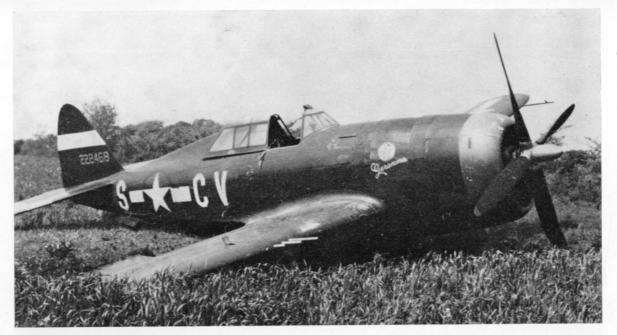
Ageing P-47C, MX:T of 78th FG, with Insignia Blue border to 'star and bar' contrasting with faded Insignia Blue of cocarde. (AF Museum)

Most distinctive of VIII Fighter Command group markings were the checkerboard designs. This 78th FG P-47D first had its cowling sprayed black and the white squares were then superimposed with the aid of an elaborate stencil. In most cases, it was the black that was sprayed through stencils. (M. Havelaar)



Detail of location of new national marking on a battle damaged P-47D, 42-7905, of 350th FS. Apex of star is centred on skin joint. (USAF)





'Geronimo', force-landed P-47D-2-RA of 359th FG, sporting the green nose band introduced in March 1944. (USAAF)

Even with the new marking, depots in England still applied enlarged and extra underwing insignia to Thunderbolts. The diameter of the centre cocarde was sometimes 55 and sometimes 59 inches. Factory 'star and bars' had a 40 inch central disc on the wings and 35 inches on the fuselage. The red outline surrounding the whole marking was 2 inches wide. On the wing, this made an overall dimension of 72 inches, spanwise, and 44 inches chordwise. The red outline was short-lived and on 14th August 1943 a change to Insignia Blue was ordered.

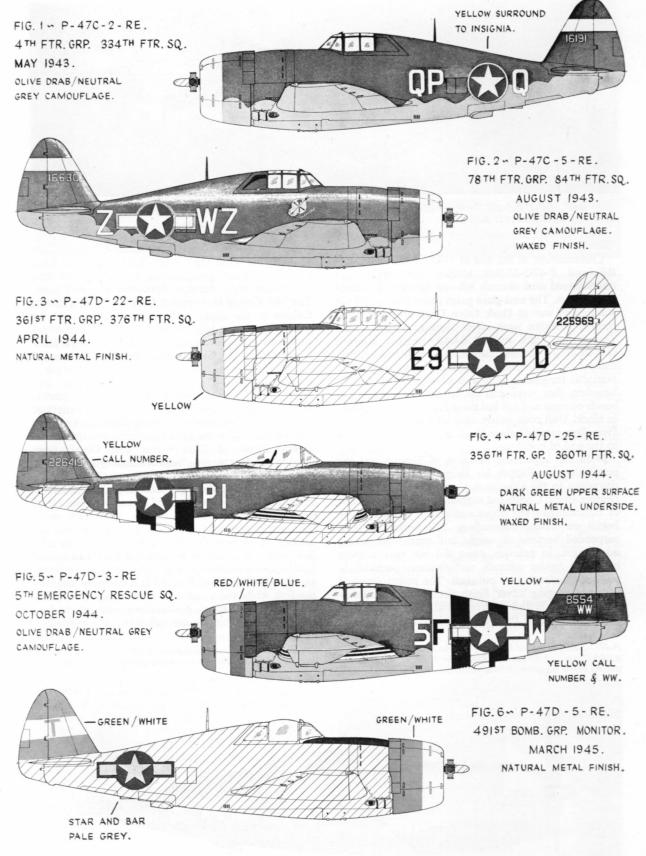
#### **Group Markings**

All told, the Eighth Air Force had a peak strength of 10 Thunderbolt groups (30 squadrons) and this in January 1944. Thereafter, these groups began to re-arm with P-51 Mustangs which were considered far more desirable for long range escort. At the time of peak strength, the conformity of unit markings persisted, with one small difference in the last group, the 361st, which had letter/numeral squadron codes due to the exhaustion of available two letter combinations for the combined Allied air forces in the UK. It was on the Thunderbolt, however, that the first gay colours appeared, which the Eighth Air Force warplanes would ultimately flaunt in profusion. Early in February 1944, the 56th FG received permission to paint the white area of the cowlings in the 61st FS red, and those of aircraft in the 62nd FS yellow. The object was to obtain better between-squadron recognition at distances beyond which the aircraft letters could be distinguished. At the same time it was hoped that initially some enemy units, which employed a wide variety of coloured nose bands on interceptors, might be tricked into identifying the 56th FG as friends. From the success of this experiment came an VIII FC order of late March 1944 assigning coloured nose markings to each group in the Command. For P-47 units these were: red for the 56th, green for the

359th, yellow for the 361st, black and white checkerboard for the 78th, yellow and black checkerboard for the 353rd and no nose band at all on 356th Group aircraft. Other groups had by this time converted to Mustangs. The 56th Group now identified its 61st and 62nd squadrons with red and yellow rudders, respectively. At the same time this group started a practice of painting out the white tail bands on all aircraft. The 78th and 353rd groups, which were assigned to the 66th Fighter Wing and all of whose groups had checkerboard markings, had the checkerboards carried back beyond the limits of the original white noseband to the cowling shutters. To put this marking on 75 aircraft in a group entailed many man hours, and several weeks passed before every aircraft in these two groups was so adorned.

