

Glossary and Abbreviations

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AA/AAA	Anti-Aircraft/Anti-Aircraft Artillery
A/B	German basic flying licences, and also the designation used for basic flying schools
Abschuss	German word for aerial victory
Absprungsplatz	German advanced landing ground
Abwurf	German word for release (of bombs)
Abteilung (abbreviated Abt.)	German word for section, department or battalion
Abwurfbehälter (abbreviated AB)	German bomblet container, either 250 or 500 kg (AB 250 or AB 500)
Ack-ack	Allied slang for anti-aircraft fire derived from early-war British phonetic alphabet for 'AA'
Aeronautica della Sicilia	Italian air force command in Sicily, controlling all Sicily-based units
AR	American Action Report, written after the completion of an operation
Armed reconnaissance	Reconnaissance mission on which ground targets were also attacked
Armee	Large German army formation consisting of two or more <i>Korps</i> under a single commander
Army Air Corps (abbreviated AAC)	United States Army Air Corps, precursor to the USAAF
AS	Designation used to indicate fitting of Daimler-Benz 605 AS engine to the Bf 109
ASR	Air/Sea Rescue
Ausbildungsstaffel	<i>Luftwaffe</i> training unit
Aufklärungsfliegerschule	German reconnaissance airman school
Aufklärungsgruppe (abbreviated AGr.)	German air force reconnaissance group
Auftrag	German word for task or mission
AW	American army unit designation, Automatic Weapons
B4	German 87 octane aviation fuel
Bauchlandung	German word for belly-landing
Befehl	German word for order
Begleitschutz	German word for escort [mission]
Beobachter	German word for an observer in an aircraft
Bereitschaft	German word for readiness
Besatzung	German word for crew
Betriebsstoff	German word for fuel, oil and lubricants
BG	American Bombardment Group, usually made up of four bombardment squadrons
Bildberichter	German photo journalist
Bodenpersonal	German word for ground personnel
Bodenteile	German air unit's ground personnel and equipment
Bombenschütze	German word for a bomb aimer in an aircraft
Bordfunker	German word for a radio operator in an aircraft
Bordmechaniker	German word for a mechanic in an aircraft
Bruchlandung	German word for crash-landing
Brückenkopf	German word for bridgehead
BS	American Bombardment Squadron, with an official strength of 12 to 18 aircraft
Bundesluftwaffe	West German post-war air force
Bundeswehr	West German post-war armed forces
C3	German 100 octane aviation fuel used by Fw 190s and other types
Circus	British air force operation flown on Channel Front involving large number of fighters escorting small number of bombers, intended to draw <i>Luftwaffe</i> fighters into the air
Comando Supremo	Italian armed forces high command
CT	<i>Caccia Terrestre</i> , Italian land-based fighter unit
Deutsches Afrikakorps (abbreviated DAK)	German Africa Corps, an army formation created in early 1941
Deutsches Kreuz in Gold (abbreviated DKiG)	German cross in gold
DUKW	American amphibious vehicle
ENTF	American Eastern Naval Task Force in the invasion of Sicily
Erdabwehr	German word for ground defence against aircraft
Ergänzungsgruppe (abbreviated Erg.Gr.)	German air force replacement and training group
Ergänzungsstaffel (abbreviated Erg.St.)	German air force replacement and training squadron
Experte	German term for an ace, plural <i>Experten</i>
Fallschirmabsprung (abbreviated FSA)	German word for bailing out of an aircraft
Fallschirmjäger	German paratrooper
Feldflugplatz	German landing ground, plural <i>Feldflugplätze</i>
Feldgendarmarie	German military police
Feldpostnummer (abbreviated FPN)	German field post number, an identification number for the military mail service
Fernaufklärungsgruppe	German long-range reconnaissance group
FG	American Fighter Group, usually made up of three fighter squadrons, totalling 75 aircraft
Flieger-Ausbildungs-Regiment (abbreviated FAR)	German air force basic training regiment
Flieger-Ersatz-Abteilung	German air force replacement unit, which distributed new personnel to their frontline unit
Fliegerführer (abbreviated Fl.Fü)	German <i>Luftwaffe</i> commander generally subordinate to a <i>Fliegerkorps</i>
Fliegerkorps	German air corps
Fliegerverbindungsoffizier (abbreviated Flivo)	German word for army-air force liaison officer
Flugabwehrkanone (abbreviated Flak)	German word for anti-aircraft gun, with 'flak' used as an Allied term for anti-aircraft fire
Flugbereitschaft	German air force duty flight

<i>Flugboot</i>	German flying boat
<i>Flugzeugführerschule</i> (abbreviated FFS)	German air force pilot school
FS	American Fighter Squadron, with an official strength of 24 aircraft
<i>Führerreserve</i> Ob.d.L.	German leader reserve of the Commander-in-Chief of the <i>Luftwaffe</i>
<i>Führungsstab</i>	German command staff
<i>Funkgerät</i> (abbreviated FuG)	German word for radio or radio equipment
<i>Gefechtsstand</i>	German command post
<i>General der Jagdflieger</i> (abbreviated GdJ)	German designation for leader of the <i>Luftwaffe</i> fighter arm, not necessarily with the rank of <i>General</i>
<i>General der Kampfflieger</i> (abbreviated GdK)	German designation for leader of the <i>Luftwaffe</i> bomber arm, not necessarily with the rank of <i>General</i>
<i>General der Panzertruppe</i>	German general of armoured troops
<i>General der Schlachtflieger</i> (abbreviated GdS)	German designation for leader of the <i>Luftwaffe</i> ground-attack arm, not necessarily with the rank of <i>General</i>
<i>Generalquartiermeister</i> (abbreviated GQM)	German word for quartermaster general
<i>Generalstab der Luftwaffe</i>	German air force general staff
<i>Geschwader</i>	German <i>Luftwaffe</i> wing, divided into <i>Gruppen</i> with an official strength of 112 to 276 aircraft - the number of aircraft grew throughout the war, plural <i>Geschwader</i>
<i>Geschwaderadjutant</i>	German officer in <i>Geschwader</i> responsible for administrative matters
<i>Geschwaderkommodore</i>	German commander of a <i>Geschwader</i> , plural <i>Geschwaderkommodoren</i>
<i>Geschwaderstab</i>	German <i>Geschwader</i> headquarters staff, plural <i>Geschwaderstäbe</i>
<i>Groupe de Chasse</i> (abbreviated GC)	French fighter group, usually made up of two or three fighter squadrons, totalling 26 or 38 aircraft
<i>Grünherz</i>	German word meaning green heart, referring to the fighter unit <i>Jagdgeschwader 54</i>
<i>Gruppe</i>	German <i>Luftwaffe</i> group subordinate to a <i>Geschwaderstab</i> , with an official strength of 36 to 48 aircraft, plural <i>Gruppen</i>
<i>Gruppenadjutant</i>	German officer in <i>Gruppe</i> responsible for administrative matters
<i>Gruppenarzt</i>	German medical officer of a <i>Gruppe</i>
<i>Gruppenkommandeur</i>	German commander of a <i>Gruppe</i> , plural <i>Gruppenkommandeure</i>
<i>Gruppenstab</i>	German <i>Gruppe</i> headquarters flight, plural <i>Gruppenstäbe</i>
<i>Gruppo</i>	Italian air force unit, equivalent to a German <i>Gruppe</i> , plural <i>Gruppi</i>
<i>Hauptkampflinie</i> (abbreviated HKL)	German word for main line of resistance
<i>Hauptmann beim Stab</i> (abbreviated Hptm. beim Stab)	German captain in the headquarters flight of a <i>Gruppe</i> , although the position could be held by an <i>Oberleutnant</i>
<i>Hauptquartier</i>	German word for headquarters
HE	High Explosive
<i>Heckschütze</i>	German word for rear gunner, thus 'Il-2 m.H.' means a Soviet Il-2 ground-attack aircraft with a rear gunner
<i>Heer</i>	The German army
<i>Heeresgruppe</i> (abbreviated HG)	German army group, usually followed by a letter or location
<i>Herausschuß</i> (abbreviated HSS)	Enemy bomber separated from the protection of its formation by German aircraft attack
High Speed Launch (abbreviated HSL)	British motor boat used primarily for Air/Sea Rescue
Hit-and-run raid	Bombing raid by aircraft using speed, low-altitude and surprise to avoid defences
HMHS	His Majesty's Hospital Ship
HMS	His Majesty's Ship, a British Royal Navy vessel
Ia	German operations officer
Ic	German intelligence officer
J2	German jet fuel
<i>Jabogruppe</i>	German fighter-bomber group, plural <i>Jabogruppen</i>
<i>Jabostaffel</i>	German fighter-bomber squadron, plural <i>Jabostaffeln</i>
<i>Jagdbomber</i> (abbreviated <i>Jabo</i>)	German fighter-bomber aircraft
<i>Jagdbomber mit großer Reichweite</i> (abbreviated <i>Jabo/Rei</i>)	German fighter-bomber aircraft with extended range
<i>Jagddivision</i> (abbreviated JD)	German fighter division
<i>Jagdfliegerführer</i> (abbreviated <i>Jafü</i>)	German officer in command of fighter operations for an area such as Sicily or Southern Italy
<i>Jagdfliegerschule</i> (abbreviated JFS)	German advanced fighter pilot training school
<i>Jagdfliegererschule</i> (abbreviated JFVS)	German fighter pilot school
<i>Jagdflugzeug</i>	German word for fighter aircraft
<i>Jagdgeschwader</i> (abbreviated JG)	German fighter wing
<i>Jagdgruppe</i> (abbreviated JGr.)	German fighter group
<i>Jagdkorps</i> (abbreviated JK)	German air force fighter corps
<i>Jagdwaaffe</i>	German fighter air force
<i>Jäger</i>	German word for fighter aircraft
<i>Jägerplatz</i>	German fighter airfield
<i>Kampfflugzeug</i>	German word for bomber aircraft
<i>Kampfgeschwader</i> (abbreviated KG)	German bomber wing
<i>Kampfgeschwader zur besonderen Verwendung</i> (abbreviated KGzBV)	German air force battle wing for special duties, designation for an early war transport unit
<i>Kampfgruppe</i> (abbreviated KGr.)	German army combat group of variable size. Also a German bomber group
<i>Kampfgruppe zur besonderen Verwendung</i> (abbreviated KGrzBV)	German air force battle group for special duties, designation for an early war transport unit
<i>Kampfschulgeschwader</i> (abbreviated KSG)	German bomber training wing
<i>Kampferverband</i>	German battle unit
<i>Kanonenvogel</i>	German slang for 'Cannon Bird', the Ju 87 G armed with two 37 mm flak cannons for anti-tank warfare
<i>Katschmarek</i>	German term for wingman

