



"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER



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Dave's "Divulgence"

Dear all

This is my first letter as secretary; I would like to thank you all for voting me into the job as the main teaboy and secretary. I hope I can do as good a job as Ken did.

On a more certain note here are some shows and venues for the coming months.

Perfleet Heritage Centre

31 st July to the 1 st August	Tirpitz (Dambusters and sinking of).
4 th – 5 th September	Battle of Britain (10, 11, 12 th are the main event dates for this)
2 nd October	El Alemain/Malta/ Monte Cassino displays
6 th – 7 th November	W.W.I

IPMS Brampton

4th September

IPMS (UK) Nationals

23rd – 24th October

I have written a letter to Dr Wallsgrove who is organising the show at The Mosquito Museum for the Chiltern Scale Model Show September 12th 1999; I will let you know more as soon as I get info.

Tonight is photographic night so please bring any interesting photos of the mother-in-law, the kids on holiday, granddad on the beach or the Royal Wedding etc.

Don't forget to bring your wrapped up models for the "Bring and Build" competition to be drawn in August. Deadline for the competition is the December meeting.

Dave

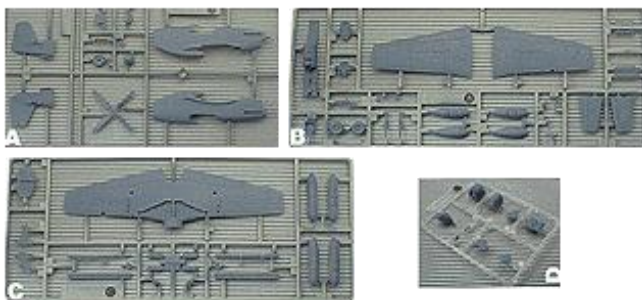


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Peter's "Prattlings"

Kicking off this month are a few pre-release photos from Academy for their forthcoming 1/72nd scale P-51B/C Mustang and Hawker Tempest.

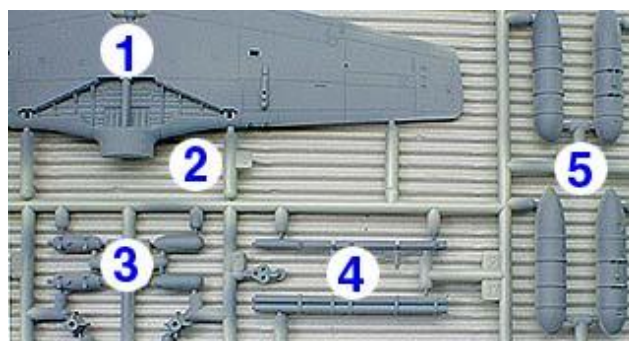


As can possibly seen from the picture above, it looks like a new tail with a fin fillet for later C variants is in the offing.

Picture of the clear parts, shows a "Malcolm" hood and optional open canopy parts.



Picture of the cockpit parts



Lower wing moulding, fuel tanks, bombs and 3 tube bazooka launchers

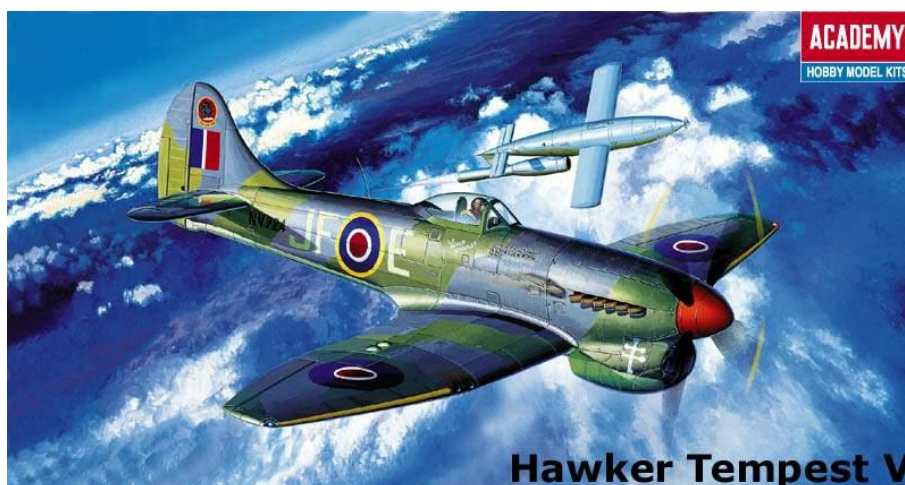


Box art



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And new from Hasegawa. 1/72nd scale de Havilland Mosquito B.IV box art, due in about 3 weeks. List price will be £9.99 apparently, which seems quite cheap for Hasegawa.



Also this month I really should write about computer viruses. This was partly prompted by someone from the club sending me something that contained a virus via email. As the company I work for checks incoming email for nasty stuff the file with the virus never got to me, however for most home users this wouldn't have been the case.

For those that aren't already aware of what computer viruses are a short explanation is due. The basic idea is that a virus is a program or set of instructions, which attaches itself to a file (this used



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to be only program files but now is more often data files). From there it attaches a copy of itself to other like files. This action was very similar to the viruses' humans and other animals catch hence the name.