Black and yellow diamond orientated checkerboard graced 353rd FG P-47s. Unlike 78th FG, the 353rd allowed personnel to place personal motifs on the cowling as with the mule on 'Mud N' Mule'. (USAF)







'Oily Boid', a P-47D-5-RE from the 359th FG, collapsing a silver dope impregnated paper type drop-tank. Bands round tank were signal red. (Via R. Hill)

# 'Silver' Aircraft

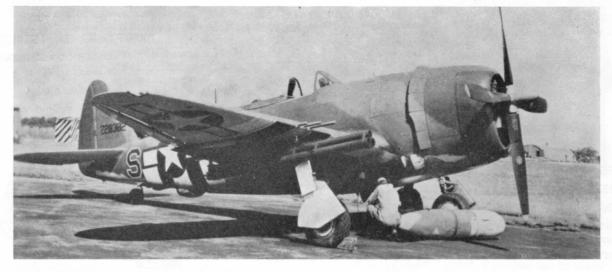
Commencing, at the end of 1943, in the P-47D-21-RE and P-47D-23-RA blocks, camouflage was discontinued and aircraft left the factory in natural metal finish. The anti-glare paint panel forward of the windscreen was in Dark Olive Drab and the fabric control surfaces were silver doped, otherwise the Thunderbolt, like most USAAF combat aircraft, carried only its serial number, radio call-number and maintenance directions in black paint, and the National Insignia in blue and white. At UK depots, however, they were still to receive the recognition bands on nose and tail but these too were now painted in black. Unit code letters were also painted in black. Propellers retained their black and yellow paintwork to the end of hostilities.

With the impending invasion of Europe and the possibility that Eighth Air Force fighters might one day move to the Continent to operate from forward landing strips, Command suggested that a programme of camouflaging the upper surfaces of its fighters be begun on bases. Camouflage had originally been suspended because of weight and man hour saving advantages. In practice, paint did not have a great effect on fighter aircraft performance, particularly when its surfaces were polished. The paints supplied for camouflaging 'silver' finish aircraft were predominantly from British sources, and as groups were apparently left to their own devices in this matter,

some highly individualistic schemes appeared. The 356th Group used Dark Green and sprayed all areas that would have previously been painted olive drab at the factory. Undersides remained in metal finish. The 78th Group also applied Dark Green in a similar fashion to the upper surfaces but also sprayed the undersides, using Sky (S) in most cases. The 353rd produced an odd example or two in British style Dark Green and Ocean Grey shadow-shading on the upper surfaces but for the most part circumvented the task as it was the next P-47 group in line for Mustangs. The 56th Group, as became its individualistic streak, produced various camouflage schemes in a variety of colours. Some machines were given Dark Green upper surfaces, chiefly in the 63rd squadron, and there were several forms of Dark Green and Ocean Grey shadow-shading ranging from broad irregular bands to almost Luftwaffe type mottling. The 61st FS, however, had several shadow-shading schemes in light and dark grey (presumably Sea Grey and Extra Dark Sea Grey) and a solitary matt black example. Undersides were, with one exception, left bare. The exception was the aircraft of Michael Gladych, the Polish air ace who flew with this squadron because the RAF had retired him to a non-combat post after his services for them. His P-47D-28-RE was finished in a two grey shadowshading while the undersides were a sky blue (most probably Azure Blue). Not content with this he had the code letters on his aircraft (HV: M) painted in

P-47C-2-RE, operated by 495 FTG, had its camouflage paint removed in the UK. Radio call-number has been re-applied in a higher position on the fin. Black bar above letter indicates another VM:A in the unit. It was more common for a bar to be placed below an aircraft letter than above. (Via R. C. Jones)





This P-47D-26-RA was received by the 56th FG in natural metal finish. Upper surfaces were camouflaged by the group paintshop using a dark and light shade of grey (possibly Dark and Light Sea Gray). Radio call-number was painted in black (228382), and code letters HV:S were in black with white outlines. (USAAF)

scarlet. Other P-47Ds in the squadron had black letters on camouflage finish and many aircraft had letters blocked out or outlined in red.\*

#### The Ninth Air Force

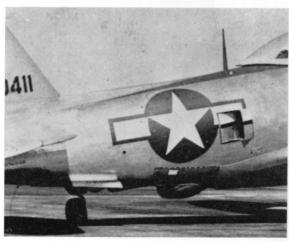
When the Ninth Air Force was established in the UK in October 1943 it was planned to give it a mixed fighter force for tactical operations in the liberation of north-west Europe. As the excellence of the P-47 as a ground attack aircraft became more evident, so the Ninth tended to obtain more of these aircraft at the expense of other types. Its first group was the 358th FG, transferred from the Eighth Air Force in an exchange for a Mustang group, but between December 1943 and May 1944, the Ninth was to receive twelve new P-47 equipped groups from the United States. All these groups received P-47Ds in the standard markings employed by Eighth Air Force Thunderbolts. Squadron codes were all one letter, one number combinations and were positioned in the manner already described for the first P-47 units arriving in Britain. There were a few exceptions, for due to the pressure on depots at this time, some aircraft arrived at operational bases with the fuselage National Insignia still in the factory position. When this happened the squadron codes and the aircraft letter were all grouped together forward of the National Insignia. The 366th FG at Thruxton used a hyphen to separate the squadron codes from the individual letter (see colour plate).

