APPENDIX - The GERMAN LUFTWAFFE

This Appendix deals in outline with

1) Luftwaffe 'Kill' Claims
2) Luftwaffe Structure
3) Luftwaffe Ranks

For more detailed treatments see, for example –

- Len Deighton, Fighter, Cape, '77.

1) LUFTWAFFE 'KILL' CLAIMS

The most disconcerting item that a British reader meets when first encountering the Luftwaffe is the astonishing number of claimed 'kills' in contrast to those made by the R.A.F.

Look at these top scores -

- The top British fighter Ace scores in the Second World War were:
  1st - 63
  2nd - 47
  = 3rd - 41
  = 3rd - 41
  5th - 34
  6th - 33

- The top German fighter Ace scores were:
  1st - 352
  2nd - 301
  Between 300 and 200 - 12 pilots
  Between 200 and 100 – 84 pilots

[A similar discrepancy is shown by the three fighter Aces mentioned in the text.

  British
  Stanford Tuck – 29
  Douglas Bader – 24

  German
  Adolf Galland – 86 (This included 30 Hurricanes and 33 Spitfires)]

Since German propaganda was frequently untrue, the Allies long assumed that the German fighter claims were also false, and that it was impossible for 35 pilots to have scored over 150 'kills'.

But, as Len Deighton points out, the Luftwaffe's confirmation procedure was meticulous and Teutonic in its accuracy, and is confirmed by post-war research.

This apparent indication of German superiority is difficult for the Allies to believe or understand. There were, however, fundamental differences between the structures, procedures, attitudes and opportunities of the R.A.F. and the Luftwaffe, which do much to explain them.

* In his Preface to Alfred Price's Pictorial History of the Luftwaffe, (Allan,'70)
Below are eleven contributory factors - and I am grateful in particular to the late Raymond Baxter for his help in compiling them.

1. An aggressor-nation spends the years of peace preparing for war. Non-aggressive countries are invariably very slow to do so – and, indeed, may not prepare for war at all! Aerial victories by aggressors in such situations can be comparatively easy.

2. The Air Force of an aggressor – in particular one that starts fighting without first declaring war – fights only when fully prepared against the unprepared. The aggressor has all the advantages, in training, equipment and numbers.

3. The tendency of the British to play things down meant that the R.A.F. did not cultivate 'heroes' – although the press sometimes tried to. If, for example, two R.A.F. fighter pilots caused a 'kill' by downing an enemy aircraft, the 'score' in the R.A.F. would be shared - 'half' to each - regardless of rank.

4. The Luftwaffe, in contrast, cultivated its Ace-heroes. Fellow-pilots tended to 'protect' their Aces – because the Ace's glory reflected well on their unit. Luftwaffe Aces could be granted a complete 'kill' (not a 'half') even if only partially responsible for it. (The junior pilot's contribution would be 'given' to the Ace.)

5. In the R.A.F. once pilots were promoted to Wing Commanders their operational flying was severely curtailed. They 'flew desks' as it was said. This considerably shortened a pilot's opportunity for fighting – and for possible victories – in the air.

6. In the Luftwaffe, high-ranking pilots could still fly in action. Galland's last seven 'kills' were gained while flying jets in 1945 with the rank of Generalmajor. Such continued opportunities for operational flying meant that combat opportunities could be extended for years in comparison to those of similar rank in the R.A.F.

7. In the R.A.F. the squadrons were 'rotated'. This means that they were withdrawn from the front line when it was appropriate to rest, recuperate and re-equip. They were then replaced by fresher forces. This very much limited operational flying and the opportunity to increase 'kills'.

8. The Luftwaffe units were not 'rotated', so their pilots just kept fighting.

9. R.A.F. pilots were limited to 100 hours operational flying after which they had six months' rest. This was a substantial limit to their operational flying.