Unfortunately a computer virus can be programmed to do anything the author likes; a recent example looked for Microsoft Office files and deleted them. To protect against them you should take the following precautions.

- 1 Don't share any files with anyone, don't have any email or Internet access, better still don't have a computer.
- 2 If you must ignore #1 then buy and maintain an antivirus program, the one that we use is Network Associates VirusScan. By maintain I mean, that the programs should be updated regularly, i.e. weekly or at most monthly with new virus signatures it looks for.

Peter



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Ricky's "Ramblings"

Tragic trench trial and error

QUESTION Before the tank, what other tactics were used during World War I to prevent the loss of life in attacking entrenched positions?

FOR much of World War I, attacks on defensive systems were a tragic case of trial and error. But by late 1917 both sides had discovered the best way to use their guns and infantry to achieve a breakthrough.

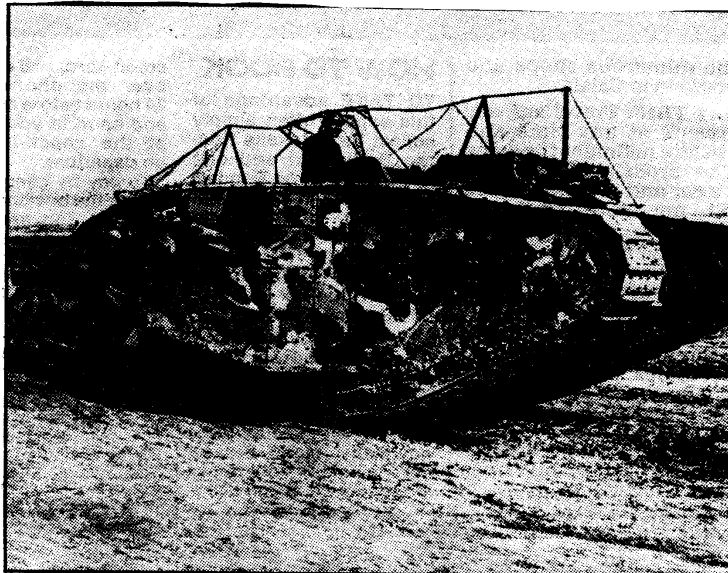
The method involved rapidly, and secretly, assembling overwhelming forces at a weak spot in the enemy line.

The bombardment would not be spread over four or five days, as at the Somme and Third Battle of Ypres, but concentrated into a few hours (hurricane bombardment) with mortars used to clear the front-line wire.

It was not intended to demolish all the defences, but to neutralise the defensive apparatus, with high-explosive shells targeting headquarters, signal centres and strong points, while the defenders faced shrapnel and gas shells, forcing them to wear gas masks which added to their exhaustion.

The weight of bombardment left defenders physically stunned and incapable of resistance. As it crashed down, the assault troops formed in all-arm teams of infantry, artillery and engineers.

A rolling barrage marked the end of the preparation, and the teams moved forward in small formations using rifles, grenades and mortars to infiltrate the surviving strong points. The idea was to penetrate



On the attack: World War I troops were locked in trench stalemate

as far as the enemy artillery, the foundation of the defensive system.

Breakthroughs at army corps level were common, but it was rarely possible to exploit them for more than a day because attackers had to rely on muscle-power to carry them forward, while defenders could repair breaks in their lines by bringing in reinforcements.

E. R. Hooton, Langley, Berks.

IT IS misleading to see the tank as the single, trench-crossing, war-winning weapon of World War I. The tactical 'all arms battle', coupled with German exhaustion, broke the trench stalemate and led to ultimate victory.

By August 1918, the British Army had infantry, artillery, machine gunners and aircraft, as well as tanks, fighting in a series of highly successful attacks.

But this did not bring a marked reduction in losses. In fact, the average daily casualty rate during the successful British advances of the last three months were higher than those of the Somme or Passchendaele offensives.

The increased power of artillery meant casualties were as heavy for defenders in the trenches as for those attacking. French General Mangin said: 'Whatever you do, you lose a lot of men.'

Julian Humphrys, National Army Museum, Chelsea, London.



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In the latter part of last year in "Sticky Fingers" I produced a load of Hints and Tips for general modelling.

In the next few issues, I will be putting fingers to keyboard, to produce some car modelling tips that I have gleaned from the Internet. I hope they will be of interest to you all as you may be able to adapt them to other modelling topics.

You may even have a method that is cheaper, easier or better. So here goes.....

EXHAUST SYSTEMS

For cost reasons and moulding limitations the model manufacturers provide one piece exhaust systems that are blobs of plastic with sink marks and ejection pin marks everywhere. Some of them can be cleaned up and puttied to look good but others should be tossed and new ones made.

1. The Exhaust Pipe

This is probably the easiest part of modifying the system. Most of the time the kit part can be used. All the modeller has to do is drill out the end and thin the wall with an X-Acto knife to get the correct look. This shaving motion has to be done smoothly or the blade will catch and create jagged edges. Paint the inside black to give it an even deeper look.