While unit colour markings in the Eighth Air Force were very consistent, in the Ninth they were not. This was in part due to the fact that Command appears never to have devised or ordered any such markings, so that those that did appear were generated within units. It was also due to the frequent moves and limited facilities available on Continental air strips. It is often difficult to establish what was an approved unit marking and what was just a popular decoration adopted by many pilots or ground crews.

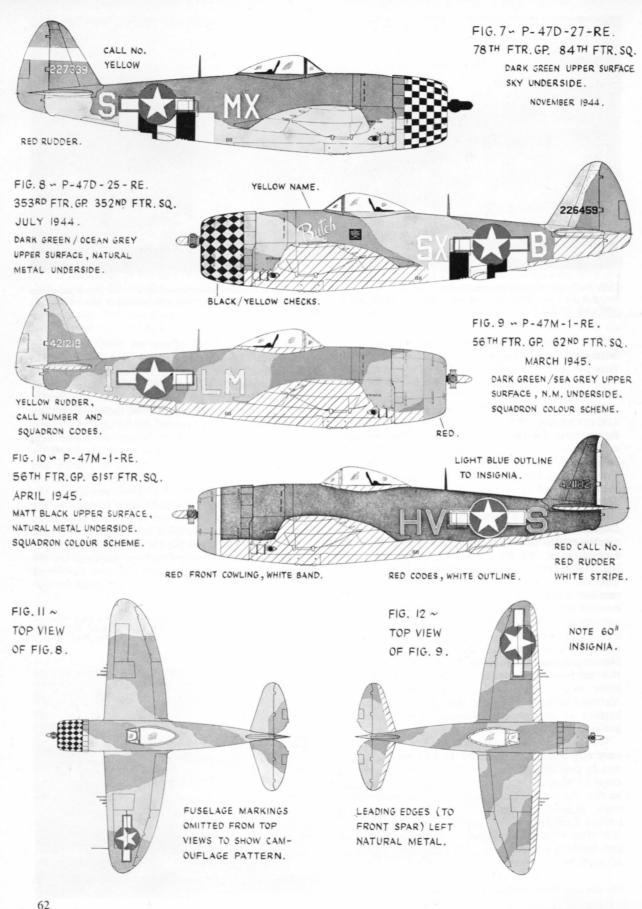
The first splash of colour on Ninth Air Force Thunderbolts is believed to have been with the 406th FG at Ashford in Kent. By D-Day (6th June 1944) the white portion of the cowling had been painted yellow in the 512th FS, red in the 513th and blue in the 514th. Towards the end of 1944, the whole cowling was painted in the squadron colour and in the last few weeks of the war a styled design was introduced.

Large scale use of colours did not occur until after the Ninth Air Force groups moved to France and then mostly in the autumn when the pace of operations was not so great. The first P-47 group marking in the Ninth is believed to be the red tail tip adopted by the 362nd FG in August. At the same time squadrons began to paint the nose band in a bright colour; red for the 377th FS, green for the 378th and yellow for the 379th. A trend towards group markings on the tail and squadron markings on the nose developed thereafter although most units did not settle for this

Factory location of fuselage National Insignia on P-47D-28 and subsequent models. Marking was placed higher on fuselage side than when repositioned on earlier P-47s at UK depots. (Republic)



<sup>\*</sup>By this time 359th and 361st FGs had re-armed with P-51s.



system until the final months of the war. The 36th FG gives an interesting insight into the evolution of Ninth Air Force colour markings. Having fought from England and Normandy with standard P-47 markings, in the autumn of 1944 vellow was chosen as group colour. This was applied to part of the vertical tail, with each of the three squadrons using a different portion. By March 1945 this had been changed so that all tail surfaces on an aircraft were painted yellow (without obliterating the radio-call number) and squadrons were then identified by coloured nose bands. This was a centrally placed band 12 inches wide in some cases whilst with others the whole of the cowling between the black recognition band and the cowling shutters was painted in the squadron colours. Finally, in the closing weeks of the war, each squadron painted the whole cowling with the appropriate colour.

Squadron-within-group colours were used by the 36th, 48th, 354th, 358th, 362nd, 365th, 367th, 368th, 371st, 405th and 406th Groups, all on engine cowlings. Additionally, the 405th overpainted the black or white tail bands in its squadron's colours. The 354th FG units embodied their colours in a fancy design. The 48th also applied squadron colours to rudders.

The 50th, 358th, and 371st FGs were assigned to the 1st TAF in November 1944 and used the 18 inch red nose band which was the recognised theatre marking for fighters in the Mediterranean area. Squadron colours in the 358th were painted directly aft of the red nose ring, and in the 371st on the tail.

Group colour markings on tails were used by the 36th, 358th, 362nd, 367th, 368th, 371st, and 406th. The 365th FG had a 10 to 12 inch yellow band round the centre of the engine cowling as a group marking and some 48th FG aircraft had red and white checkerboarding on the aft part of the cowling. The 366th, 373rd and 404th FGs had no group or squadron colour identification markings during hostilities.

