

U
15
U635
no. 23
c. 3

SERIES, NO. 23

1 AUGUST 1944

INDEX TO INTELLIGENCE PUBLICATIONS

LIBRARY
ARMY WAR COLLEGE
PERIODICALS SECTION

REGRADED UNCLASSIFIED BY
AUTHORITY OF DOD DIR. 5200. 1 R
BY TRAKERS ON 5-23-03

**MILITARY INTELLIGENCE DIVISION
WAR DEPARTMENT**



U. S. Army Military History Institute

~~RESTRICTED~~

SPECIAL SERIES, NO. 23

1 AUGUST 1944

INDEX
TO
INTELLIGENCE
PUBLICATIONS

MILITARY INTELLIGENCE DIVISION

U.S. WAR DEPARTMENT, *General Staff*

United States Government Printing Office

Washington : 1944

LIBRARY

~~RESTRICTED~~ ARMY WAR COLLEGE

PROPERTY OF US ARMY

~~RESTRICTED~~

U.
1E
UG35
U 23
c.3

DECLASSIFIED

RESTRICTED

MILITARY INTELLIGENCE DIVISION
WAR DEPARTMENT
WASHINGTON 25, D. C., 1 AUGUST 1944

SPECIAL SERIES
No. 23
MID 461

NOTICE

1. *Special Series* is published for the purpose of providing officers with reasonably confirmed information from official and other reliable sources.
2. In order to meet the specific request of appropriate headquarters, or in order to conserve shipping space, the distribution of any particular issue of *Special Series* may be modified from the standard. This issue is being given a limited distribution.
3. *Every Command Should Circulate Available Copies Among Its Officers.* Reproduction within the military service is encouraged provided that (1) the source is stated, (2) the classification is maintained, and (3) one copy of the publication in which the material is reproduced is forwarded to the **Military Intelligence Division, War Department, Washington 25, D. C.**

~~RESTRICTED~~

INTRODUCTION

The purpose of this issue of *Special Series* is to provide a general subject index of current periodic and serial publications of the Military Intelligence Division, War Department. This index covers the *Intelligence Bulletin*, *Tactical and Technical Trends*, *Military Reports From the United Nations*, and *Special Series*. These four publications are indexed from the dates of their inception through 31 December 1943.

Intelligence Bulletin

The *Intelligence Bulletin*, a monthly periodical, is designed for the use of junior officers and enlisted men. The articles, which deal primarily with enemy tactics and weapons, are selected for their value to the men who are in the theaters of operations or are expected to enter them. As far as possible, the articles are based on the latest information received from military intelligence sources.

In order to obtain the widest possible use, the contents of the *Intelligence Bulletin* are not highly classified, but the periodical is for the exclusive use of military personnel. Each issue is about 90 pages and includes from 15 to 30 illustrations. The index covers the first 16 issues, which are listed below:

Vol. I, No. 1	Sep 42	No. 9	May 43
2	Oct 42	10	Jun 43
3	Nov 42	11	Jul 43
4	Dec 42	12	Aug 43
5	Jan 43	Vol. II, No. 1	Sep 43
6	Feb 43	2	Oct 43
7	Mar 43	3	Nov 43
8	Apr 43	4	Dec 43

Military Reports From the United Nations

This monthly periodical is issued for the proper dissemination of recent "Confidential" information of current trends and developments in armies, of both the United Nations (other than the U. S. A.) and the enemy. Until April 1944, it was published under the title *Military Reports on the United Nations* and was devoted chiefly to articles on the tactical doctrine, technical developments, and operations of the British Imperial Forces. Similar articles occasionally appeared on the Soviet and other United Nations Armies. The average length of each issue is 60 pages; illustrations and maps are included, and an index of the first 12 issues

will be found in No. 12. The index in this volume covers the first 13 issues listed below:

No. 1	15 Dec 42	No. 7	15 Jan 43
2	15 Jan 43	8	15 Jul 43
3	15 Feb 43	9	15 Aug 43
4	15 Mar 43	10	15 Sep 43
5	15 Apr 43	11	15 Oct 43
6	15 May 43	12	15 Nov 43
		13	15 Dec 43