Sometimes the kit part is so badly made that it should be replaced with brass or aluminium tubing. The aluminium and brass tubing usually has to have its walls thinned also. Paint the inside black as well.

Chromed Exhaust Pipe

If the exhaust pipe is supposed to be chrome you can replace the plastic part with aluminium tubing. To polish the pipe up, place the tubing in a Dremel tool (or equivalent). Use a longer piece of tubing than that you need. Polish the tubing by starting with a fine grit sandpaper. After this, use the edge of a piece of paper to give it the final polish. If left by itself the tubing will turn dull again from oxidation. To keep the chrome look, a clear coat of varnish should be applied. Note that the walls of the tube should be thinned before polishing. Also when left out to dry, point the exhaust end up. This way the varnish will not collect on the part of the exhaust pipe that will be seen. When dry cut to desired length.

Some cars have instead of a muffler a baffle system. These are disks and look like they are blocking off the exhaust pipe. These can be made by fairly easily. White glue 4 or 5 small sheets of plastic together. File into a circular shape of 2 different sizes. Take apart the circles and clean up. Laminate the circles then glue to end of exhaust.

Some exhausts are flat. To replicate this with tubing, it has to be bent carefully so that the middle section does not collapse into itself. Use small needle nose pliers on the tubing and carefully flatten one inside wall then the other. Go slowly until the desired shape is achieved.

2. Connection Piping

This is usually the only part of the kit that will be used on the scratch built exhaust system. Cut the exhaust pipe and the headers from the connecting pipe and clean up. To connect the new bent



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piping and exhaust tube usually pins have to be drilled into the kit part and brass rods placed in. Due to the different objects being glued together (plastic, aluminium etc.) super glues or epoxy glues have to be used.

3. Bent Piping

This is the hardest section of the scratch built exhaust system. The easiest method would be to work with the kit part to make it look good. This is sometimes hard since the exhaust tubing is round and this is hard to keep in shape with filing sanding etc.

The sample we are doing here is a V12 engine. This system has four sets of three pipes converging to one. Other engines may have four converging to one.

Step 1 - Hole Spacing Template

Using sheet styrene mark and drill the hole spacing for the exhaust system Use the kit engine block for reference. Make sure the diameters of the hole are the correct size. Test the kit exhaust pipes on your template to make sure it will go in snugly. There should be no play at all.

Step 2 - Bending the pipes

After getting the correct diameter solder; find a short length of aluminium tubing that the solder will slide into. Slightly flare out the end of the tubing. This will be used to bend the solder. You need the slight flare and the aluminium tubing (as opposed to brass) to prevent kinking and nicking of the solder as you bend it. Using the kit part as reference bend each individual pipe to the approximate shape. Do each one from the end of the roll of solder; this will make it easier to handle. Once you are satisfied with the shape cut the formed part off of the roll of solder leaving an extra length at the ends, these will be cut to size later. Repeat for the other pipes.

Step 3 - Assembly

Dry fit the bent solder to get a general idea of how good the fit should be when they are glued together. Place the first and second bent solder pipes into your template that was made earlier. Don't worry if they do not line up perfectly or if one is longer then the other, if the two are slightly out of line bend them so they line up together. Add CA glue on the inside length where the two pipes meet, this will hide the glue marks in the final assembly. Make sure the CA glue is dry before adding the third pipe. When adding the third pipe you may find it needs a lot more massaging to get it to fit the first two pipes. Sometimes it may be necessary to make up a new piece. Once the third piece is in place make sure the application of glue is done carefully.

Step 4 - Cutting to length

Once the glue has had a long time to dry it is time to cut the assembly to the correct size. Using the kit part determine where the assembly has to be cut. The pipes have to be cut where they will meet the connector pipe.

Step 5 - Connector Pipe

Once the solder assembly has been cut and filed to the correct length you can cut the kit part for the connector section. To make a strong bond you should pin the assembly to the connector kit. If you are able to scratch build a connector pipe out of other material then go ahead.



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You may try;

1. Soldering brass tubing together. You can cover the brass (tinning) with the solder to get the chrome look
2. Carving something out of stock aluminium
3. Try and melt some solder into a blob then carve to shape.

Step 6 - Final Steps

Test fit the completed assembly to the engine block. Note that because you have scratch built the exhaust pipes the fit of this to the rest of the kit may be slightly out. A final detail you can cut off the end of the kit exhaust and replace with aluminium or brass tubing.

Painting

If you know you are going to paint the exhaust pipes you should give them a light sanding to help the paint adhere.

Sunday July 4th found Angela and myself leaving behind housework, gardening, 3 male offspring and visiting relatives to drive to Newhaven fort for the model show. It didn't take too long to get there and was very well signposted.

It was a good day out and was unique in that the show was spread out in the various rooms of the fort. So you got to see the fort exhibits at the same time. One advantage to a pensioner like me is that you can reuse your admission ticket to get in **free** again this year. Refreshments are also available at a reasonable price.