10. R.A.F. fighter-pilots could be assigned tasks that provided little or no opportunities for gaining 'kills', e.g. escorting, strafing, dive-bombing, skip-bombing, air-sea rescue and reconnaissance. (Raymond Baxter's famous leading of some of 602 Squadron in a low-level fighter-bomber attack on the VI and V2 Operations Centre in the Hague is a fine example of Spitfire activity where shooting down enemy fighters had no place.)

11. It was mainly on their Eastern Front that the German pilots scored so highly.
## 2. LUFTWAFFE RANKS

Here are the Luftwaffe ranks and their approximate RAF equivalents.

<table>
<thead>
<tr>
<th>Luftwaffe Rank</th>
<th>RAF Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flieger</td>
<td>Aircraftsman Second Class</td>
</tr>
<tr>
<td>Gefreiter</td>
<td>Aircraftsman First Class</td>
</tr>
<tr>
<td>Obergefreiter</td>
<td>Leading Aircraftsman</td>
</tr>
<tr>
<td>Hauptgefreiter</td>
<td></td>
</tr>
<tr>
<td>Unteroffizier</td>
<td>Corporal</td>
</tr>
<tr>
<td>Unterfeldwebel</td>
<td></td>
</tr>
<tr>
<td>Feldwebel</td>
<td>Sergeant</td>
</tr>
<tr>
<td>Oberfeldwebel</td>
<td>Flight Sergeant</td>
</tr>
<tr>
<td>Stabsfeldwebel</td>
<td>Warrant Officer</td>
</tr>
<tr>
<td>Leutnant</td>
<td>Pilot Officer</td>
</tr>
<tr>
<td>Oberleutnant</td>
<td>Flying Officer</td>
</tr>
<tr>
<td>Hauptman</td>
<td>Flight Lieutenant</td>
</tr>
<tr>
<td>Major</td>
<td>Squadron Leader</td>
</tr>
<tr>
<td>Oberstleutnant</td>
<td>Wing Commander</td>
</tr>
<tr>
<td>Oberst</td>
<td>Group Captain</td>
</tr>
<tr>
<td>Generalmajor</td>
<td>Air Commodore</td>
</tr>
<tr>
<td>Generalleutnant</td>
<td>Air Vice Marshal</td>
</tr>
<tr>
<td>Generaloberst</td>
<td>Air Chief Marshal</td>
</tr>
<tr>
<td>Generalfeldmarshall</td>
<td>Marshal of the Royal Air Force</td>
</tr>
</tbody>
</table>
3. LUFTWAFFE OPERATIONAL STRUCTURE

Since the text of Dunkirk Revisited refers mainly to fighter pilots, the outline here is given from a fighter pilot's viewpoint, and the details reflect 1940 rather than later in the War.

NOTE – Because this is for the general reader, and to avoid confusion, I have used only the singular of German terms as their plurals are so unlike English. (I share the pain this must cause some readers!)

LEVEL 1
A fighter pilot belonged to a nine-aircraft group called a STAFFEL. ('Squadron')
His leader – regardless of rank – was his Staffelkapitän. ('Squadron Leader')
The aircraft in each Staffel ('Squadron') were numbered 1-9.

LEVEL 2
His Staffel ('Squadron') was one of three which together formed a GRUPPE. ('Wing')
This meant that the Gruppe consisted of 9+9+9 aircraft, i.e. 27.
To this number was added the three aircraft of the Gruppe's Stab. ('Staff Flight')
A Fighter Gruppe consisted, therefore, of 30 aircraft.

To make the aircraft numbering easy and to avoid double figures, each of the three Staffel designated its fighters 1-9, but used a different colour.
The 1st. Staffel used White, the 2nd. Red or Black, and the 3rd. Yellow.
Example: Fighter Black 5 = the 5th. Fighter of the 2nd. Staffel. ('Squadron')

LEVEL 3
It took nine Staffel, organised into three Gruppe, to make a GESCHWADER. ('Squadrons')
('Wings')
('Group')
The Staffel were numbered consecutively thus Staffel 1-3 = I Gruppe ('I Wing')
Staffel 4-6 = II Gruppe ('II Wing')
Staffel 7-9 = III Gruppe ('III Wing')
To avoid the markings of Staffel 1-3, 4-6 and 7-9 being identical, two different symbols (e.g. a horizontal bar or a vertical bar) were added to the number to indicate if an aircraft belonged to II Gruppe or III Gruppe.