Tactical and Technical Trends

Tactical and Technical Trends contains notes on enemy technical and tactical developments along with reports of recent operations. It appears every two weeks. Classified as "Restricted," the issues average about 50 pages and contain a number of illustrations. A topic index for each series of 10 issues appears in the tenth issue of that series. The index covers the first 41 issues, which are listed below:

No. 1	18 Jun 42	No. 21	25 Mar 43
2	2 Jul 42	22	8 Apr 43
3	16 Jul 42	23	22 Apr 43
4	30 Jul 42	24	6 May 43
5	13 Aug 42	25	20 May 43
6	27 Aug 42	26	3 Jun 43
7	10 Sep 42	27	17 Jun 43
8	24 Sep 42	28	1 Jul 43
9	8 Oct 42	29	15 Jul 43
10	22 Oct 42	30	29 Jul 43
11	5 Nov 42	31	12 Aug 43
12	19 Nov 42	32	26 Aug 43
13	3 Dec 42	33	9 Sep 43
14	17 Dec 42	34	23 Sep 43
15	31 Dec 42	35	7 Oct 43
16	14 Jan 43	36	21 Oct 43
17	28 Jan 43	37	4 Nov 43
18	11 Feb 43	38	18 Nov 43
19	25 Feb 43	39	2 Dec 43
20	11 Mar 43	40	16 Dec 43
		41	30 Dec 43

Special Series

Special Series deals with subjects requiring comprehensive, monographic treatment. The primary consideration in selecting topics has been to disseminate information of immediate applicability, based on the best available sources. In addition to much hitherto unpublished material, information previously disseminated in brief or tentative forms in MID periodicals and bulletins is combined with new material on the same subject when exhaustive treatment of that subject is necessary. All issues are classified "Restricted," except Nos. 12 and 13 ("Not To Be Published") and Nos. 15 and 17 ("Confidential").

The index covers the first 19 issues which are described below :

- No. 1, *British Commandos*** 9 Aug 42. Data on the origin, organization, training, equipment, and operations of British Commandos; information on similar companies in Australia and New Zealand; British lessons from Commando operations. Tables, maps, iv+138 pp.
- No. 2, *The German Armored Army*** 10 Aug 42. Based on a study made by the French General Staff immediately after the Armistice; lessons learned by the French; basic principles of employment of an armored army; development and organization of German mechanized and armored units; offensive and defensive tactics. vi+34 pp.
- No. 3, *German Military Training*** 18 Sep 42. Methods used in training men and officers of the German Army; training of German youth and the work of the SA (storm troopers); personnel procurement; training; standards for officers; general principles of leadership. Appendices include information on maneuvers, field exercises, and the training of umpires and rifle squads. v+106 pp.
- No. 4, *The German Motorized Infantry Regiment*** 17 Oct 42. Translation of a captured German field manual on the tactics of the motorized infantry regiment when used as a part of the German armored division; includes transportation and supply. Appendices include tabular information on the motorized infantry regiment. Illus., tables, viii+61 pp.
- No. 5, *The Development of German Defensive Tactics in Cyrenaica—1941*** 16 Oct 42. German defensive doctrine and its application in the Libyan campaigns; comments and lessons. Illus., maps, vi+60 pp.
- No. 6, *Artillery in the Desert*** 25 Nov 42. Artillery in desert warfare, based on reports of the Libyan Campaign; German, Italian, and British units engaged in the fighting; enemy and British equipment; German, Italian, and British tactics; antitank operations; smoke; and supply methods. Appendices include a translation of captured German documents on the effective range of German antitank weapons, tables of characteristics of German and Italian artillery, and German artillery organization charts. Illus., tables, map x+112 pp.
- No. 7, *Enemy Air-Borne Forces*** 2 Dec 42. An introductory account of the development of airborne, air-landing, glider-borne, and parachute troops by the Germans, Italians, and Japanese; historical sketch of airborne operations in World War II; German parachute troops, gliderborne developments, and airborne transport; Italian airborne forces; Japanese airborne forces; general conclusions relating to enemy airborne tactics. Appendices include details on the German 5th Parachute Regiment, German parachutes, and the dropping of German arms containers. Illus., tables, viii+104 pp.
- No. 8, *German Tactical Doctrine*** 20 Dec. 42. Résumé of military doctrines taught at the *Kriegsakademie*, the German General Staff School; position of the commander, duties of the staff, terrain estimation, concealment, combat intelligence, principles of communication, estimate of the situation, troop dispositions, field orders, marches, the attack, the defense, the delaying action, retirement, and employment of field artillery. Sample German orders are included in an appendix. Illus., viii+86 pp.
- No. 9, *The German Squad in Combat*** 25 Jan 43. Training of the squad as described in data from German training documents; organization and formations; combat methods; squad exercises. Illus., x+118 pp.