After leaving Newhaven we travelled a short distance along the coast to Beachy Head for a very good pub meal then a walk along the cliffs. I recommend this for a good day out so put the date in your diary for next year.

The fort has a Model and Hobbies show on Aug 7th / 8th and a Battle of Britain show on Sep 12th with a Spitfire flypast

Ricky



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Bob's "Business" – Event News

Duxford Report

For those who were not able to go and see the Flying Legends Show at Duxford Airfield have missed a fantastic air show. Among the aircraft taking part in the flying were 11 Spitfires, 7 Mustangs, 3 Hurricanes, 2 Corsairs, 3 Skyraiders, "P-40s plus Steven Grey's repainted Bearcat and a new Sea Fury, plus the usual stuff and off course 2 Stringbags.

We went into the hangers to see what was under rebuild and the Beaufighter is coming along very well. The B-24 Liberator looks as if it is going to be a bit of a job to rebuild. The Ju-52 looks as if that's going to take a long time too. It is also sad to see that the Heinkel He-111 has been left out on the grass to collect more rust, despite having more than enough room inside one of the hangers. As you may know this aircraft is supposed to be under rebuild to fly.

It was nice to see a rare appearance of the B-17 "Pink Lady" from France, as "Sally-B" has been left grounded, due to lack of funds. My favourite part of the day was when all the aircraft flew past the crowd line in formation, some 36 in all, a wonderful site.

Show News

17 th July	RNAS Yeovilton has been cancelled White Waltham Berks airshow 01935 456751 Sunset Flying Display - Old Warden, Beds 01767 627288
18 th July	Vintage Aircraft Fly-In & Aeronautical Collection Fair - Redhill, Surrey 01737 822212
24 th July	Royal International Air Show - Fairford Glos
29 th – 30 th July	Seafront Air Festival – Lowestoft Suffolk
29 th – 1 st August	Coys International Festival of Speed – Silverstone Motor racing through the century, featuring cars from the 1920's to the present day. Up to +GN races through the day, including Bentleys, Ferraris, Mercedes, BRMs, Brabhams, Jaguars, Lotus Cortinas, Minis etc. Admission £30 Also look round the pits, meet the drivers and see the cars close up.
30 th – 1 st August	Somerset on the Seafront – Weston Super Mare
31 st July	Music in the Air and Flying Display – Middle Wallop Hants. 01980 674421



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- 31st – 1st August Bucker Types Festival and Fly-In – North Weald Essex
01992 524310
- 1st August Military Vehicle Rally – Duxford
Armoured vehicles going through their paces in the arena behind the Land Warfare Museum
- | | | |
|-----------|-----------------------|-------|
| Admission | Adults | £7.20 |
| | Under 16s | Free |
| | OAPs | £5.00 |
| | Students & unemployed | £3.50 |
- 1st August Military Pageant – Old Warden Beds
Vintage and modern airshow
- 7th – 8th August Nexus Vintage Flying Weekend – Old Warden Beds
- 8th August Swanton Morley Norfolk
01362 638193
- 15th August Large Scale Model Display – Duxford
- 15th August Vintage Transport Day – Old Warden Beds
- 19th – 21st August Airshow – Eastbourne Sussex
01323 415442
- 21st August Flying Proms – Old Warden Beds
Air display to the sound of music from a full concert orchestra
Admission £7
Firework display etc.

Bob



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Ken's "Korner"

On Thursday 24th June 1999, I was watching the TV, because when you're retired you are supposed to have nothing to do, I was switching from one channel to another, trying to avoid any form of tennis. I came across a program at 3:50pm on Channel 4 entitled "Watercolour Challenge" from Bovington, Dorset. I thought this might be interesting and it turned out to be 3 artists, 2 chaps and a woman, they were set a position in the graveyard of the Tank Museum at Bovington, and they had to do a watercolour in 4 hours.

This was a brilliant location with old tanks in various stages of being overgrown with weeds, grass and undergrowth. The winner was the younger of the 2 men; his effort was very good indeed. We also learnt that he was a model aircraft maker. Whether his result and eye for detail was as a result of his model making, we shall never know, however it was a very interesting half hour.

P.S. This graveyard is not open to the public it would appear.

A question to members has anybody within the club any ideas on how to maintain superglue in a container other than the small plastic bottle, where you cut the top off the file tube and replace the top with a small plastic cap. This method in my case usually results in either getting too much flooding out, not enough coming out or the top crusting over and nothing coming out at all. There must be ways of keeping this glue in a more suitable container.