<i>Kette</i>	German formation of three aircraft
<i>Kommandeur</i>	German commander of a <i>Gruppe</i> , full term <i>Gruppenkommandeur</i> , plural <i>Kommandeure</i>
<i>Kommando</i> (abbreviated Kdo)	Small German formation of men or aircraft
<i>Kommodore</i>	German commander of a <i>Geschwader</i> , full term <i>Geschwaderkommodore</i> , plural <i>Kommodoren</i>
<i>Kraftfahrzeug</i> (abbreviated Kfz.)	German word for motor vehicle
<i>Kraftrad</i> (abbreviated Krad)	German word for motorcycle
<i>Kraftstoff</i>	German word for fuel
<i>Kriegsberichter</i> or <i>Kriegsberichterstatter</i> (abbreviated KB)	German war reporter
<i>Kriegsoffizier</i>	German serviceman promoted to the rank of <i>Leutnant</i> at the front, without the formal training. A temporary rank until officer education could be undertaken
<i>Kriegstagebuch</i> (abbreviated KTB)	German war diary
<i>Kurierstaffel</i>	German air force courier squadron
<i>Küstenfliegergruppe</i> (abbreviated KFGr.)	German coastal flying group
<i>Lastkraftwagen</i> (abbreviated Lkw.)	German word for truck
LCA	Allied landing craft, assault, approximately 9 tons
LCF	Allied landing craft, flak, approximately 500 tons
LCI	Allied landing craft, infantry, approximately 250 tons
LCT	Allied landing craft, tank, approximately 250-600 tons
<i>Lehrgeschwader</i> (abbreviated LG)	<i>Luftwaffe</i> proving/demonstration wing, later used operationally
<i>Leitwerk</i>	German word for tail unit
Liberty Ship	Mass-produced American cargo ship
Long Range Desert Group (abbreviated LRDG)	British special forces unit, primarily an intelligence-gathering organization
LST	Allied landing ship, tank, approximately 2.000 tons
Lufbery	Aerial combat manoeuvre involving tight turning, developed in First World War by Raoul Lufbery
<i>Luftflotte</i> (abbreviated Lfl.)	German air fleet
<i>Luftgau</i>	German <i>Luftwaffe</i> administrative district (airfield control, supply, air defence and some training)
<i>Luftkriegsschule</i> (abbreviated LKS)	German air force officer school
<i>Luftnachrichten</i> (abbreviated Ln.)	German air force signals and communications (control, reporting and signals service)
<i>Luftschraube</i>	German word for propeller
<i>Luftstreitkräfte der Nationalen Volksarmee</i>	East German post-war air force
<i>Luftwaffen Dienstvorschriften</i> (abbreviated L.Dv.)	German air force service regulations
<i>Luftwaffen Verordnungsblatt</i>	German air force regulations periodical
<i>Macchia</i>	Italian shrubland
Mae West	British nickname for life-saving jacket, referring to the American actress
<i>Major beim Stab</i>	German major in the headquarters flight of a <i>Geschwader</i> , although the position could be held by a <i>Hauptmann</i>
<i>Marshal Sovyetskogo Soyuz</i>	Marshal of the Soviet Union. It was the highest military rank of the Soviet Union
<i>Maschinengewehr</i> (abbreviated MG)	German abbreviation for automatic weapon of less than 20 mm calibre
<i>Maschinenkanone</i> (abbreviated MK)	German abbreviation for automatic weapon of more than 20 mm calibre
<i>Meldung</i>	German word for report
MG 131	German 13 mm aircraft machine-gun built by Rheinmetall-Borsig
MG 151	German 15 mm aircraft machine-gun built by Waffenfabrik Mauser AG
MG 151/20	German 20 mm aircraft cannon built by Waffenfabrik Mauser AG
MG 151/20E	German 20 mm aircraft cannon built by Waffenfabrik Mauser AG, the E indicating it used electrical rather than percussion priming
MGB	British Motor Gun Boat, approximately 90 tons
<i>Minensuchgruppe</i> (abbreviated MSGr.)	German air force mine search group
Mk.	British abbreviation for mark, used to distinguish aircraft variants
Monitor	Shallow-draught warship designed specifically for coastal bombardment, approximately 8.500 tons
MTB	British Motor Torpedo Boat, approximately 50 tons
MV	Motor Vessel, a designation for a ship powered by an internal combustion engine
<i>Nachkommando</i>	German rear detachment
<i>Nachrichtenoftizier</i> (abbreviated NO)	German communications officer
<i>Nachtjagdgeschwader</i> (abbreviated NJG)	German night fighter wing
<i>Nachtjagdgruppe</i> (abbreviated NJGr.)	German night fighter group
<i>Nachtjagdschule</i>	German night fighter training school
<i>Nachtjagdversuchskommando</i>	German air force night fighter test detachment
<i>Nachtjäger</i>	German word for night fighter
<i>Nachtschlachtgruppe</i> (abbreviated NSGr.)	German night ground-attack group
<i>Nahaufklärungsgeschwader</i> (abbreviated NAG)	German short-range reconnaissance wing
<i>Nahaufklärungsgruppe</i> (abbreviated NAGr.)	German short-range reconnaissance group
National Guard	United States reserve military force
<i>Nationale Volksarmee</i> (abbreviated NVA)	East German post-war armed forces
Navy Air Corps	American naval flying arm
NCO	Non-Commissioned Officer
Near miss	Bomb landing close to a ship

Notlandung	German word for emergency landing
Notwurf	German word for emergency [bomb] release
Oberbefehlshaber der Luftwaffe (abbreviated Ob.d.L.)	German commander-in-chief of the air force
Oberbefehlshaber Süd (abbreviated OBS)	German commander-in-chief south
Oberkommando der Luftwaffe (abbreviated OKL)	German air force high command
Oberkommando der Marine (abbreviated OKM)	German navy high command
Oberkommando der Wehrmacht (abbreviated OKW)	German armed forces high command
Oberkommando des Heeres (abbreviated OKH)	German army high command
Offizier z.b.V.	German officer for special tasks
OG	Observation Group, American reconnaissance group
Operations Record Book (abbreviated ORB)	British Operations Record Book, a Royal Air Force unit record
OS	Observation Squadron, American reconnaissance squadron
Panzerabwehrkanone (abbreviated Pak.)	German word for anti-tank gun
Panzerarmee Afrika	German-Italian field command in North Africa, succeeded <i>Panzergruppe</i> from 24 January 1942
Panzerblitz	German anti-tank rocket used by aircraft
Panzergruppe Afrika	German-Italian field command in North Africa from 17 August 1941 to 23 January 1942
Panzerkampfwagen (abbreviated Pz.Kpfw.)	German word for tank
Panzerschreck	German anti-tank rocket used by aircraft and troops
Panzerspähwagen	German word for armoured reconnaissance car
Personenkraftwagen (abbreviated Pkw.)	German word for passenger car
PG	American Pursuit Group, later Fighter Group
Planquadrat (abbreviated Pl.Qu.)	German map grid square reference (Pl.Qu. 14 Ost 41465, after May 1943: Pl.Qu. 05 Ost S OK65)
Propagandakompanie (abbreviated PK)	German propaganda company
PS	American Pursuit Squadron, later Fighter Squadron
RAAF	Royal Australian Air Force
RAF	British Royal Air Force
Ramrod	British air force short range bomber operation flown on Channel Front, similar to Circus
RCAF	Royal Canadian Air Force
Reflexvisier (abbreviated Revi)	German reflector gunsight
Regia Aeronautica	Italian air force
Reichsarbeitsdienst (abbreviated RAD)	German national labour service
Reichsluftfahrtministerium (abbreviated RLM)	German air ministry, with the abbreviation RLM serving as the designator for German aircraft camouflage colours
Reichsmarschall	German marshal of the empire, Hermann Göring
Reichsverteidigung (abbreviated RV)	German word for Reich defence, applied to <i>Luftwaffe</i> operations in defence of Germany
Reichswehr	German army before 1935
Rhubarb	British air force operation flown on Channel Front by fighters and fighter-bombers at low altitude searching for ground targets of opportunity
Ritterkreuzträger	German holder of the Knight's Cross of the Iron Cross
RNZAF	Royal New Zealand Air Force
Rodeo	British air force operation, a fighter sweep intended to draw German fighters into the air
Rothe	German formation consisting of two aircraft led by a <i>Rottenführer</i> , plural <i>Rotten</i>
R/T	Radio Telephony
Rumpf	German word for fuselage
SAAF	South African Air Force
Sammelmitteilung	German order or communication
Sanitäts-Flugbereitschaft	German air force ambulance unit
SC	<i>Sprengbombe Cylindrisch</i> , German thin-walled, general purpose high-explosive bomb for use against soft targets, 250 or 500 kg (SC 250 or SC 500)
Schlachtflieger	German ground-attack pilot or pilots
Schlachtflugzeug	German word for ground-attack aircraft
Schlachtgeschwader (abbreviated Sch.G., later SG)	German ground-attack wing
Schlachtstaffel	German ground-attack squadron
Schlauchboot	German word for rubber dinghy
Schnellkampfgeschwader (abbreviated SKG)	German fast bomber wing
Schützenpanzerwagen (abbreviated SPW)	German half-tracked armoured personnel carrier
Schwarm	German formation consisting of four aircraft led by a <i>Schwarmführer</i> , plural <i>Schwärme</i>
SD	<i>Sprengbombe Dickwändig</i> . German thick-walled, armour-piercing or semi-armour piercing high-explosive bomb for use against lightly armoured targets
Seeaufklärungsgruppe (abbreviated SAGr.)	German maritime reconnaissance group
Seeflugzeug	German word for seaplane
Seenotdienst	German sea rescue service
Seenotstaffel (abbreviated SNSt.)	German sea rescue squadron
Segelflugzeug	German word for glider
Seitenruder	German word for rudder
Soldbuch	German pay book issued to every member of the German armed forces. It included unit information and a record of all equipment issued as well as other details
Sonderkommando	German special unit
Special Air Service (abbreviated SAS)	British special forces unit
Splitterbombe	German word for fragmentation bomb
Squadriglia	Italian air force unit, equivalent to a German <i>Geschwader</i> , plural <i>Squadriglie</i>
Squadron	Royal Air Force unit subordinate to a Wing, with an official strength of 12 to 40 aircraft
SS	Steam Ship, a designation for a ship powered by steam
Stab	German headquarters, plural <i>Stäbe</i>