A Geschwader consisted of 94 aircraft.
These were the 30 aircraft of each of the three Gruppe, plus its own 4-plane Stab. (Headquarter's Flight)

A Geschwader's abbreviation was 'G'. They were numbered, e.g. G26.

All the aircraft in a Geschwader ('Group') flew the same role. The main roles were:

**fighter (J)**
Jagd-geschwader

**night-fighter (NJ)**
Nachtjagd-geschwader

**heavy fighter (Z)**
Zerstorer-geschwader

**bomber (K)**
Kampf-geschwader

**dive bomber (St.)**
Stuka-geschwader

**ground attack (S)**
Schlacht-geschwader

Each Geschwader ('Group'), therefore, took as a prefix the appropriate initial letter, as listed above.
Example: JG27 = Jagdschwader 27 = 27th. Fighter Group
K1 = Kampfgeschwader 1 = 1st. Bomber Group
LEVEL 4
Two or more Geschwader ('Groups') formed a FLIEGERKORPS. ('Air Corps')
A Fliegerkorps could have between 300 and 750 aircraft.

LEVEL 5
Two or more Fliegerkorps ('Air Corps') formed a LUFTFLOTTE. ('Air Fleet')
A Luftflotte could have over 1,000 aircraft.
Luftflotte were self-contained units, designed for mobility and expansion.
(The RAF abroad, but not in the UK, operated in this way.)

Before 1939 the Luftwaffe was divided into four of these Luftflotte. ('Air Fleets')
Germany was 'quartered', with Luftflotte 1 and 4 serving the NE and the SE, and Luftflotte 2 and 3 serving
the NW and SW of Germany respectively.
(Later, to keep Norway and Finland under German control, Luftflotte 5 was created.)

When Germany broke through to the West, in May 1940, (into Holland, Belgium, Luxembourg and France)
the two Luftflotte ('Air Fleets') on the western side of Germany (i.e. Luftflotte 2 and 3) expanded
accordingly.

At Dunkirk, therefore, the Luftwaffe aircraft came from both Luftflotte 2 and 3.

LEVEL 6
Overseeing Levels 1-5 was the OBERKOMMANDO DER LUFTWAFFE. ('High Command')

LEVELS 7-8
Finally, the Luftwaffe High Command came under the High Command of all German Forces
(OBERKOMMANDO DER WEHRMACHT).

This came under HITLER himself.
BIBLIOGRAPHY

Because this Bibliography is large, it is divided into seven sections.
The reason it is large is that so many sources – especially biographies – deal only in part with the Dunkirk Evacuation.

This Bibliography provides the full reference for each source.
The listings of authors and their books in the Endnotes (after each chapter) are much abbreviated, but sufficient for you to find the full reference here.

To save repetition and undue length, sources are only listed under one heading.
The headings are -

1. Operation Dynamo
2. Little Ships and related topics
3. Biographies
4. In the Air
5. Kent and Kent at War
6. Shipping, Channels and Charts
7. General

* = a source that mentions Samuel Palmer and/or Naiad Errant.
IWM = Imperial War Museum
NMM = National Maritime Museum.
PRO = Public Record Office (now The National Archives)

1. OPERATION DYNAMO

Barker, A.J., Dunkirk, the Great Escape, Book Club Associates, '77.
Beckles, G., Dunkirk and After, Hutchinson, [undated].
Blaxland, G., Destination Dunkirk, Kimber, '73.
Bevan, N. (edit), Dunkirk, Images of War; Cavendish/IWM, '88.
Brann, C., 'No Sailor Would Have Chosen Dunkirk', Classic Boat, May '90.
Bristow, T.J. (Memoir), IWM document 83/4/1.
Bryant, A., The Summer of Dunkirk, Daily Sketch, '43.
Butler, E., and S.J. Bradford, Keep the Memory Green, Hutchinson, [undated].
*Carse, R., Dunkirk 1940, Prentice Hall, New Jersey, USA, '70.
*Chell, C., Notes taken of conversation by J.E. Evans, '94.
Chief of Staff Committee PRO ref. CAB 79/4.