(I think one way of stopping the too much scenario is to not apply the glue directly to the part, rather drop some glue onto a glass sheet or tile and then apply a drop from the resulting puddle using a needle or piece of wire. – Ed)



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Wrighty's References

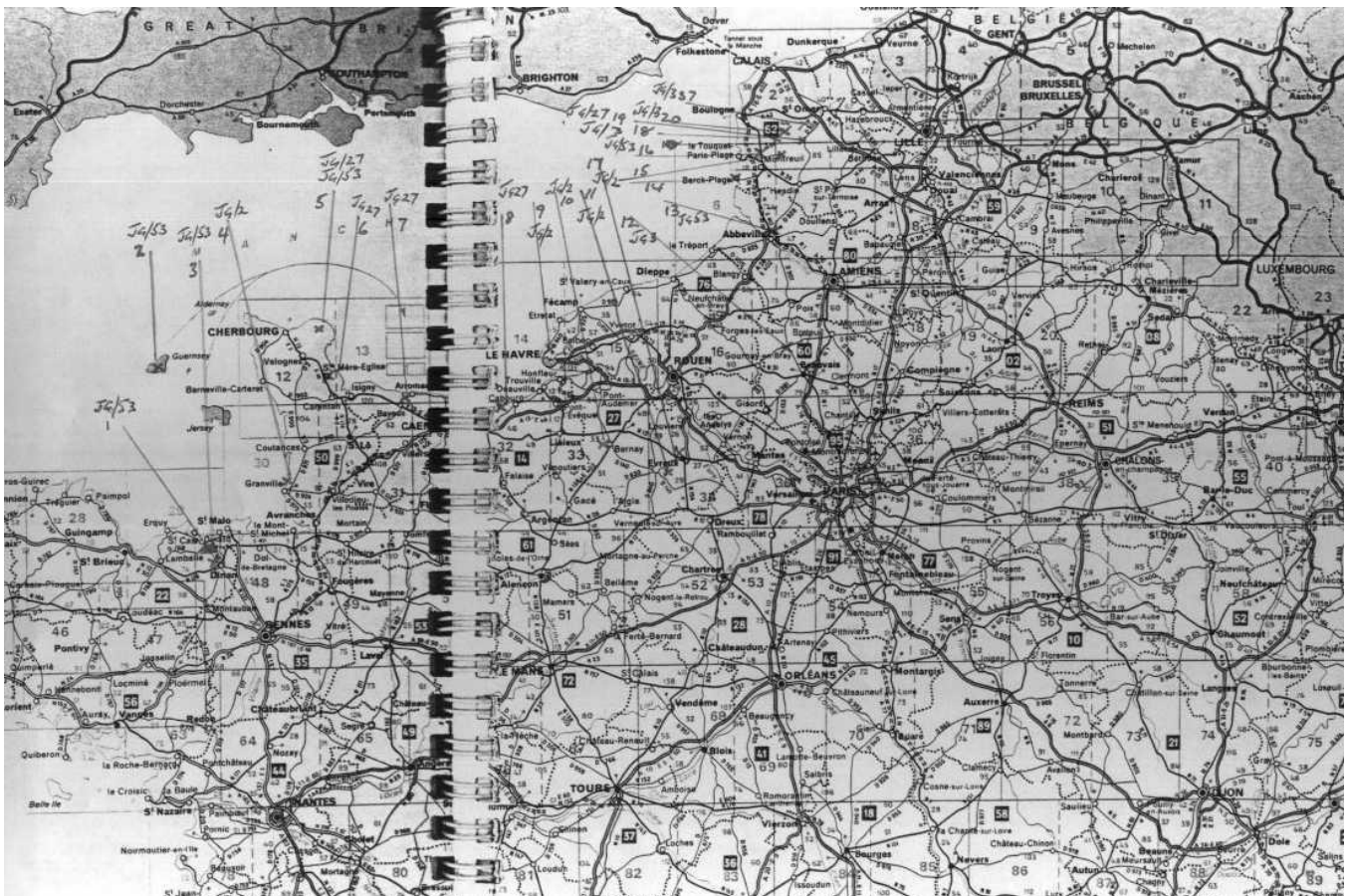
Fighter Jagdgeswaders in the Battle of Britain

This survey is of the Luftwaffe's fighter units in the Battle of Britain (BoB) during 1940. A brief history of their origins, the bases they used and the Staffel colours of their numerical codes. All numerals are taken from photos I have of the units in question. Where a (?) mark is shown, this is where a photo exists but the numeral is obscured by the wing etc.

Each Geshwader consisted of 3 Gruppen, each with 3 Staffels, a Staffel was given a nominal strength of 12 aircraft and 2 spares, and numerals at this time did not exceed 1 to 16. The higher numbers were often older machines passed down to new pilots (*), as training took place virtually on the job, although later in 1941 training Gruppen were added to these Geshwader.

- * Steinhilper in his book says his first personal aircraft was Yellow 14, when he was with 3/JG52, but when he was shot down in Sept 40 he flew Yellow 2. This aircraft can be seen at Hawkinge Air Museum, which incidentally is well worth a visit if you are in the area.

All aircraft in this survey flew the Messerschmitt Bf-190E variants, i.e. E1, E3, E4 and E7.