<i>Stabsarzt</i>	German staff doctor
<i>Stabskompanie</i>	German word for headquarters company. Responsible for supplies, administration etc.
<i>Stabsschwarm</i>	German <i>Luftwaffe</i> headquarters formation of four aircraft
<i>Staffel</i>	German <i>Luftwaffe</i> squadron subordinate to a <i>Gruppe</i> , with an official strength of 12 to 20 aircraft, plural <i>Staffeln</i>
<i>Staffelführer</i> (abbreviated <i>Stafü</i>)	Acting leader of a <i>Staffel</i>
<i>Staffelkapitän</i> (abbreviated <i>Staka</i>)	Leader of a <i>Staffel</i> , plural <i>Staffelkapitäne</i>
<i>Stalag Luft</i>	German abbreviation for <i>Stammlager Luft</i> , a prisoner of war camp for airmen
<i>Stammkennzeichen</i> (abbreviated <i>Stkz</i>)	German four letter factory code applied to newly built aircraft. Also used as a radio call sign, for example on non-operational flights
<i>Steckrübenverfahren</i> Rechlin	Rechlin turnip procedure, a German anti-shipping tactic
<i>Stellvertreter</i> (abbreviated <i>Stellv.</i>)	German word for deputy
<i>Sternmotor</i>	German word for radial engine
STOL	Abbreviation for short take-off and landing aircraft
<i>Storch</i>	German word for stork, and the nickname for the Fieseler Fi 156 liaison aircraft
<i>Stormo</i>	Italian air force unit, equivalent to a German <i>Geschwader</i>
<i>Stuka-Kette</i>	Formation of three aircraft, used by <i>Luftwaffe</i> bomber and dive-bomber units
<i>Sturzkampfflugzeug</i> (abbreviated <i>Stuka</i>)	German word for dive-bomber, commonly associated with the Junkers Ju 87
<i>Sturzkampfgeschwader</i> (abbreviated <i>St.G.</i>)	German air force dive-bomber wing
<i>Technischer Offizier</i> (abbreviated <i>TO</i>)	German Technical Officer
TF	United States Navy Task Force
<i>Tiefangriff</i>	German word for low-level attack
<i>Tiefflug</i>	German word for low-level flight
<i>Transportfliegergeschwader</i> (abbreviated <i>TG</i>)	German air force transport wing
<i>Transportfliegergruppe</i> (abbreviated <i>TGr.</i>)	German air force transport group
<i>Trialen</i>	Explosive intended primarily for anti-shipping bombs
<i>Überführung</i>	German word for transfer
<i>Übung</i>	German word for training or practise, so <i>Übungsflug</i> is a training or practise flight
ULTRA	Security classification for German signals from high-grade machine ciphers intercepted and decoded by the British
<i>Unternehmen</i>	German word for undertaking or operation
USAAC	United States Army Air Corps, precursor to USAAF
USAAF	United States Army Air Force
USAF	United States Air Force, successor to the USAAF, created in 1947
USAFIME	United States Army Forces in the Middle East, later to become part of the Ninth Air Force
USN	United States Navy
USS	United States Ship, a United States Navy vessel
<i>Verband</i>	German unit or formation, plural <i>Verbände</i>
<i>Verbindungsstaffel</i>	German air force liaison squadron
<i>Verlegung</i>	German word for transfer
<i>Verletzt</i> (abbreviated <i>verl.</i>)	German word for non-operational injury
<i>Verlust</i>	German word for loss or casualty
<i>Vermisst</i>	German word for missing
<i>Vernichtet</i>	German word for annihilated
<i>Versuchskommando für Panzerbekämpfung</i>	Experimental German air force unit for tank combat. Established in February 1943 and converted into 10.(Pz.)/SG 77 and 10.(Pz.)/SG 2 on 18 October 1943 when the <i>Luftwaffe</i> ground-attack branch was reorganized
<i>Verwundet</i> (abbreviated <i>verw.</i>)	German word for operational wound or injury
<i>Viermot</i>	German slang for four-engine bomber, usually referring to American daylight bombers
<i>Vorkommando</i>	German forward detachment, in charge of setting up facilities before the arrival of a unit
<i>Wehrmacht</i>	German armed forces
<i>Wehrpass</i>	German service and conduct book (units, promotions, awards)
<i>Werknummer</i> (abbreviated <i>WNR.</i>)	German aircraft serial number (abbreviated various ways during the war, with <i>Werk-Nr.</i> and <i>W.-Nr.</i> seemingly the official abbreviations)
<i>Werkstattflug</i>	German word for test or workshop flight
<i>Wirkung</i>	German word for effect
WNTF	American Western Naval Task Force in the invasion of Sicily
W/T	Wireless Telegraphy (morse code)
<i>Wüstennotstaffel</i>	German desert rescue squadron
Y-Service	Allied wireless intercept service
<i>Zerstörer</i>	German heavy fighter, most notably the Bf 110, Me 210 and Me 410
<i>Zerstörergeschwader</i> (abbreviated <i>ZG</i>)	German heavy fighter wing
<i>Zerstörerguppe</i> (abbreviated <i>ZGr.</i>)	German heavy fighter group
<i>Zerstörerschule</i> (abbreviated <i>ZS</i>)	German heavy fighter training school
<i>Zerstört</i>	German word for destroyed
<i>Ziel</i>	German word for target, objective or aim
<i>Zünder</i>	German word for bomb fuse

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Soviet Abbreviations

Abbreviation	Soviet Term
AAE	<i>Artillerii Aviatsionnaya Eskadrilya</i>
BAD	<i>Bombardirovochnyy Aviatsionnyy Diviziya</i>
BAP	<i>Bombardirovochnyy Aviatsionnyy Polk</i>
G	<i>Gvardeyskiy</i>
IAD	<i>Istrebitelnaya Aviatsionnaya Diviziya</i>
IAK	<i>Istrebitelnyy Aviatsionnyy Korpus</i>
IAP	<i>Istrebitelnyy Aviatsionnyy Polk</i>
KBF	<i>Karsnoznamenniy Baltijski Flot</i>
KRAP	<i>Korrektirovochniy Razvedyvatelnyy Aviatsionnyy Polk</i>
MTAD	<i>Minno-Torpednaya Aviatsionnaya Diviziya</i>
MTAP	<i>Minno-Torpednaya Aviatsionnyy Polk</i>
NBAD	<i>Nochnoy Bombardirovochnyy Diviziya</i>
NBAP	<i>Nochnoy Bombardirovochnyy Aviatsionnyy Polk</i>
OAE PLO	<i>Otdelnaya Aviatsionnaya Eskadrilya Protivolodotsnaya Oborona</i>
ORAP	<i>Otdelnyy Razvedyvatelnyy Aviatsionnyy Polk</i>
PBAP	<i>Pikiruyushchiy Bombardirovochnyy Aviatsionnyy Polk</i>
RAP	<i>Razvedyvatelnyy Aviatsionnyy Polk</i>
ShAD	<i>Shturmovaya Aviatsionnaya Diviziya</i>
ShAK	<i>Shturmovoy Aviatsionnyy Korpus</i>
ShAP	<i>Shturmovoy Aviatsionnyy Polk</i>
VA	<i>Vozdushnaya Armiya</i>
VVS	<i>Voyenno-Vozdushnyye Sily</i>

English Term

Soviet Artillery Spotting Aviation Squadron of Coastal Defence
Bomber Aviation Division
Bomber Aviation Regiment
Guards (included before unit designation)
Soviet Fighter Aviation Division
Soviet Fighter Aviation Corps
Soviet Fighter Aviation Regiment
Red Banner Baltic Fleet
Soviet Artillery Spotting Reconnaissance Aviation Regiment
Soviet Mine-Torpedo Aviation Division
Soviet Mine-Torpedo Aviation Regiment
Soviet Night Bomber Aviation Division
Soviet Night Bomber Aviation Regiment
Independent Anti-Submarine Aviation Squadron
Soviet Independent Reconnaissance Aviation Regiment
Soviet Dive Bomber Aviation Regiment
Soviet Reconnaissance Aviation Regiment
Soviet <i>Shturmovik</i> Aviation Division
Soviet <i>Shturmovik</i> Aviation Corps
Soviet <i>Shturmovik</i> Aviation Regiment
Soviet Air Army
Military Air Forces

Ranks

Table 1: Air Force Ranks		RAF	USAAF	VVS	Regia Aeronautica
Luftwaffe					
Generalfeldmarschall (GFM)	Marshal of the Royal Air Force (MRAF)	General of the Army (5-star) (GA)	Glavnyy Marshal Aviatsiyi (Supreme Air Marshal)	Maresciallo dell'Aria	
Generaloberst (Gen.Obst.)	Air Chief Marshal (ACM)	General (4-Star) (Gen.)	Marshal Aviatsiyi (Air Marshal)	Generale d'Armata Aerea	
General der Flieger (GdF) ¹	Air Marshal (AM)	Lieutenant General (3-Star) (Lt.Gen.)	General-Polkovnik (Colonel-General)	Generale di Squadra Aerea	
Generalleutnant (Gen.Lt.)	Air Vice-Marshal (AVM)	Major General (2-Star) (Maj.Gen.)	General-Leytenant (Lieutenant-General)	Generale di Divisione Aerea	
Generalmajor (Gen.Maj.)	Air Commodore (A/Cdre.)	Brigadier General (1-Star) (Brig.Gen.)	General-Major (Major-General)	Generale di Brigata Aerea	
Oberst	Group Captain (G/Capt.)	Colonel (Col.)	Polkovnik (Colonel)	Colonnello	
Oberstleutnant (Oberstlt.)	Wing Commander (W/Cdr.)	Lieutenant Colonel (Lt. Col.)	Podpolkovnik (Lieutenant-Colonel)	Tenente Colonnello	
Major	Squadron Leader (S/Ldr.)	Major	Major (Major)	Maggiore	
Hauptmann (Hptm.)	Flight Lieutenant (F/Lt.)	Captain (Capt.)	Kapitan (Captain)	1a Capitano	
Oberleutnant (ObLt.)	Flying Officer (F/O.)	First Lieutenant (1/Lt.)	Starshiy Leytenant (Senior Lieutenant)	1a Tenente	
Leutnant (Lt.)	Pilot Officer (P/O.)	Second Lieutenant (2/Lt.)	Leytenant (Lieutenant)	Tenente	
				Sottotenente	
				Aiutante di Battaglia	
Oberfähnrich (Obfhr.) [*]		Flight Officer (F/O.)	Mladshiy Leytenant (Junior Lieutenant)	Maresciallo Maggiore	
Fähnrich (Fhr.) ^{**}				Maresciallo Capo	
Stabsfeldwebel (Stfw.)	Warrant Officer (W/O.)			Maresciallo Ordinaire	
Oberfeldwebel (Ofw.)	Flight Sergeant (F/Sgt.)	First Sergeant (1/Sgt.) ²	Starshiy Serzhant (Senior Sergeant)	Sergent Maggiore	
Feldwebel (Fw.)	Sergeant (Sgt.)	Master Sergeant (M/Sgt.) ²	Serzhant (Sergeant)	Sergent	
Unterfeldwebel (Ufw.)		Technical Sergeant (T/Sgt.)			
Unteroffizier (Uffz.)	Corporal (Cpl.)	Staff Sergeant (S/Sgt.)	Mladshiy Serzhant (Junior Sergeant)		
Stabsgefreiter (Stgefr.)					
Hauptgefreiter (Hgefr.)		Sergeant (Sgt.)			
Obergefreiter (Obgefr.)	Leading Aircraftman (LAC)	Corporal (Cpl.)	Yefreyto (Corporal)	Primo Aviere	
Gefreiter (Gefr.)	Aircraftman First Class	Private First Class (PFC)			
Flieger (Flg.)	Aircraftman Second Class	Private (Pvt.)	Krasnoarmeyets (Red Army Man)	Aviere	

NB: These ranks were only roughly comparable between the air forces, because there were differences in the areas of responsibility, number of men under their command etc.

Luftwaffe officer candidates had the title *Fahnenjunker* (cadet) in front of their existing rank while they waited for their commission to come through:

Fahnenjunker-Stabsfeldwebel (Fhj-Stfw.)