*Daily Express*, 31/5/1940.


Dibbens, H.J., *Dibbens' Diaries*, published by author, [undated – '91?]

*Divine, A.D.,* *Dunkirk*, Faber & Faber, '45.


'Dover Command War Dairies', PRO ref. ADM 119/360.

*Dunkirk: Commemorative Souvenir*, Kent Messenger Group, May, '90.

*Dunkirk: Evacuation 1940*, [Video] East Kent Maritime Trust, [undated].

'Evacuation of Allied Troops from Dunkirk', PRO ref. ADM 199/791, p.32.


'Gort, V.C. Comes Home', *Sunday Pictorial*, 2/6/40.


Marr, G., *The Queen and I*, Alard Coles, '73.


'Recordings made Day by Day of Vessels arriving at Dover...' IWM K85/796.


Shaw F. and J. Shaw. (edit), *We Remember Dunkirk*, Hinckley, '90.


Supreme War Council minutes, PRO ref. CAB 65/7 § 3, p 338-9.

2. LITTLE SHIPS and related topics

'Casualties of Dunkirk', *Shipping*, May '90.
'Commander Christopher Dryer' [obituary], *Daily Telegraph*, 23/7/2003.
Dicker, G., *Devonport Royal Dockyard*, [no publisher, undated].
*Evans, S., Notes of conversation with Cyril Chell*, Naiad Errant Archive [undated].
Jea, Tom, *M.T.B. 102*, Friends of MTB 102, c.'98.
*Lloyd’s Register of Yachts: 1939*, [J.S. Butler], Lloyds.
*Medway Queen: The Survivor*, Medway Queen Preservation Society, [undated].
*Operation Dynamo, Recommendations for Personnel*, PRO ref. ADM 116/7649.
*Our Mosquito Navy*, *Pathe Gazette* 40/65, Imperial War Museum, 12/8/’40.
*Plummer, R., Paddle Steamers at War 1939-1945*, GMS Enterprises, Peterborough, '95.
*R.N.L.B. Prudential*, East Kent Maritime Trust, [undated].
Walker, Capt. J.W., Recordings made day by day of vessels arriving at Dover during the evacuation from Dunkirk. IWM ref. K85/796.
*When Tough Got Going*, *Thames Chronicle*, May '90.

3. BIOGRAPHIES

Note: If the person's name is not obvious, it is added in square [ ] brackets.

Bradford, S., George VI, Fontana, '91.
Bryant, A., Turn of the Tide [General Alan Brooke], Collins, '57.
Bullock, A., Hitler – A Study in Tyranny, Pelican, revised '62.
Burns, M.G., Bader: The Man & His Men, Cassell, '98.
Chalmers, W.S., Full Cycle [Vice-Admiral Ramsey], Hodder & Stoughton, '95.
Chambrun, R. de, Mission – Betrayal 1940-1945, Deutsch, '93.
Cooper, Duff, Old Men Forget, Hart-Davis, '54.
Eade, C., Churchill by his Contemporaries, R.S., '55.
Fishman, J., My Darling Clementine [Mrs. Churchill], Pan, '64.
Frazer, D., Alanbrooke [General A. Brooke], Hamlyn, '83.
Frazer, D., Knight's Cross [Rommel], Harper Collins, '92.
Galland, A., The First & the Last, Methuen, '55.
Gilbert, M., Churchill: A Life, Mandarin, '92.
'Gort, V.C. Comes Home', Sunday Pictorial, 2/6/40.
Hickman, T., Churchill's Bodyguard [W. Thompson], Headline, 2005.
Hitler, A., My Struggle, Paternoster, '33.
Hughes, J.C., Getting Hitler Into Heaven, Corgi, '87.
Irving, D., Churchill's War, Veritas, Australia, '87.
Irving, D., Göring, Macmillan, '98.
Irving, D., Hitler's War, Papermac, '83.
Irving, D., The Trail of the Fox [Rommel], Book Club Associates, '77.
King, G., The Duchess of Windsor [also Duke of Windsor], Aurum, '99.
Lottman, H.R., Pétain: Hero or Traitor; Morrow, '85.
Orange, V., *Sir Keith Park*, Methuen, '84.
Summer, I., *British Commanders of World War II* [Dowding, Montgomery, Ramsay], Osprey, 2003.
Williams, F., *A Prime Minister Remembers* [Attlee], Heinemann, '61.
Wright, R., *Dowding and the Battle of Britain*, Corgi, '69.
Zeigler, P., *King Edward VIII* [i.e. Duke of Windsor], Collins, '90.