Airfields of the Luftwaffe (Fighters) 1940



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1	Rennes	14	Beack-Plage	27	Piben
2	Guernsey	15	Montreuil	28	Coquelles
3	Dinan	16	Le Toquet (Etaples)	29	Colembert
4	Granville	17	Evereux	30	Guines
5	Cherbourg West (Muperteus)	18	Samer	31	Hermetinghen
6	Carqubut	19	Sempy	32	Calais (Marck)
7	Crepon	20	Descres	33	Oye-Plage
8	Plumetot	21	Marquis	34	Stomer
9	Le Havre (Octaville)	22	Audembert	35	Mardyke
10	Bernay	23	Wissant	36	Campagne
11	Beaumont Le Roger	24	St Inglevert	37	Arques
12	Granvilliers	25	Caffiers		
13	Abbeville	26	Peuplingues		

JG2 (Richtofen)

1/JG2 formed by renumbering 1/JG131 in May 1939, II Gruppe was added in November 1939 and III in February 1940 from new personnel and part of wartime expansion.

Gruppe	Staffel	Colour	Notes
I	1	White	e.g. 1 5 9
	2	Red/Black	1 9 16 Red
	3	Yellow	2 Black (*) 1 2 9 13 14
II	4	White	1 12
	5	Red	4 6 10
	6	Yellow	
III	7	White	1
	8	Red/Black	4 6 Red 2 Black
	9	Yellow	1 5

* Sometime in July 1940 most units took up the option to change from Red to Black for 2, 5 & 8 Staffels, but as always it was not individual and red numbers still figured for a long time, even well into 1943.

As part of Luftflotte 3, JG2's I & II Gruppen were based at Beaumont Le Roger and III Gruppe at Le Harvre.

JG3 (Udet)

I/JG3 formed by renumbering JG 231 in May 1939, II & III Gruppen were added in March 1940.



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Gruppe	Staffel	Colour	Notes
I	1	White	e.g. 2 6
	2	Black	4 6 9 11 13 14
	3	Yellow	2 4 7 9
II	4	White	
	5	Black	14 (?)
	6	Yellow	
III	7	White	6
	8	Black	
	9	Yellow	3 4 5

As part of Luftflotte 2, JG3's I Gruppe was based at Columberty, Samer and Grand Villiers, II Gruppe at Samer and Arques and III Gruppe at Devres.

JG 26 (*Schlageter*)

I & II/JG26 formed by renumbering JG234, I & II Gruppen in May 1939, the III Gruppe was added in September 1939.

Gruppe	Staffel	Colour	Notes
I	1	White	1 4 8 13 14
	2	Red	2 3 5 6 11 13 16
	3	Yellow	1 11
II	4	White	3 4 5 6
	5	Black	5 8 11
	6	Yellow/Brown (+)	7 Yellow 1 2 9 Brown
III	7	White	1 2 7 12
	8	Black	1 3 13 14
	9	Yellow	1 3 5 10 11

+ Yellow was changed to brown in early July 1940, it appears the 2 Staffel continued to use red, whilst 8 Staffel changed to black.

As part of Luftflotte 2, JG26's 1 Gruppe was based at Audembert, the II Gruppe at Marquise and III Gruppe at Cuffiers.

JG 27 ("*Afrika*")

I/JG27 was formed as a new unit in October 1939, an II Gruppe was added in January 1940; the III Gruppe was formerly I/JG1 and was added in May 1940.