* *Fahnenjunker-Oberfeldwebel* (Fhj-Ofw.) equivalent to a *Oberfähnrich*

** *Fahnenjunker-Feldwebel* (Fhj-Fw.) equivalent to a *Fähnrich*

Fahnenjunker-Unteroffizier (Fhj-Uffz.)

Fahnenjunker-Obergefreiter (Fhj-Obgefr.)

Fahnenjunker-Gefreiter (Fhj-Gefr.)

Hauptfeldwebel was the German equivalent of a Company Sergeant Major, but was a title and not an official rank during the Second World War. In a *Luftwaffe Staffel* he was informally known as the *Staffelspiß*. The *Hauptfeldwebel* was usually an *Oberfeldwebel* or *Stabsfeldwebel*. *Hauptfeldwebel* later became an NCO-rank in the post-war German army.

1 Variants such as *General der Jagdflieger* and *General der Schlachtflieger* were not ranks, but titles introduced as the war progressed and the need for more area-specific titles arose.
2 Master Sergeant was above First Sergeant until September 1942.

Listed below are the most relevant awards given to airmen and high ranking air force officers during the Second World War. A variety of campaign- and battle-specific awards existed, as did specific army, navy, and civil awards, but please consult other resources for full lists and details of those.

Luftwaffe Awards

- Großkreuz des Eisernen Kreuzes* (Grand Cross of the Iron Cross)
- Ritterkreuz mit Goldenem Eichenlaub* (Knight's Cross with Golden Oak Leaves)
- Ritterkreuz mit Brillanten* (Knight's Cross with Diamonds)
- Ritterkreuz mit Schwertern* (Knight's Cross with Swords)
- Ritterkreuz mit Eichenlaub* (Knight's Cross with Oak Leaves)
- Ritterkreuz des Eisernen Kreuzes* (Knight's Cross of the Iron Cross)
- Ehrenpokal* (Honour Goblet)
- Deutsches Kreuz in Gold* (German Cross in Gold)
- Eiserne Kreuz 1. Klasse* (Iron Cross First Class)
- Eiserne Kreuz 2. Klasse* (Iron Cross Second Class)
- Frontflugschleife in Gold* (mission clasp for 110 missions)
- Frontflugschleife in Silber* (mission clasp for 60 missions)
- Frontflugschleife in Bronze* (mission clasp for 20 missions)
- Verwundetenabzeichen in Gold* (Wound badge in Gold)³
- Verwundetenabzeichen in Silber* (Wound badge in Silver)⁴
- Verwundetenabzeichen in Schwarz* (Wound badge in Black)⁵

RAF Awards⁶

- Victoria Cross (VC)
- Distinguished Service Order (DSO)
- Distinguished Flying Cross (DFC)
- Distinguished Flying Medal (DFM)
- Air Force Cross (AFC)
- Air Force Medal (AFM)
- Distinguished Conduct Medal (DCM)
- Conspicuous Gallantry Medal (Flying) (CGM)
- Mentioned in Despatches (MID)

VVS Awards⁷

- Герой Советского Союза* (Hero of the Soviet Union)
- Орден «Победа»* (Order of Victory)
- Орден Красного Знамени* (Order of the Red Banner)
- Орден Отечественной войны первой степени* (Order of the Patriotic War 1st Class)
- Орден Отечественной войны второй степени* (Order of the Patriotic War 2nd Class)
- Орден Суворова первой степени* (Order of Suworov 1st Class)
- Орден Суворова второй степени* (Order of Suworov 2nd Class)
- Орден Суворова третьей степени* (Order of Suworov 3rd Class)
- Орден Кутузова первой степени* (Order of Kutuzov 1st Class)
- Орден Кутузова второй степени* (Order of Kutuzov 2nd Class)
- Орден Кутузова третьей степени* (Order of Kutuzov 3rd Class)
- Орден «Слава» первой степени* (Order of Glory 1st Class)
- Орден «Слава» второй степени* (Order of Glory 2nd Class)
- Орден «Слава» третьей степени* (Order of Glory 3rd Class)
- Орден Ленина* (Order of Lenin)
- Медаль «За отвагу»* (Medal "For Courage")
- Медаль «За боевые заслуги»* (Medal "For Battle Merit")

USAAF Awards

- Medal of Honor (MOH)
- Distinguished Service Cross (DSC)
- Distinguished Service Medal (DSM)
- Silver Star (SS)
- Distinguished Flying Cross (DFC)
- Air Medal (AM)
- Purple Heart (PH)
- Prisoner of War Medal (POW)

The titles listed below can be consulted for further information about medals:

Behr, Volker A. *Typenkompass - Deutsche Auszeichnungen - Kampf- und Tätigkeitsabzeichen der Luftwaffe 1935 - 1945*, Motorbuch Verlag, Stuttgart, 2016, ISBN 978-3-613-03875-2.

Risk, James Charles *British Orders and Decorations*, Numismatic Society, New York, 1945, ASIN B002FYL5K8.

Aldebol, Anthony *Army Air Force and United States Air Force: Decorations, Medals, Ribbons, Badges and Insignia 1941 to 1947*, Medals of America, Fountain Inn, 1998, ISBN 1-8844-5221-3

3 1st class, for those wounded five or more times (could be awarded posthumously), total blindness, "loss of manhood", or severe brain damage via hostile action.
 4 2nd class, for those wounded three or four times, or suffering loss of a hand, foot or eye from hostile action (also partial loss of hearing), facial disfigurement or brain damage via hostile action.
 5 3rd class, for those wounded once or twice by hostile action (including air raids), or frostbitten in the line of duty.
 6 The British also gave the following campaign, naval and civil medals and awards: 1939-1945 Star, Air Crew Europe Star, Africa Star, Italy Star, France and Germany Star, Defence Medal, War Medal 1939-1945, George Cross, Atlantic Star, Burma Star, Military Medal, Pacific Star and George Medal (civil).
 7 The Soviets also gave the following medals: Order of Ushakov (navy), Order of Nakhimov (navy), Order of Alexander Nevsky (mainly civil) and Order of the Red Star.



Above: *Ofw.* Erich Morgenstern (center) and *Fw.* Johann Trummer (right) of *I. Gruppe, Schlachtgeschwader 5* at their *Ritterkreuz* awards ceremony on 4 May 1944. Erich Morgenstern survived the war and passed away in 2000, and Johann Trummer was still alive in August 2017.

Right: The Distinguished Flying Cross. It is awarded for "an act or acts of valour, courage or devotion to duty whilst flying in active operations against the enemy". If a British airman already had an award but performed deeds sufficient to earn another, he was awarded a Bar to that award. This applied to all RAF awards listed here (except Mentioned in Despatches).



Right: Order of the Red Banner. It was awarded for "recognised heroism in combat or otherwise extraordinary accomplishments of military valour during combat operations".



Right: Air Medal. The medal was created in 1942 and is awarded for meritorious achievement while participating in aerial flight. If a United States airman already had the Silver Star, Purple Heart, DFC, DSC or AM, but performed deeds sufficient to earn another, he was awarded Oak Leaf Clusters to that award.



Luftwaffe Air Unit Organization



Fuselage marking

Upper and lower wing marking

Tail marking

Above: *Luftwaffe* aircraft markings changed several times throughout the war, and the above are only examples of markings.

At the beginning of the war *Luftflotte* 1 to 4 existed, but as the war developed *Luftflotte* 5 was created to cover Norway, Finland and the northern part of the Soviet Union. After the war moved eastward into Russia, *Luftflotte* 6 was created in May 1943, followed by *Luftflotte* Reich in February 1944 for the air defence of Germany.

A *Fliegerkorps* was usually subordinate to a *Luftflotte*, and comprised of units of various functions (fighters, bombers, ground-attack and recon). The *Fliegerkorps* was intended to be a mobile entity that could be deployed rapidly at the front as the situation required. The first *Fliegerkorps* to be created with a specific purpose was VIII. *Fliegerkorps* (ground-attack) after the Polish campaign. The strength of a *Fliegerkorps* was 300 to 750 aircraft and the commanding officer usually held the rank of *Generalleutnant* or *General der Flieger*. A *Fliegerdivision* was similar to a *Fliegerkorps*, only smaller.

A *Jagddivision* was smaller than and subordinate to a *Fliegerkorps* or *Jagdkorps*, and administered only fighter units. The commanding officer usually held the rank of *Obersi*, *Generalmajor* or *Generalleutnant*.

A German *Luftwaffe* *Geschwader* (wing) was divided into *Gruppen* with an official strength of 112 to 276 aircraft and the commanding officer, the *Geschwaderkommandore*, usually held the rank of *Obersi* or *Obersleutnant* or *Obersi*.

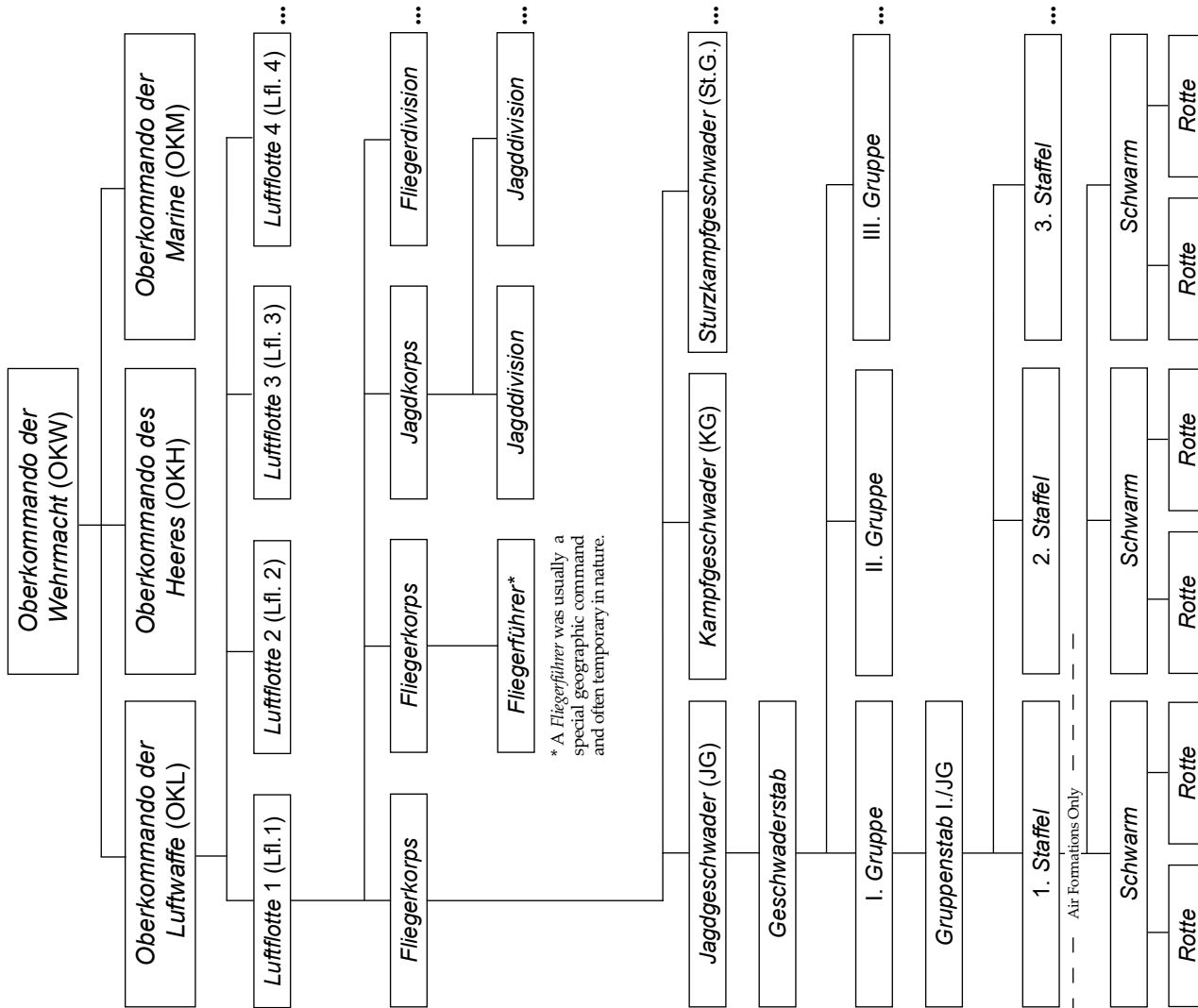
A *Gruppe* (group) was either organic as a component of a *Geschwader* or independent (autonomous). The official strength was 36 to 48 aircraft and the commanding officer, the *Gruppenkommandeur*, usually held the rank of *Hauptmann* or *Major*.