#### **Invasion Stripes**

The Allied Expeditionary Air Force's special recognition stripes for the cross-channel invasion of June 6th 1944 were applied to all combat P-47s of the Eighth and Ninth Air Forces. At first completely encircling wings and fuselage, they were removed or painted out on the upper surfaces during July. In September they were removed from the wings

Col. Philip Tukey's personal P-47D-25-RE camouflaged with Dark Green or Dark Olive Drab on the upper surfaces. Canopy framing remains in natural metal. (Glesner Weckbacher)





A 23rd FS P-47D with 36th FG yellow group tail marking in February 1945. Black bands on tail and nose have been retained on this machine. 'Easy's Angels' was nickname of unit, commanded by Major 'Easy' Miles. (D. Madden)

altogether but the under fuselage stripes continued to be applied until early in 1945. Examples can be found long after this date as many units did not bother to erase them. While these stripes were from the outset intended as a temporary measure and were mostly applied in water based paints, more tenacious materials were also used and later proved very difficult to remove without proper solvents.

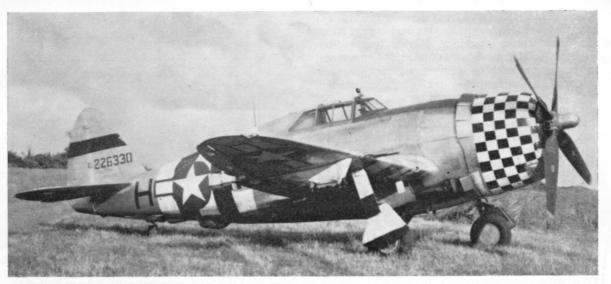
By February 1945 depots had ceased applying type recognition bands to new Thunderbolts and many aircraft already in service had these removed. This related particularly to bands on nose cowlings.

#### The Mediterranean Theatre

In the autumn of 1943, the USAAF set up a second strategic air force to engage the European Axis. This was the Fifteenth Air Force and was to operate from airfields in the recently captured Foggia area of Italy. The B-17 and B-24 heavy bombers of this force would require an escort on their missions, and to this end, plans were laid to convert a number of fighter groups, already in the theatre, to the role. The first group to re-arm with the Thunderbolt was the 325th which received largely P-47D-10-RE models while still based in Tunisia. On these aircraft, large white battle numbers, serving as 'plane in group identification, were painted on the fuselage, forward of the intercooler doors. As was common practice with this type of marking, numbers 10 to 39 were aircraft of the first squadron (the 317th), 40 to 69 the second squadron

Swept red squadron nose marking on this 406th FG Thunderbolt was typical for the group during final weeks of the war. Photograph was taken after hostilities when group was assigned to occupational air forces and carried that organisation's red, orange-yellow, red fuselage band. (Via R. C. Jones)





Invasion striped P-47D of 78th FG. Main undercarriage shuttering carried part of the wing stripes. (USAAF)

(318th) and 70 to 99 the third (319th). The group had formerly used this system on its P-40 Warhawks which were also adorned with a very distinctive yellow and black checkerboard on their tails. The latter entailed considerable work to apply to the 70 odd new aircraft that made up group strength and it was not until after operations had begun from Italy that all Thunderbolts were decked out in this fashion. Apparently, impending changes to P-47 models better suited to escort also delayed the application of these markings.

The squares of the checkerboard had 12 inch sides and the positioning in relation to the longitudinal axis of the aircraft was diamond pattern. The checkerboard was applied to both vertical and horizontal surfaces, concealing the call-number and all detail markings. In some instances the 'last three' of the radio call-number were painted in white or yellow on the rear fuselage above the bar of the national marking. The group's colourful checkertail marking also helped considerably in type identification at a time when the group was the only one with P-47s in the MTO. A red spinner had been adopted as the theatre marking for Allied fighters in 1943 and on the Thunderbolt, without a spinner of any appreciable size, the red marking was applied in the form of an 18 inch cowl band. In April and May 1944 many aircraft had the red extended back in a faired design while the division between red and camouflage was



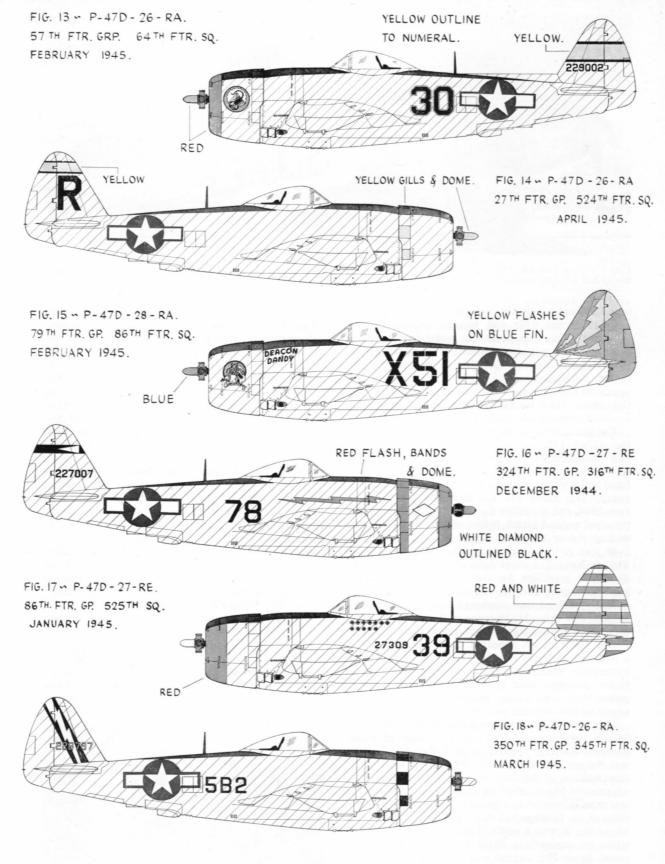
A 325th FG P-47 in full group markings. Last three digits of obscured tail number were painted on fuselage just above bar of national marking (877). Note stylised sweep of red nose marking with yellow outline. Nickname 'Shimmy' also in yellow. (C. Sluder via R. C. Jones)