4. IN THE AIR

See also these references under Biographies, above.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Author</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker for Galland</td>
<td>Baker for</td>
<td>Galland</td>
</tr>
<tr>
<td>Burns Bader</td>
<td>Burns</td>
<td>Bader</td>
</tr>
<tr>
<td>Flint Dowding</td>
<td>Flint</td>
<td>Dowding</td>
</tr>
<tr>
<td>Galland Galland</td>
<td>Galland</td>
<td>Galland</td>
</tr>
<tr>
<td>Orange Park</td>
<td>Orange</td>
<td>Park</td>
</tr>
<tr>
<td>Summer Dowding</td>
<td>Summer</td>
<td>Dowding</td>
</tr>
<tr>
<td>Wright Dowding</td>
<td>Wright</td>
<td>Dowding</td>
</tr>
</tbody>
</table>

Ellan, B.J [pseudonym for Sq.Ldr. B.J.E.Lane], *Spitfire*, Murray, '42.
Foreman, J., Notes to author re. Luftwaffe at Dunkirk, 2008.
*Jane's Fighting Aircraft of World War II*, Studio, '87.
*Jane's All the World's Aircraft*, '46 - reprinted by Studio, '89.
'Lyneham' – http://www.raf.mod.uk/organisation/24squadron.cfm
Operation Records, PRO ref. AIR 540, Squadron 27, Stations 28.
24 (Communications) Squadron Operation Record Book, PRO ref. AIR 27/293, 1/6/40.

5. KENT and KENT AT WAR

Boorman, H.R.P., *Hell's Corner, 1940*, Kent Messenger (undated, c.'41).
'H.M.S. Fervent', *East Kent Times*, 15/9/45.
Humphreys, R., *Dover at War 1939-45*, Sutton, Stroud, '93.
*Humphreys, R.,* *Thanet at War, 1939-45*, Sutton, Stroud, '91.
'Paying off H.M.S. Fervent', *Thanet Advertiser & Echo*, 14/9/45.
*Ramsgate and North East Kent*, Ward Lock, [undated, 1920's?].
*Richards, J.,* 'Darkest Hours' in *St. Lawrence 934*, Part II, [unpublished].
Searle, M.V., *Down the Line to Dover*, Midas, Tunbridge Wells, '83.

6. SHIPPING, CHANNELS and CHARTS

Coote, J.O., *The Shell Pilot to the English Channel, No. 2...Dunkerque to Brest*, Faber, '87.
Southern Railway, *Cross Channel Services, 1938.*
*Spot Them At Sea*, Daily Mirror, [undated, c.'40].

Charts and published maps -
Brann, C., *Little Ships of Dunkirk*, Collectors' books, Kemble, '89. (inside covers)
*C30*, Imray Yachting Chart, '90.
*De Calais à Dunkerque*, Carte Internationale, 6651, '89.
French Destroyer Losses, chart, Dunkirk War Museum.
*Pas de Calais*, Carte International, '89.

7. GENERAL

*Daily Express*, 31/5/40.
Kennedy, L. [Intro], *War Papers*, Collins/Fontana, '89.
*Paris Soir*, 1/6/1940.