A *Staffel* was a tactical unit with an official strength of 12 to 20 aircraft and the commanding officer, the *Staffelführer* or *Staffelkapitän*, usually held the rank of *Leutnant* or *Oberleutnant*.

A *Schwarm* was a tactical formation of four aircraft, led by a *Schwarmführer*, who could be led by a non-commissioned officer. A three-aircraft bomber and dive-bomber formation existed, called a *Kette*. A *Rotte* was a subdivision of a *Schwarm* with two aircraft, consisting of the *Rottenführer* and his wingman.

The above is a simplified description of the *Luftwaffe* organization and formations. The titles listed below can be consulted for further information about this subject:

- Boog, Horst *Die deutsche Luftwaffenführung 1935-1945: Führungsprobleme, Spitzengliederung, Generalsabsaubildung*, Deutsche Verlags-Anstalt, Stuttgart, 1982, ISBN 3-421-0195-3.
- Hooten, E.R. *Phoenix Triumphant: The Rise and Fall of the Luftwaffe*, Arms & Armour Press, London, 1994, ISBN 1-85409-181-6.
- Murray, Williamson *Strategy for Defeat: The Luftwaffe 1933-1945*, Chartwell Books, Secaucus (NJ), 1986, ISBN 1-55521-087-2.
- Price, Alfred *Luftwaffe Handbook 1939-1945*, Ian Allan, London, 1977, ISBN 0-7110-0632-6.



* A *Fliegerführer* was usually a special geographic command and often temporary in nature.

--- Air Formations Only



Fuselage marking



Upper and lower wing marking



Tail marking

Above: RAF aircraft markings changed several times throughout the war, and the above are only examples of markings.

Flying commands were responsible for all aspects of operations during the Second World War, whereas maintenance, supply and administration were in a separate command. The flying commands were split into fighter aircraft, bombers, coastal duties, and ground-support, and were commanded by an Air Marshal.

Groups were subdivisions of operational commands responsible for certain types of operations, or for operations in a limited geographical area. Commanded by a Group Captain.

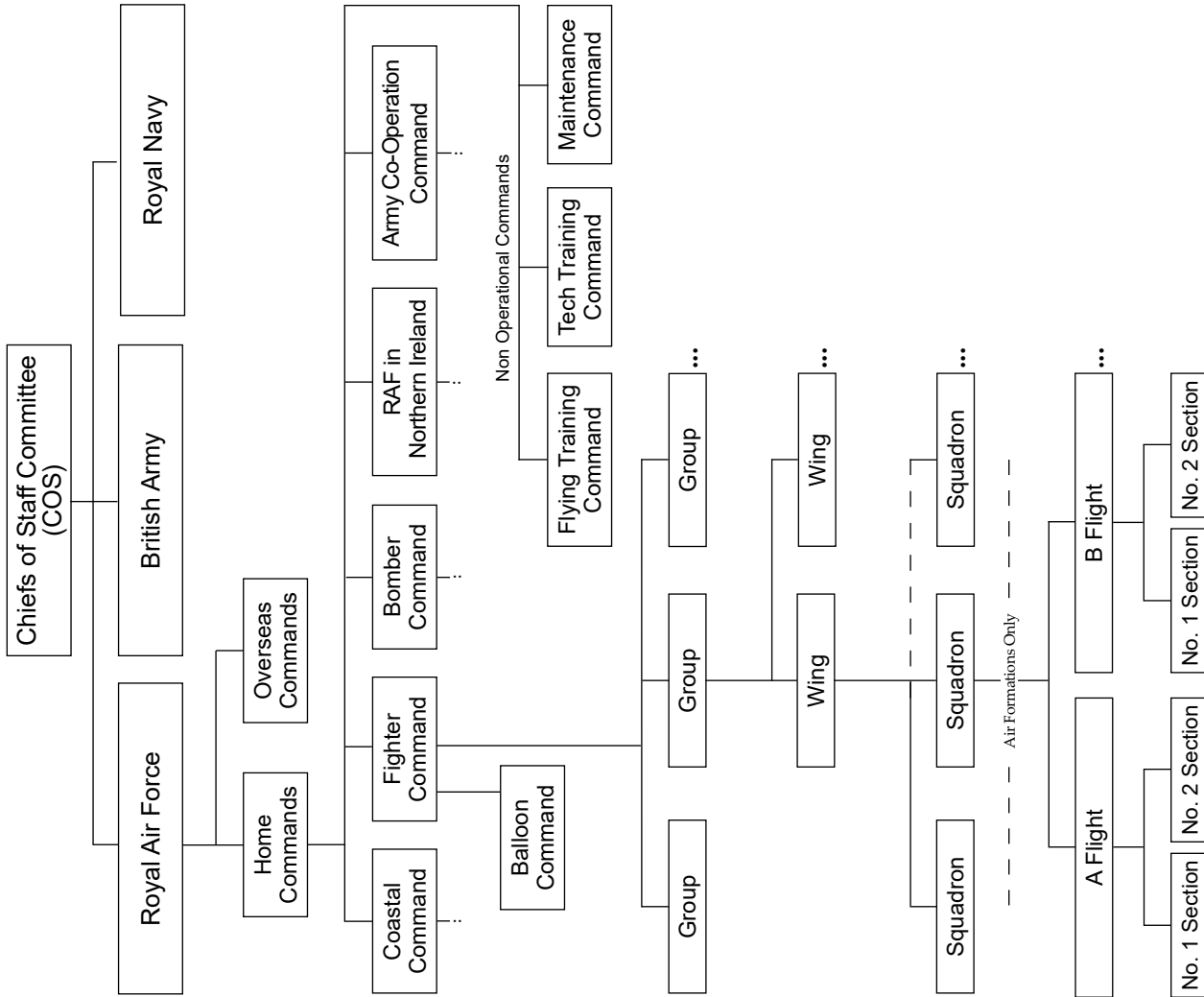
Wings were a grouping of two or more flying squadrons and were supported by separate administration and service wings. During the Second World War the wings were numbered, compared to the modern day RAF where they are named. A wing was commanded by a Wing Commander and the official strength was 48 to 96 aircraft.

A flying squadron was the smallest autonomous aircraft unit with a strength of 24 aircraft. A squadron was commanded by a Squadron Leader.

A flight was a sub-division of a squadron commanded by a Flight Lieutenant. Early in the war each flight consisted of six aircraft (two sections of three), and later in the war eight aircraft when the RAF adopted the *Luftwaffe* four-finger formation.

The above is a simplified description of the Royal Air Force organization and formations. The title below can be read for more detail: *RAF War Manual: Organization and Administration Part Two*, Military Library Research Service, London, 2009, ISBN 1-8479-1847-6.

RAF Air Unit Organization





28 May 1942 - 29 June 1943 14 August 1942 - 14 January 1947
Fuselage marking, upper and lower wing marking



No generic tail marking existed, and if present it could vary down to squadron level.

Above: USAAF aircraft markings changed several times during the war, but the above were the basic shapes, from which there were variations.

An air force was numbered and divided into commands based in a wider geographical area, responsible for all types of operations. The commanding officer of an air force usually held the rank of Lieutenant General (3-star). There were sixteen numbered air forces, First through Fifteenth, and also the Twentieth.

A command was subordinate to the numbered air force, and usually consisted of two or three wings. Due to the size of the Eighth Air Force, a layer of air divisions existed between the command and the wings. The commanding officer of a command usually held the rank of Brigadier General. Commands were numbered with a Roman numeral designator.

A wing consisted of three or more groups and the commanding officer, the Wing Commander, usually held the rank of Colonel.

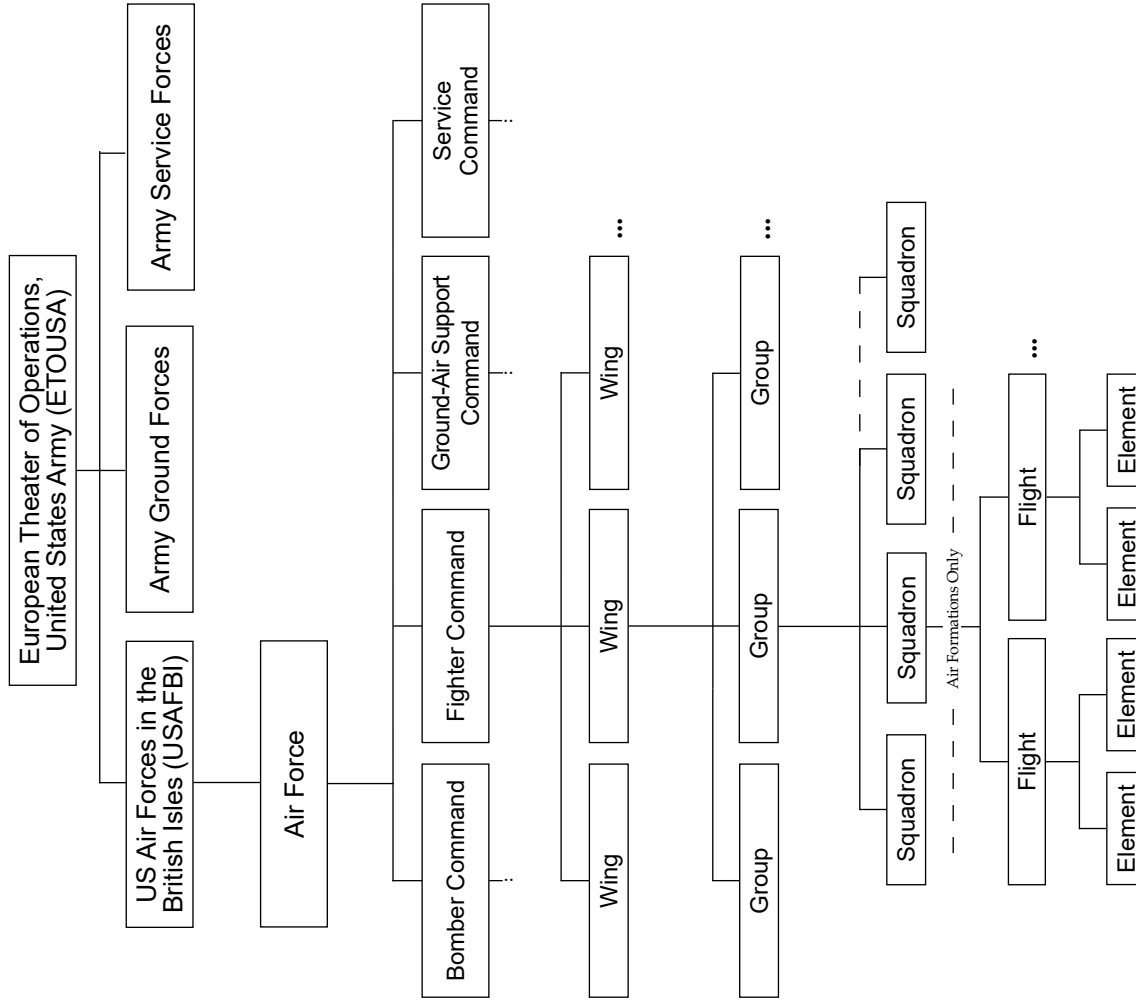
A group was the basic operational autonomous unit in the USAAF, and consisted of three to four squadrons based at the same airfield. The official strength was 36 to 48 aircraft and the commanding officer, the Group Commander, usually held the rank of Lieutenant Colonel or Colonel.