marked with a thin yellow or white line. At this time the battle number was sometimes repeated on the cowling underlip in white.

The second P-47 equipped group in the theatre was the veteran 57th FG which received most of the cast-off short range P-47Ds from the 325th FG, to continue the ground attack role it had previously performed with P-40s. The 57th's Thunderbolts had the red 18 inch cowling band and white battle numbers in similar squadron number sequences to those used by the 325th FG. Additionally, 57th aircraft were marked with a yellow band across the vertical tail and each wing. The tail band was approximately 15 inches wide and positioned similarly to the white tail band

A flight of 325th FG Thunderbolts with large white battle numbers for 'plane-in-group identification. Bettle numbers were the most common form of aircraft-in-unit identification markings used by Mediterranean based groups. (USAF)







Late P-47D of 64th FS, 57th FG. This aircraft had at some time been fitted with a new rudder and the tail band (outlined in black) had not been applied to the new item. (Roger Besecker)

on Eighth and Ninth Air Force P-47s. The wing bands were 18 inches wide and painted chordwise, just outboard of the gun ports. On metal finish aircraft these yellow bands were outlined in black but in the later stages of the war the wing bands were discontinued. Each squadron of the 57th FG displayed its approved badge on each side of the engine cowling in full colour. These were quite sizeable decorations and involved considerable work for the paint shop.

The third group in Italy to re-arm with P-47s was the 332nd FG, the all-Negro organisation which flew Thunderbolts for a period of two months before converting to Mustangs in June 1944. The red nose band and white battle numbers were also used by this group. The 325th FG converted to Mustangs in June 1944, and thereafter the Thunderbolt became the principal ground attack fighter of Twelfth Air Force tactical fighter units. By September 1944, all P-39, P-40 and A-36 groups had been re-equipped with Thunderbolts. The exact dates of the introduction of distinctive markings for these units is not always known, as apart from the red nose marking, no other officially ordered unit markings were specified. The markings of these Mediterranean theatre P-47s were even more inconsistent than those of the Ninth Air Force. There always appeared to be some aircraft in a unit with different markings from the majority, or incomplete markings. This was possibly due to rather primitive field conditions and shortages of paint. Most unit colour markings appeared in the winter of 1944-45 and were applied to tail surfaces.

The 79th FG, which received its first P-47s in March 1944, continued to use the system of battle numbers formerly applied to its P-40s. This system was the same as that of 57th FG except that group identification in the form of a letter X was painted adjacent to the number on each aircraft. The letter was usually painted as a prefix to the number on both sides of the fuselage but there were several examples where the X was a suffix. These characters were in white on camouflage finish and black on natural metal. Some 79th aircraft had red nose cowls during the later part of 1944, but by 1945 only the lower portion of the nose was painted. A group identification

marking was introduced at this time and consisted of medium blue painted tail surfaces with yellow lightning flashes on fin and rudder. The pattern and extent of the flashes varied, particularly when the marking was first adopted. Like many other P-47 units in the theatre, the 79th's squadrons carried their badge or emblem on the left hand side of the cowling in full colours. The location enabled this painting to be transferred to a replacement aircraft and it was not uncommon for a cowling panel carrying a squadron emblem to be passed on to four or five machines.

The 27th FG, which obtained P-47Ds in June 1944, used 'plane-in-squadron identification letters as it had previously done on A-36 Mustangs. Numerals were also used and it is believed these were when more than 26 aircraft existed in a squadron at one time. At the end of 1944, the 27th FG had a fairly uniform colour markings system. The 522nd FS was identified by a red horizontal tail stripe, a red aircraft letter painted on the fuselage just forward of the National Insignia, and often alternate engine cowling shutters in red. The 523rd FS had a medium blue horizontal tail stripe, a blue aircraft letter on the vertical fin, and

Collapsed 57th FG aircraft number '78' has inherited detachable cowling panel from a 324th FG P-47 bearing that organisation's diamond marking. This machine also has chordwise yellow wing bands just outboard of gun ports. (R. L. Cavanagh collection)



alternate cowl stripes in the same colour. The 524th FS had a yellow tail stripe and alternate cowling shutters, but the aircraft letter on the fin was in black. Both the other squadrons had some examples with black aircraft letters instead of in the squadron colour. Wheel hub discs and propeller bosses were also often in the squadron colour.