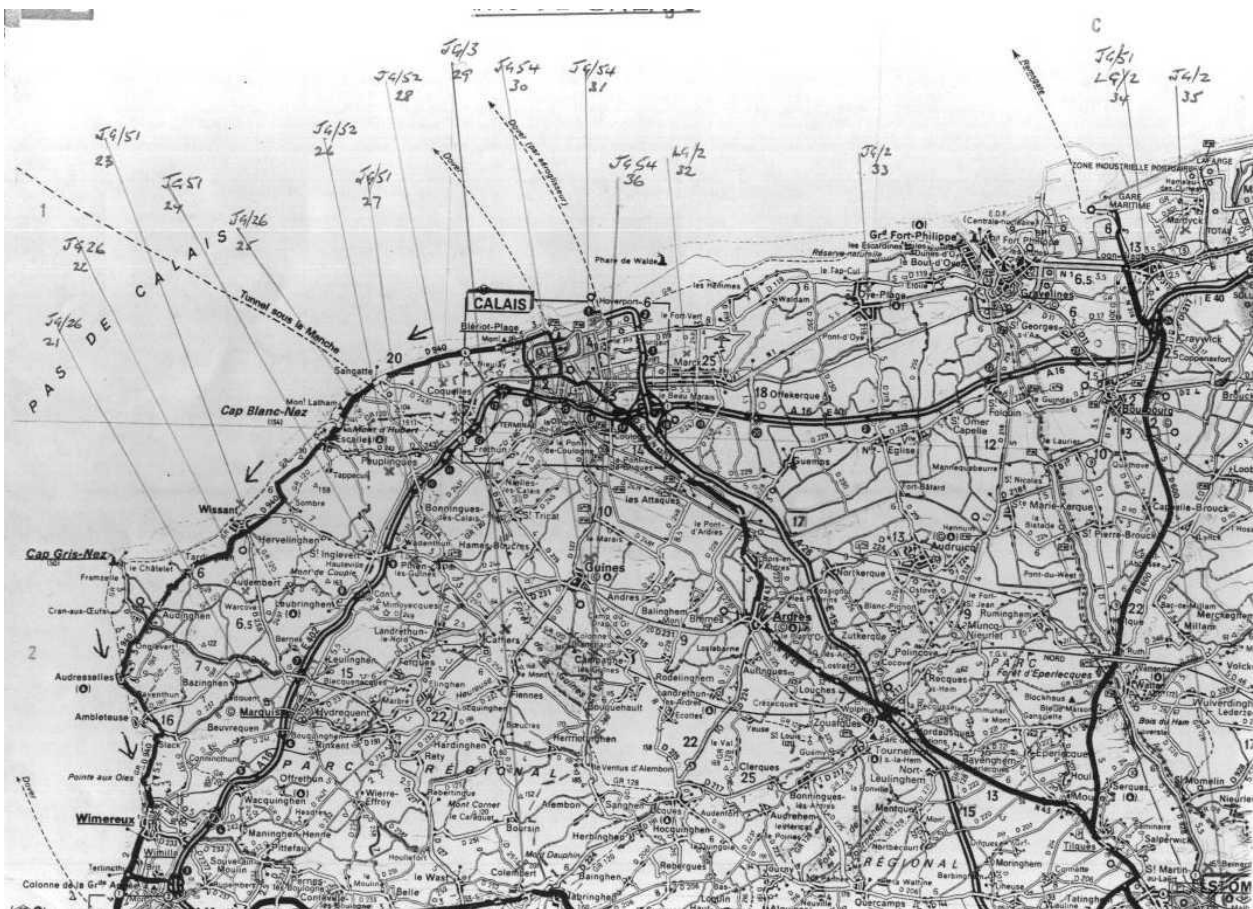
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Gruppe	Staffel	Colour	Notes
I	1	White	1 7 10
	2	Red/Black (*)	1 Red 4 Black
	3	Yellow	11 12
II	4	White	2 4 10 Red 2 12 Black
	5	Red/Black (*)	1 (?)
	6	Yellow	6 9 15
III	7	White	12
	8	Black	
	9	Yellow	

* This unit also carried out the red to black change in July.

As part of Luftflotte 3, JG27's I Gruppe was based at Plumetot and Etaples, the II Gruppe at Crepon and Montreuil and III Gruppe at Carquebut and Sempy, the whole Geshwader was based at Guines by October 1940.





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JG 51 ("Molders")

I/JG41 was formed by renumbering JG233 in May 1939, the II Gruppe was added in September 1939 by taking over the independent unit I/JG71 and the III Gruppe added by a similar take-over of the independent I/JG20 in July 1940 after I/JG20 had fought in the Battle of France. JG51 was the only Geschwader to have an IV Gruppe at this stage of the war, the former I/JG77 being renumbered when transferred to France in November 1940.

Gruppe	Staffel	Colour	Notes
I	1	White	2 13
	2	Black	1 7 12
	3	Yellow/Brown	15 Yellow 5 Brown
II	4	White	
	5	Red/Black (*)	6 11 Red 1 Black
	6	Yellow	1 7 10 (?)
III	7	White	}
	8	Black	}*
	9	Yellow	}
IV	10	White	
	11	Black	
	12	Yellow	

* Photos exist of I/JG20.

As part of Luftflotte 2, JG51's I Gruppe was based at Wissant, St Omer and Piben, II Gruppe at Wissant, St Inglevert and Mardyke and the III Gruppe at St Omer and St. Inglevert, the IV Gruppe used fields in the Pas de Calais.

JG52

I/JG523 formed in May 1939 from I/JG433, II Gruppe added in November 1939 from JG70 & JG71 (N), III Gruppe was formed in May 1940.

Gruppe	Staffel	Colour	Notes
I	1	White	2 12
	2	Red	1 14
	3	Yellow	6 9
II	4	White	2
	5	Black	8 14 (?)
	6	Yellow	1
III	7	White	5
	8	Red	7 14
	9	Yellow	2



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As part of Luftflotte 2, JG52's I Gruppe was based at Coquelles and Leon Couvron, II Gruppe was at Perplingne, the II Gruppe which had been on home defence arrived in September and used fields in the Pas de Calais.

JG53 (Pikas)

I & II/JG53 were formed by renumbering I & II/JG133 in May 1939. The III Gruppe was added by renumbering the II Gruppe of JG72 in September 1939.

Gruppe	Staffel	Colour	Notes
I	1	White	15
	2	Grey	2
	3	Yellow	1 13
II	4	White	1 2 5 6 11
	5	Red/Grey	7 9 ? Red
	6	Yellow	12 Grey
III	7	White	10 11 15
	8	Black	1 5
	9	Yellow	1 2 3 7

As part of Luftflotte 3, JG53's I Gruppe was based at Rennes, Brittany and Abberville, II Gruppe were at Dinan and Wissant-Etaples, the III Gruppe used Sempy, Brest, Le Toquet and field sin the Pas de Calais.