A squadron was a tactical unit with an official strength of twelve aircraft and the commanding officer, the Squadron Commander, usually held the rank of Major.

A flight was a tactical formation of six aircraft, led by a Flight Leader. The term 'section' seems to be the equivalent of a flight, and is sometimes used.

An element was a subdivision of a flight with three aircraft, consisting of the Element Leader and his two wingmen.

USAAF Air Unit Organization



The above is a simplified description of the United States Air Army Force organization and formations. The title below is recommended for further reading: Maurer, *Air Force Combat Units of World War II*, Office of Air Force History, Washington D.C., 1983. The book lists all wartime USAAF Groups, Wings, Divisions, Commands and Air Forces, and is (legally) available online here: www.ibiblio.org/hyperwar/AAF/AAFHS/AAFHS-140.1.pdf

WWS Air Unit Organization



Above: Fuselage, wing and tail markings were a red star throughout the war. It varied in size and sometimes had an outline of white or black. From 3 September 1943 onwards a five centimetre white outline for the red star marking, and an additional one centimetre red strip, was introduced by the NKO (People's Commissariat for Defence).

The Main Directorate of the Red Army Air Forces was the command which provided a link between the General Staff of the Red Army and the operational units at the front.

An Air Force of a Front (for example Air Force of the Western Front) existed until approximately May 1942, and was then superseded by an entity called an Air Army (VA). The Air Armies were numbered 1.VA through 18.VA. An Air Army controlled all air units in a given operational area, and was usually commanded by a *General-Leytenant*, but occasionally a *General-Major*.

An Army Air Force (for example Air Force of the 5. Army) existed until approximately May 1942, and was then superseded by an Air Corps (AK), consisting of two or three divisions and 200 to 400 aircraft, commanded by a *General-Leytenant*.

An Air Division (AD) consisted of two to four regiments with 60 to 160 aircraft, commanded by a *Polkovnik* (Colonel). Most Divisions operated one type of regiment, for example fighter or bomber, but Mixed Divisions controlled a variety of regiment types.

An Air Regiment (AP) consisted of three to four squadrons with 30 to 60 aircraft. They were equipped with aircraft designed for specific roles: air-to-air combat, ground support, bombing etc. and were commanded by a *Podpolkovnik* (Lieutenant-Colonel).

An Air Squadron (AE) consisted of ten aircraft in bomber units and twelve aircraft in other types of units. A squadron was commanded by a *Kapitan*.

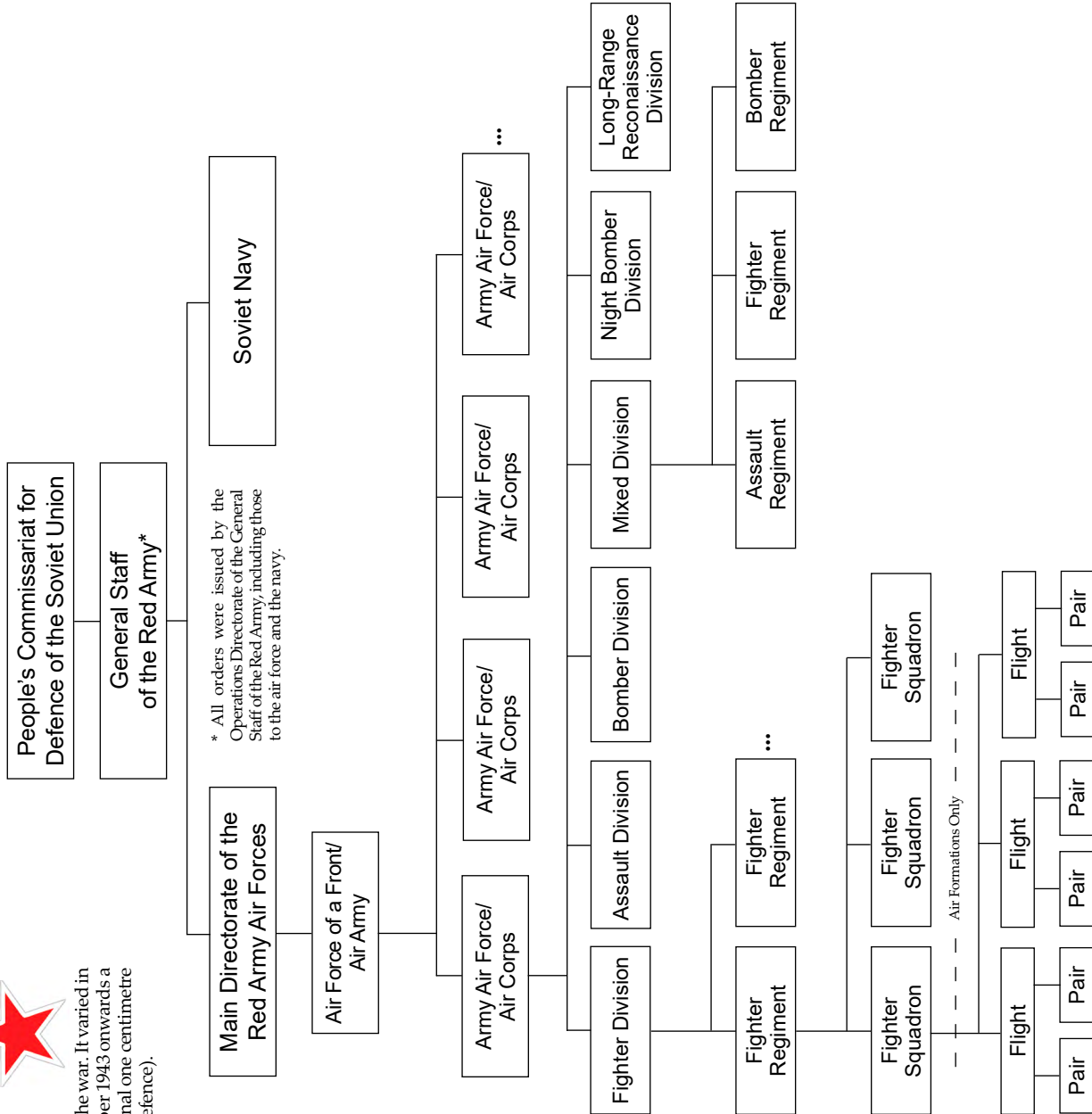
A Flight (*Zveno*) consisted of four aircraft and was usually commanded by a *Leytenant*.

A pair was the smallest tactical formation used by fighter and ground-attack units. Usually commanded by a *Mladshiy Leytenant* (Junior Lieutenant) or *Starshiy Serzhant* (Senior Sergeant).

The above is a simplified description of the Soviet Air Force organization and formations. For further reading the title listed below can be read:

Hardestry, Von & Grinberg, Ilya *Red Phoenix Rising: The Soviet Air Force in World War II* (appendix on air armies), University Press of Kansas, Kansas, 2012, ISBN: 0-7006-1828-7.

Air War Publications would like to thank Dan Zamansky for input and review of this diagram and text.



* All orders were issued by the Operations Directorate of the General Staff of the Red Army, including those to the air force and the navy.

--- Air Formations Only

Regia Aeronautica Organization

1942-1943



Fuselage marking



Upper and lower wing marking



Tail marking

Above: *Regia Aeronautica* aircraft markings had some variations, and the above are only examples.

The *Regia Aeronautica* underwent a lot of structural changes in the higher commands between 1940 and 1943, making it difficult to describe the organization layer by layer. Therefore, the description below is different to those of other air forces in this glossary.

High Commands

In June 1940 most of the operational units in Italy (mainland, Sicily and Sardinia) were attached to *Divisioni Aeree* or *Brigate Aeree*, subordinated to a *Squadra Aerea*.

On 10 June 1940, operational units in Sicily were attached to 2^a *Squadra Aerea*, and when it came back to Padova, to the *Comando Aeronautica Sicilia*. Other such major *Regia Aeronautica* entities at that time were *Comando Aeronautica Sardegna*, *Comando Aeronautica dell'Albania*, *Comando Aeronautica Aegea* (Aegean), *Comando Aeronautica della Libia* and *Comando Aeronautica Africa Orientale Italiana* (Italian East Africa).

Operational units in Libya were attached to *Comando Aeronautica della Libia*, but on 25 July 1940, the 5^a *Squadra Aerea* was formed and units were attached to it. 5^a *Squadra Aerea* was disbanded on 15 April 1943. After the first months of the war almost all *Divisioni Aeree* and *Brigate Aeree* were disbanded and operational units were attached directly to the *Squadre Aeree*, or to the *Comandi Aeronautica* or to operational commands subordinated to them. For example, *Comando Aeronautica Sicilia* had, when operationally needed, a *Comando Bombardamento* with bomber units and a *Comando Caccia* with fighter units. On 28 February 1942, 1^a *Squadra Aerea* had attached *Comando Caccia Borea* (with one fighter *Stormo* and one fighter *Gruppo* autonomous attached to it), *Comando Tuffatori* (dive-bomber unit with one *Gruppo*, one *Squadriglia* and a dive-bomber training unit), plus two bomber *Stormi*.

By mid-March 1941 there were only two *Brigate Aeree* and one *Divisione Aerea* left, and the last of them was disbanded on 15 February 1942.