When the 86th FG converted from A-36 and P-40s to P-47Ds in the summer of 1944, this group used battle numbers for identification purposes. These were in black and painted forward of the National Insignia. A red theatre nose band was standard and it was also a practice in the 86th to paint the cowling shutters red excluding those painted Dark Olive Drab in the anti-glare panel of metal finish aircraft. Standard group distinguishing marking, introduced late in 1944, was seven narrow horizontal red stripes on the vertical tail and a similar pattern on the horizontal tail. The radio call-number was obscured by one of the red stripes and on most aircraft the last five digits of the number were then painted on the side of the fuselage below the cockpit. Colour was black and the size approximately six inches high.

The 324th FG received Thunderbolts in July 1944, shortly before moving from Corsica to France in support of the Allied invasion of that country's south coast. In common with most Mediterranean theatre P-47s, its aircraft carried the red nose band marking and also made use of black battle numbers in the usual fuselage positions. Standardised group and squadron identification markings in use at the end of 1944 were adhered to with little variation. They consisted of a red lightning flash on each side of the fuselage and a narrow black horizontal tail stripe for group identification, the squadron badge being on the left hand side of the engine cowling, and a diamond device in the squadron colour on the right hand side. The squadron colour was also displayed in the form of a small pennant shaped flash incorporated in the leading part of the black tail stripe. Colours were vellow for the 314th FS, red for the 315th and white for the 316th. The diamond device had previously been displayed on the Group's P-40s.

Last of the Twelfth Air Force fighter groups to go over to Thunderbolts was the 350th FG, becoming operational in September 1944. Here, each squadron followed an individualistic line in markings and the only common theme was the unique form of 'plane-in-group recognition code. This consisted of a figure-letter-figure combination of which the first figure was the last digit of the squadron number, the letter was that of the flight, and the final figure the number of

A 79th FG aircraft with 86th FS badge on cowling and the more common form of group tail marking. (Via R. C. Jones)





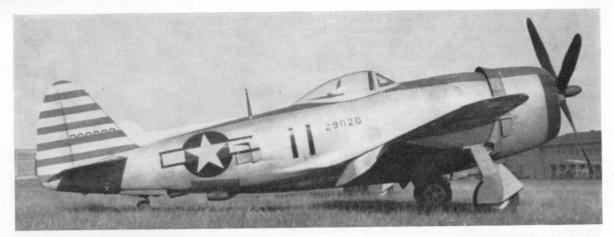
A 324th FG P-47D of 1st TAF. The 314th FS emblem decorates left side of cowling and the yellow squadron flash is incorporated in the black tail band. (USAAF)

the aircraft within the flight. In the 345th and 347th FS's these markings were painted 18 inches high just forward of the intercooler doors, while the 346th used 30 inch high characters painted on the engine cowling and forward fuselage. The colour of these letters and figures was black. The 350th FG is not known to have carried the red nose marking but distinctive squadron markings adorned the vertical tails of its P-47s. The 345th employed a black diagonal band with yellow lightning flash thereon, the 346th used small black checkerboard on the 'silver' finish rudders, and the 347th a large black letter A. Squadron badges were also prominently displayed on these aircraft of the 350th FG. The 345th and 347th had theirs on the engine cowling, and the 346th's were on the fuselage just forward of the intercooler doors.

The 350th FG also had a fourth P-47 squadron attached for operations. This was the 1st Grupo de Aviaco de Caca of the Brazilian Air Force. The P-47Ds used by this unit were finished in Olive Drab and Neutral Gray, similar to earlier P-47Ds, and the US Army radio call-number was carried in vellow on the fin. National markings consisted of the vertical division of the rudder into medium green (leading) and vellow portions, and the green, yellow, blue and white star device superimposed on the US white star of the regular US marking. The colourful unit badge was painted on the left hand side of the fuselage directly aft of the cowl shutters. A system of flight and 'plane-in-flight recognition markings, similar to the 350th's, were also painted on the left hand side of the engine cowling in approximately 30 inch high white characters.

#### The Flamboyant P-47M

The fighter bomber units of the Ninth, Twelfth and First Tactical Air Forces continued to fly P-47D variants until the cessation of hostilities. The strategic fighter force of the Eighth and Fifteenth Air Forces was with one exception completely equipped with P-51s and P-38s by January 1945. The exception was the Eighth's 56th FG, first group to be equipped with the Thunderbolt, and its greatest exponent. The 56th began to receive P-47Ms in January 1945 and for these distinctive squadron colour schemes, was devised what must have been the most flambovant décor ever carried by Thunderbolts. This was additional to the official group and squadron colour markings which remained unchanged. Aircraft of the 61st FS had matt black upper surfaces, red code letters, and red radio call-numbers. The 62nd FS had



Partly painted out tail number and placement of the last five digits on the forward fuselage are clearly shown on this 86th FG machine. The red nose band does not extend through the anti-glare patch. (Fred C. Dickey Jr.)

Dark Green and light grey (presumably Sea Grey) shadow shading similar to that of RAF fighters. Code letters and call-number were in yellow. P-47Ms of the 63rd FS had dark and light blue shadow shading (apparently Dark Mediterranean Blue and Azure Blue shades), natural metal code letters and medium blue radio call numbers. The blue used for the call number and the squadron rudder colour was a true medium blue and contrasted sharply with the two camouflage colours. The undersides of all aircraft in the group were left in the natural metal state as were cockpit canopy frames and the leading edges of wings and horizontal tailplanes. There were several P-47M late arrivals that did not receive these camouflage schemes and to which only normal unit markings were applied.