JG54 ("Grunherz")

I/JG54 was formed by renumbering I/JG70 in September 1939, the II Gruppe was not added until July 1940 when the independent unit I/JG76 was renumbered after service in France. At the same time the independent I/JG21 was incorporated as the III Gruppe, when the "Greenheart" badge was originated to represent the 3 units.

Gruppe	Staffel	Colour	Notes
I	1	White	
	2	Black	3 10
	3	Yellow	4 6 13
II	4	White	1 2 4 6 11
	5	Red/Black (*)	1 7 10 Red
	6	Yellow	4 7 Black
III	7	White	11
	8	Red/Black	13
	9	Yellow	1 Red
			1 2 3 5 Black
			1 5 11



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As part of Luftflotte 2, JG54's I & III Gruppe began the campaign at Guines, while II Gruppe was at Hermalingham before the whole Geshwader transferred to Holland in June to Eindhoven, Wallhaven and Soesterburg for the 3 Gruppe respectively.

JG77 ("Hergas")

I/JG77 was formed by renumbering I/JG331 in May 1939, the II Gruppe was added at the same time by renumbering I/JG333. The III Gruppe was added in July 1940 by renumbering the independent unit KG/186, which had been intended as a carrier unit for the Graf Zeppelin.

Gruppe	Staffel	Colour	Notes
I	1	White	
	2	Red/Black	1 Red 3 13 Black
	3	Yellow	
II	4	White	5 11 13
	5	Black	1
	6	Yellow	1 5 11
III	7	White	2 5
	8	Black	1 10 11
	9	Brown	13

JG77 was part of Luftflotte 5 in Norway, but I Gruppe was held back in Germany for Home Defence, until September 1940 when it went to France at Marquise, before transferring to JG51 as IV Gruppe. The II Gruppe was at Trondheim and Stavanger, whilst the III Gruppe was on the island of Wangerooze, then took I Gruppe's place on Home Defence. II Gruppe later went to Brest in December as a Naval Defence Unit.

Lehr Geshwader 2

This was a fighter/bomber unit with 2 Gruppen, the I Gruppe (I/LG2) had fought in the Battle of France and were based at Calais Marck until they were withdrawn at the end of August 1940.

Gruppe	Staffel	Colour	Notes
I	1	White	9
	2	Black	1 2 12
	3	Brown	4 8 11 13

This unit had a hat on a bomb marking aft of the cross.

II/LG2 originally had Henschel HS-126 biplanes in the French campaign but re-equipped with 109 E-7s in July 1940 and was base at St Omer for the remainder of the battle and beyond.

Gruppe	Staffel	Colour	Notes
II	1	White	G U
	2	Black	H S T
	3	Yellow	C M N



"STICKY FINGERS"

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This unit carried ▲ the black triangle markings aft of the cross.

Eprobungs Group 210

This was an operation test and trials unit for specialised operations. It had 3 Staffels, the 1 & 2 being equipped with Messerschmitt Me-110s, the 3rd Staffel had 109s who were based at Calais Marck.

Gruppe	Staffel	Colour	Notes
I/EG210	3	Yellow	3



"STICKY FINGERS"

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How It Was Done

The above article is unique, it is not available in this format in any book and I don't know of any book containing maps of the Luftwaffe's bases, in spite of the multitude of books on the Battle of Britain.

In fact, I wanted to include it in my book "Fighters of the Luftwaffe", but it was short of certain detail at that time (1996/97).

For such an article the first thing is an Order of Battle list, these are not easy to come by, but I obtained 4, one from the book "The Hardest Day", one from "Great Air Battles", one from "Beyond The Battle of Britain". The other I can't remember, this gave bases from July to October by units. It also showed that movement was fairly minimal, although some units changed places. These lists do vary in quality, but the August one had the quartermaster's sections for each unit's aircraft available on a certain date.

Although the 3 Gruppe, Geshwaders were formed by July 1940, how this was achieved, and which independent units had been renumbered was proving difficult, especially as different books gave different options. I was left with several gaps on how the May 1939 reorganisation from the old pre-war units took place. I only finally confirmed these changes last year 1998, when I finally got hold of "Markings and Codes of the Luftwaffe" by B. Roye (it costs £50) from the library by special order. I spent £5 on photocopies to get 90% of the records in the book. Therefore the formation details of the Luftwaffe's most famous Geshwaders are in the article, all correct and never previously published.

Next the Staffel colours, working on the basis of white, red and yellow, I had already noted black, grey and brown were also used, by going through all my books of the Luftwaffe (I do have quite a few), I was able to study photos and record numerals and their colours. Of course some photos were repeated, but the example numerals are all taken from genuine photos of the Staffel units. The Staffels without photos are minimal as you can see.

We now have formation detail Staffel colours and operational bases, all that is needed now is to put it all together. It then occurred to me that you the readers would probably have no idea where these bases were, so we need a map. First a map of the French Channel Coast, but as the Pas de Calais was so widely used a larger more detailed map was necessary. It took quite a while to pinpoint each location from a French Road Atlas, then mark each place, number it and note the JG that used the airfield. Finally 1-37 keycode to the list of place names, with the correct spellings, completed the task.

Alan