Other regional commands were formed in 1941-1942. The most important were: *Comando Aeronautica Grecia* (Greece); *Comando Aviazione Slovenia e Dalmazia* (Dalmatia); *Comando Aeronautica Fronte Orientale* in Russia (formerly *Comando Aviazione per il C.S.I.R. (Corpo Spedizione Italiano in Russia)*); *Comando Aviazione Corsica*; *Comando Aeronautica Tunisia*.

Operational Units

Fighter *Stormi* (*Caccia Terrestre* - land-based) were formed by two *Gruppi* with three *Squadriglie* each. Bomber *Stormi* (*Bombardamento Terrestre* and *Bombardamento Marittimo*, which became *Bombardamento Terrestre* in May 1941) and torpedo bomber *Stormi* (*Aerosiluranti*) were formed by two *Gruppi* with two *Squadriglie* each, *Gruppi* and *Squadriglie* could be autonomous units. A *Stormo* was usually commanded by a Colonel. A *Gruppo* was usually commanded by a *Tenente Colonnello* or *Maggiore*, and a *Squadriglia* by a *Capitano*.

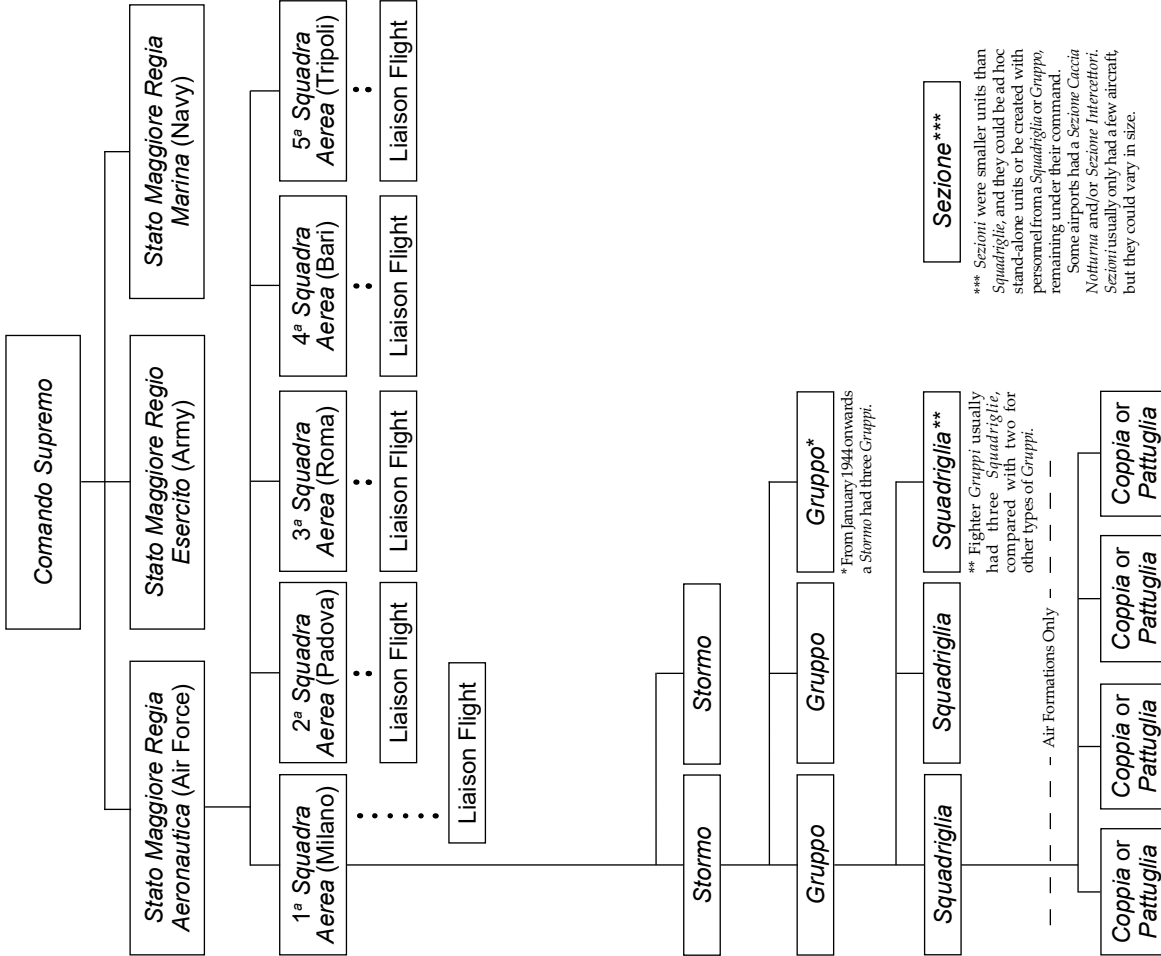
Reconnaissance *Gruppi* (*Osservazione Aerea* over land; *Ricognizione Marittima* over sea) had two *Squadriglie* each (there were no RM *Stormi*). The number of *Gruppi* in the *Osservazione Aerea Stormi* depended on the operational situation.

Osservazione Aerea units were not attached to *Stato Maggiore Regia Aeronautica*, but to the *Comando Superiore Aviazione per il Regio Esercito*, an army command headed by a *Regia Aeronautica* high officer, and to major army units. In the same way, *Ricognizione Marittima* units were attached to *Comando Superiore Aviazione per la Regia Marina*, a navy command headed by a *Regia Aeronautica* high officer, and local navy commands. These units had crews formed by *Regia Aeronautica* personnel plus an army or navy observer officer; the air force supplied aircraft, personnel, equipment etc.

On 1 June 1943 two major units were formed, both subordinated to 3^a *Squadra Aerea*: *Raggruppamento Bombardieri*, including the last operational bomber units, and *Raggruppamento Aerosiluranti*, including the last operational torpedo bomber units.

Theoretical aircraft strength for each *Squadriglia* in 1940 was: twelve fighter aircraft; nine bomber aircraft; seven aircraft for *Osservazione Aerea*; and eleven for *Ricognizione Marittima*. The number of aircraft could vary depending on circumstances. The tactical formations were either a *coppia*, consisting of two aircraft, or *pattuglia* which consisted of three aircraft.

In October 1943 the *Regia Aeronautica* was fighting with the Allies and its structure changed. All operational units were subordinated to *Comando Unità Aerea* that was subordinated to *Stato Maggiore Regia Aeronautica*. *Comando Unità Aerea* had three *Stormi Caccia* included in the *Raggruppamento Caccia*, each with three *Gruppi* comprised of two *Squadriglie*; *Raggruppamento Bombardamento e Trasporto* included one *Stormo Bombardamento* and two *Stormi Trasporto*, each with two *Gruppi* with two *Squadriglie* each; *Raggruppamento Idro* had seaplane *Gruppi*, each of them made up of two *Squadriglie*. There were also some minor units. This was the structure in place to the end of the war.



*** *Sezioni* were smaller units than *Squadriglie*, and they could be ad hoc stand-alone units or be created with personnel from a *Squadriglia* or *Gruppo* remaining under their command. Some airports had a *Sezione Caccia Notturna* and/or *Sezione Interceptor*. *Sezioni* usually only had a few aircraft but they could vary in size.

** Fighter *Gruppi* usually had three *Squadriglie*, compared with two for other types of *Gruppi*.

* From January 1944 onwards a *Stormo* had three *Gruppi*.

--- Air Formations Only

The above is a simplified description of the *Regia Aeronautica* organization and formations in 1942/1943. For further reading the following Italian-language title can be read for more detail:

Giuseppe, Santoro *L'Aeronautica Italiana nella Seconda Guerra Mondiale*, Edizioni Esse, Rome, 1966.

Santoro was General of the *Regia Aeronautica* and *Sottocapo di Stato Maggiore* (the vice of the Chief of Staff) from December 1939 to September 1943.

Air War Publications would like to thank Gianandrea Bussi for material, making this diagram and description possible.