# Other Units

There were a number of small non-combat units in the European and Mediterranean theatres that operated Thunderbolts. The majority were based in the UK where most experimental and training activity occurred. The 495th Fighter Training Group (which operated for both Eighth and Ninth P-47 units) had aircraft with regular markings plus coloured cowlings. The significance, if any, of the latter is not known, as various colours were to be observed on aircraft of the two squadrons forming the group. After VE-day P-47s were used by P-51 groups for training pilots who might have to fly the P-47N in the Pacific theatre. These aircraft usually carried the nose and tail colours of the P-51 unit.

The 5th Emergency Rescue Squadron operated modified P-47D aircraft from May 1944 to July 1945 on air sea rescue spotter duties. Apart from code letters in standard locations, these aircraft had red, white and blue banded nose cowlings and yellow identification bands around wings and tailplanes. The vellow bands were 18 inches wide but because of the location of wing racks those on the wing were discontinued and superseded by 14 inches of wing tip painted in the same colour. Most of these aircraft were partly resprayed with camouflage colours before being decked out in the unit's markings. When this happened the radio call-number was obscured and in repainting it the first digit was omitted. All P-47Ds of the 5th ERS also had the letters 'WW' (War Weary) adjacent to the tail number in yellow.

Squadron badge (kicking mule between two lightning flashes) was usually applied to both sides of 347th FS P-47 cowlings. Letter A on tail was a squadron marking. Painted patch on flap is red 'No Step' warning. (S. Staples via R. C. Jones)





36th FG, February 1945



362nd FG, October 1944



405th FG, March 1945



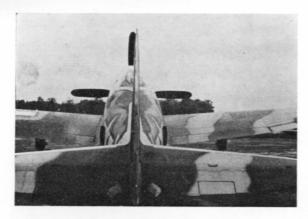
358th FG, December 1944



365th FG, December 1944



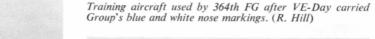
367th FG, May 1945



Two views of 63rd FS, P-47M, 44–21131 with dark and light blue shadow shading. Tail number was in a bright medium blue contrasting with the camouflage colours. Dorsal extension of fin was added after aircraft was painted and remains in natural metal finish. (J. F. Keeler via R. C. Jones)



Distinctive red, white and blue cowling of 5th Emergency Rescue Squadron P-47s. 'Miss Margaret' was 42–8693, 5F:E. Motif was in black, yellow and white. (Baxter Roark)







Matt black finished P-47M of 61st FG with unauthorized pale blue outline to 'star and bar'. This was common to all squadron aircraft with black camouflage finish as was the white outlining of code letters. (W. Lanowski)



Abbreviated radio call-numbers and WW markings were commonly found on the many P-47s used as 'hack' or special purpose aircraft by other units. Most heavy bomber units in the Eighth Air Force had a War Weary P-47 for use in monitoring bomber formations, and thus the insignia of such heavy bombardment groups were often to be seen on Thunderbolts. Those operated by 2nd Air Division groups carried the bright tail markings to be seen on that organisation's Liberators.

With victory in Europe, code letters were applied to the underside of right wings on most USAAF tactical aircraft operating from the UK, with the object of deterring pilots from hazardous low flying. On P-47s these letters were usually painted in black on natural metal and yellow on Neutral Gray and with the same stencils used to form fuselage codes. The unit code was often separated from the aircraft letter by a hyphen.

Six Thunderbolt groups from the Ninth and Twelfth Air Forces were assigned to the air force of occupation in Germany during the summer of 1945 and they continued to use the wartime markings although, as aircraft were transferred between units and personnel strengths fell, paintwork became somewhat neglected.

Roger A. Freeman.

# Acknowledgements

The Imperial War Museum, Kenn C. Rust, Robert C. Jones, and Robert L. Cavanagh.

# **Bibliography**

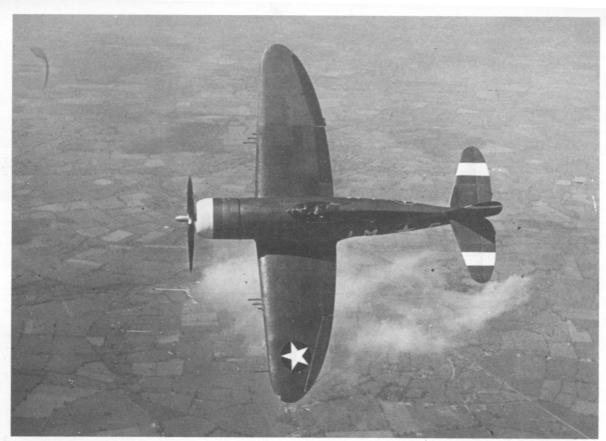
The 9th Air Force in World War II by Kenn C. Rust. The Mighty Eighth by R. A. Freeman. USAAF TO 01-65BC-2.

# EIGHTH AND NINTH AIR FORCE P-47 UNIT CODES

| AJ | 356 FS    | 354 FG | UN         | 63 FS      | 56 FG  | 17 | 493 FS | 48 FG  |
|----|-----------|--------|------------|------------|--------|----|--------|--------|
| CH | 365 FS    | 358 FG | VF         | 336 FS     | 4 FG   | K4 | 511 FS | 405 FG |
| CP | 367 FS    | 358 FG | VM         | 552 FS (?) | 495 FG | L3 | 513 FS | 406 FG |
| CR | 370 FS    | 359 FG | VQ         | 8 ATS      |        | O7 | 514 FS | 406 FG |
| CS | 370 FS    | 359 FG | WD         | 335 FS     | 4 FG   | R3 | 410 FS | 373 FG |
| CV | 368 FS    | 359 FG | WR         | 354 FS     | 355 FG | T5 | 10-FS  | 50 FG  |
| DQ | 551 FS(?) | 495 FG | WZ         | 84 FS      | 78 FG  | U9 | 411 FS | 373 FG |
| FT | 353 FS    | 354 FG | YF         | 358 FS     | 355 FG | V5 | 412 FS | 373 FG |
| GQ | 355 FS    | 354 FG | YJ         | 351 FS     | 353 FG | W3 | 313 FS | 50 FG  |
| HL | 83 FS     | 78 FG  | A6         | 389 FS     | 366 FG | Y8 | 507 FS | 404 FG |
| HO | 487 FS    | 352 FG | A7         | 395 FS     | 368 FG | 2N | 81 FS  | 50 FG  |
| HV | 61 FS     | 56 FG  | A8         | 391 FS     | 366 FG | 2Z | 510 FS | 405 FG |
| IA | 366 FS    | 358 FG | B2         | 390 FS     | 366 FG | 3T | 22 FS  | 36 FG  |
| IV | 369 FS    | 359 FG | <b>B4</b>  | 387 FS     | 365 FG | 4K | 506 FS | 404 FG |
| IZ | Unknown   |        | <b>B</b> 7 | 374 FS     | 361 FG | 4N | 394 FS | 367 FG |
| LH | 350 FS    | 353 FG | B8         | 379 FS     | 362 FG | 4P | 512 FS | 406 FG |
| LJ | 3 GTTFt   |        | C2         | 396 FS     | 368 FG | 4W | 406 FS | 371 FG |
| LM | 62 FS     | 56 FG  | C4         | 388 FS     | 365 FG | 5F | 5 ERS  |        |
| MX | 82 FS     | 78 FG  | D3         | 397 FS     | 368 FG | 6M | 494 FS | 48 FG  |
| OC | 359 FS    | 356 FG | D5         | 386 FS     | 365 FG | 6V | 53 FS  | 36 FG  |
| OS | 357 FS    | 355 FG | E2         | 375 FS     | 361 FG | 7J | 508 FS | 404 FG |
| PE | 328 FS    | 352 FG | E4         | 377 FS     | 362 FG | 7U | 23 FS  | 36 FG  |
| PI | 360 FS    | 356 FG | E9         | 376 FS     | 361 FG | 8L | 393 FS | 367 FG |
| PZ | 486 FS    | 352 FG | F4         | 492 FS     | 48 FG  | 8N | 405 FS | 371 FG |
| QI | 361 FS    | 356 FG | G8         | 378 FS     | 362 FG | 9Q | 404 FS | 371 FG |
| QP | 334 FS    | 4 FG   | G9         | 509 FS     | 405 FG |    |        |        |
| SX | 352 FS    | 353 FG | H5         | 392 FS     | 367 FG |    |        |        |
|    |           |        |            |            |        |    |        |        |

#### COLOURS USED AS IDENTIFICATION BY ETO AND MTO P-47 SQUADRONS

| 22 FS  | Red    | 353 FS | Yellow | 392 FS | Red    | 509 FS | Red    |
|--------|--------|--------|--------|--------|--------|--------|--------|
| 23 FS  | Yellow | 355 FS | Blue   | 393 FS | Blue   | 510 FS | Blue   |
| 53 FS  | Blue   | 356 FS | Red    | 394 FS | Yellow | 511 FS | Yellow |
| 61 FS  | Red    | 365 FS | White  | 395 FS | Red    | 512 FS | Yellow |
| 62 FS  | Yellow | 366 FS | Yellow | 396 FS | Yellow | 513 FS | Red    |
| 63 FS  | Blue   | 367 FS | Red    | 397 FS | Blue   | 514 FS | Blue   |
| 82 FS  | Red    | 377 FS | Red    | 404 FS | Red    | 522 FS | Red    |
| 83 FS  | White  | 378 FS | Green  | 405 FS | Blue   | 523 FS | Blue   |
| 84 FS  | Black  | 379 FS | Yellow | 406 FS | Yellow | 524 FS | Yellow |
| 314 FS | Yellow | 386 FS | Red    | 492 FS | Red    |        |        |
| 315 FS | Red    | 387 FS | Yellow | 493 FS | Blue   |        |        |
| 316 FS | White  | 388 FS | White  | 494 FS | Yellow |        |        |



P-47C with white cowl and tail bands. This photograph also clearly shows the location of the regular wing cocarde applied at the factory. (USAF)

P-47D-22-RE with factory applied National Insignia in standard positions. (Republic)



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