Luftwaffe Colours

Table 2: Luftwaffe Colours

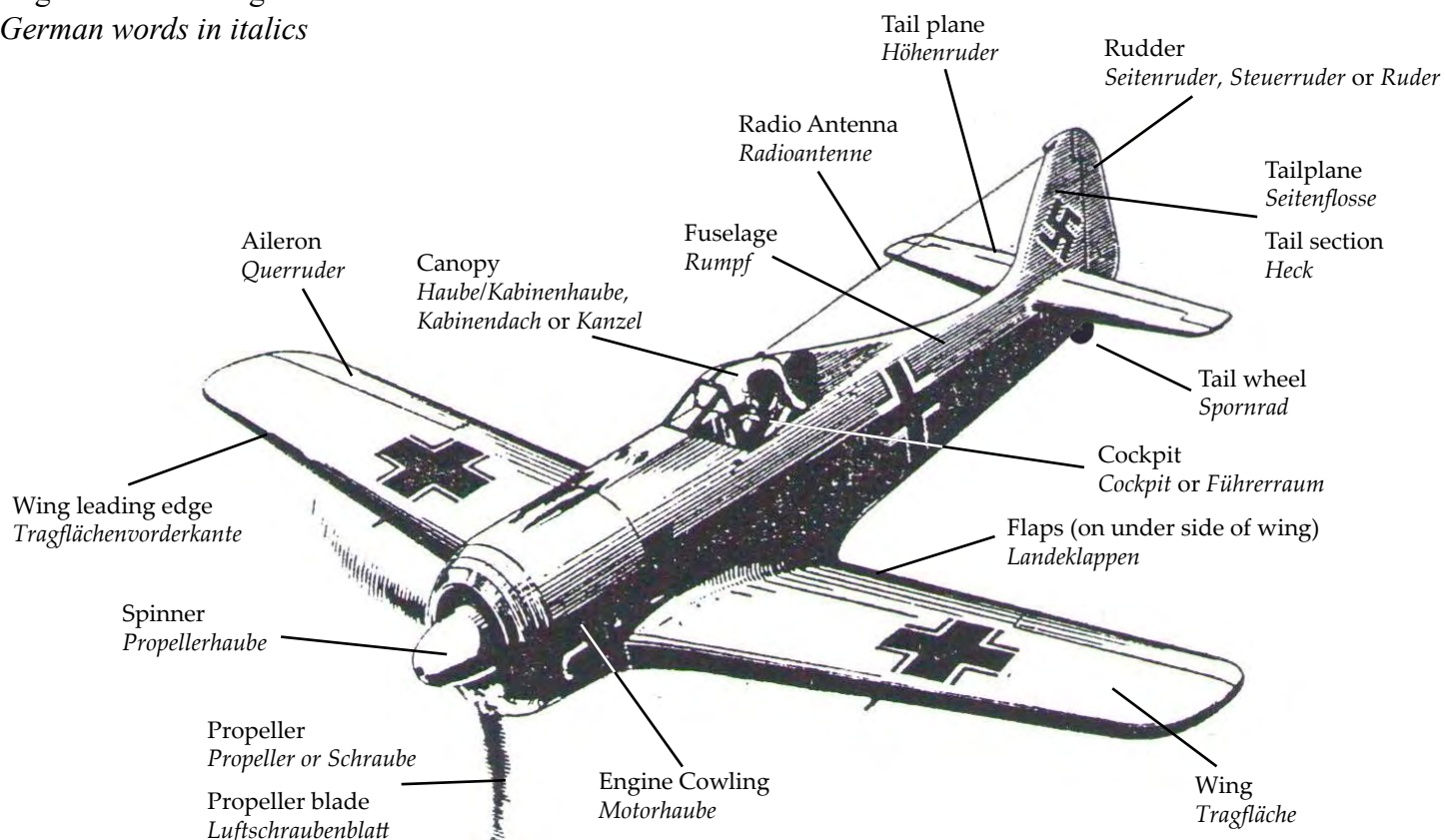
Name	Description ⁸	RAL Code	Application	Note
RLM 00	<i>Wasserhell</i> (clear lacquer)	9000	Protective external finishes and paint	
RLM 01	<i>Silber</i> (Silver)	9006	Overall aircraft colour	Pre- and early war exterior and interior colour
RLM 02	<i>RLM-Grau</i> (Grey)	7003	Interiors, primer and camouflage	
RLM 04	<i>Gelb</i> (Yellow)	1004	Markings, fuselage band, lower cowling	Tactical Markings
RLM 05	<i>Elfenbein</i> (Ivory)		Overall aircraft colour	Pre-war. Exterior finish on gliders
RLM 11	<i>Grau</i> (Grey)		Primer, specific purpose unknown	
RLM 21	<i>Weiss</i> (White)	9001	Markings and winter camouflage	Tactical Markings
RLM 22	<i>Schwarz</i> (Black)	9004	Markings and night camouflage	Introduced during Battle of Britain
RLM 23	<i>Rot</i> (Red)	3001	Maintenance and safety markings, fuselage band	Lines for walkways, trim tabs
RLM 24	<i>Dunkelblau</i> (Dark Blue)	5000	Fuselage markings (numerals, letters) and spinners	
RLM 25	<i>Hellgrün</i> (Light Green)	6000	Fuselage markings (numerals, letters) and spinners	
RLM 26	<i>Braun</i> (Brown)	8004	Fuselage markings (numerals, letters) and spinners	
RLM 27	<i>Gelb</i> (Yellow)	1003	Fuselage markings (numerals, letters) and spinners	Tactical markings and fuel octane triangles.
RLM 28	<i>Weinrot</i> (Wine Red)	3008	Maintenance and safety markings	Lines for walkways, trim tabs
RLM 41	<i>Grau</i> (Grey)	7011/7036	Interior	There were two versions of RLM 41
RLM 42	<i>Grau</i> (Grey)	7012	Interior	
RLM 61	<i>Dunkelbraun</i> (Dark Brown)	8019	Upper and side surfaces	Pre- and early war, Spanish Civil War
RLM 62	<i>Grün</i> (Green)	6003	Upper and side surfaces	Pre- and early war, Spanish Civil War
L40/52	<i>Hellgrau</i> (Light Grey)		Overall aircraft colour	Pre-war
RLM 63	<i>Grau</i> (Grey)	7004	Upper and side surfaces	Pre- and early war
RLM 63	<i>Hellgrau</i> (Light Grey)	7040	Upper and side surfaces	Pre- and early war
RLM 64	<i>Dunkelgrau</i> (Dark Grey)		Export colour (Light blue) originally but discontinued	
RLM 65	<i>Hellblau 1938</i> (Light Blue)		Lower and side surfaces	A few examples of overall colour
RLM 65	<i>Hellblau 1941</i> (Light Blue)		Lower and side surfaces	More greyish blue colour than 1938 variant
RLM 66	<i>Schwarzgrau</i> (Black Grey)	7019	Upper and side surfaces and interiors	
RLM 67	<i>Weiss</i> (White)		Markings	
RLM 68	<i>Schwarzgrün</i> (Black Green)		Upper and side surfaces, desert camouflage	
RLM 69	<i>Dunkelgrün</i> (Dark Green)		Upper and side surfaces	
RLM 70	<i>Schwarzgrün</i> (Black Green)		Upper and side surfaces, all types	
RLM 71	<i>Dunkelgrün</i> (Dark Green)		Upper and side surfaces, all types	
RLM 72	<i>Grün</i> (Green)		Upper and side surfaces, sea aircraft	
RLM 72	<i>Mittelgrün</i> (Middle Green)		Upper and side surfaces, Dornier sea aircraft?	Dornier
RLM 73	- <i>Grün</i> (Green) -		Upper and side surfaces, sea aircraft	
RLM 73	- <i>Dunkelgrün</i> (Dark Green) -		Upper and side surfaces, Dornier sea aircraft?	Dornier
RLM 74	- <i>Graugrün</i> (Grey Green) -		Upper and side surfaces	
RLM 75	- <i>Grauviolett</i> (Grey Violet) -		Upper and side surfaces	
RLM 76	- <i>Lichtblau</i> (Light blue) -		Lower and side surfaces	
RLM 76	- <i>Graugrün</i> (Grey Green) -		Upper and side surfaces	
RLM 76	- <i>Graublau</i> (Grey Blue) -		Lower and side surfaces	
RLM 77	- <i>Hellgrau</i> (Light Grey) -	7035	Upper and side surfaces	
RLM 78	- <i>Blau/Himmelblau</i> (Blue/Sky Blue) -		Lower and side surfaces, desert camouflage	
RLM 79	- <i>Sandgelb</i> (Sand Yellow) -		Upper and side surfaces, desert camouflage	
RLM 80	- <i>Olivgrün</i> (Olive Green) -		Upper and side surfaces, desert camouflage	
RLM 81	- <i>Dunkelgrün</i> (Dark Green) -		Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Dornier
RLM 81	- <i>Braunviolett</i> (Brown Violet) -		Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Messerschmitt
RLM 81	- <i>Olivbraun</i> (Olive Brown) -		Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Blohm & Voss
RLM 82	- <i>Hellgrün</i> (Light Green) -	6003	Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Dornier
RLM 82	- <i>Dunkelgrün</i> (Dark Green) -		Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Messerschmitt
RLM 82	- <i>Hellgrün</i> (Light Green) -		Upper and side surfaces, most frontline types	Late-war colour, mid-1944, Blohm & Voss
RLM 83 ⁹	- <i>Dunkelblau</i> (Dark Blue) -		Upper and side surfaces, sea aircraft	Late-war colour, introduced in mid-1944

⁸ The descriptive colour terminology used for the paint colours listed are offered here for the purposes of reference only, as these terms differed between aircraft manufacturers. A few examples of this are shown in the above.

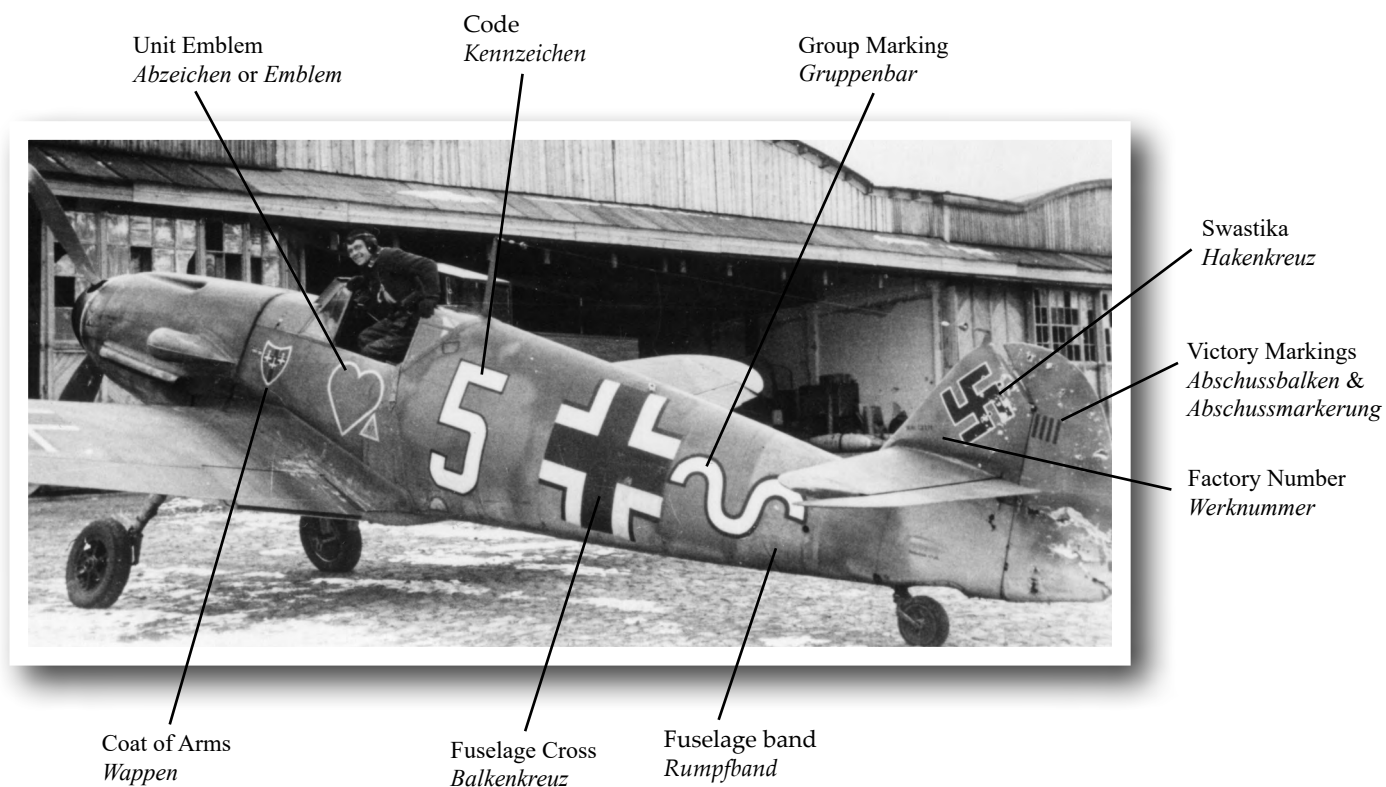
⁹ This colour has been debated for a long time, but the mystery was finally resolved by Michael Ullmann: <http://forum.12oclockhigh.net/showthread.php?t=33931&highlight=rlm%2083>

Aircraft Anatomy

English words in regular
 German words in italics



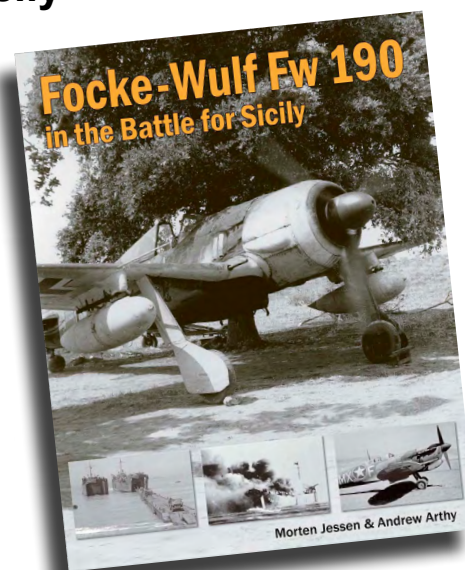
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