- No. 10, German Antiaircraft Artillery** 8 Feb 43. German antiaircraft artillery; organization; weapons; equipment; use with field forces; use in defense of Germany and rear areas. Illus., tables, ix+107 pp.
- No. 11, Morale-Building Activities in Foreign Armies** 15 Mar 43. Programs used by German, Japanese, Italian, Soviet, and British Armies in building morale; administrative factors; special procedures. Illus., vi+59 pp.
- No. 12, German Military Abbreviations (N. T. B. P.)** 12 Apr 43. German military abbreviations with their equivalents in German and English. iii+246 pp.
- No. 13, British Military Terminology (N. T. B. P.)** 15 May 43. U. S. military terms and definitions with British equivalents; British military terms with U. S. equivalents; Royal Air Force terms; differences between British English and American English; vocabulary of the most common nonmilitary terms; military abbreviations. Appendices include information on classification of documents; British map systems; standard procedures for transmitting messages; conversion tables for currency, weights, and measures. Illus., tables vi+210 pp.
(A supplement entitled *Provisional Supplement to MIS Special Series, No. 13* (17 pp.) was prepared under the auspices of the Joint Intelligence Committee.)
- No. 14, German Infantry Weapons** 25 May 43. Weapons and ammunition used in the standard German infantry regiment with data and illustrations to enable the U. S. troops to identify and operate them; glossary of terms; abbreviations. Illus., tables, xii+190 pp.
- No. 14F, Armement de l'infanterie allemande** 16 Aug 43. French translation of *Special Series, No. 14*. Illus., tables, xi+171 pp.
- No. 15, German Coastal Defenses** 15 Jan 43. German coastal defenses; pattern of defenses; naval responsibility; Siebel ferries; harbor and beach obstacles; fortifications. Illus., vi+89 pp.
- No. 16, Enemy Capabilities for Chemical Warfare** 15 Jul 43. Estimate of the capabilities of the Axis powers to wage chemical warfare; chemical troops; offensive weapons; defensive equipment; civilian protection. A discussion of area smoke screening is included in an appendix. Illus., tables, xiii+156 pp.
- No. 17, German Doctrine of the Stabilized Front** 15 Aug 43. German doctrine relating to the stabilized front, particularly zones of modern, permanent fortifications; design of such fortifications to facilitate offensive warfare; a study of German fortified systems, and a detailed, illustrated discussion of the West Wall. Illus., tables, maps, ix+141 pp.
- No. 18, German Winter Warfare** 15 Dec. 43. Edited translation of a German manual containing sections on effects of winter conditions on combat and morale; marches and orientation; roads; railway movement; bivouacs and shelter; construction of winter positions; heating; camouflage; protection of person; rations; health measures; evacuation of wounded; care and use of weapons and equipment; signal communication; skis, snowshoes, and snow vehicles. Illus., tables xx+215 pp.
- No. 19, Japanese Infantry Weapons** 31 Dec 43. Concise descriptions based on reports from combat zones and study of actual weapons; nomenclature; pistols and rifles; grenades and land mines; grenade dischargers; machine guns; mortars; antitank and infantry guns; small-arms ammunition. A discussion of several modifications of Japanese standard small arms is included in an appendix. Illus., tables, xiv+241 pp.

INDEX

EXPLANATORY NOTE

The following abbreviations of titles are used in this index :

IB—*Intelligence Bulletin*

MR—*Military Reports From the United Nations*

SS—*Special Series*

TT—*Tactical and Technical Trends*

Figures that precede these abbreviations in the reference denote the number of the issue of the publication cited (and, in the case of the *Intelligence Bulletin*, the volume). For example, 16 SS 25 denotes *Special Series*, No. 16, page 25; I-3 IB 10 denotes *Intelligence Bulletin*, volume I, No. 3, page 10. The date of each issue is given in the introduction to this volume.

A

Abbreviations:

British, military, I-2 IB 90-91;
13 SS 93-185; 6 TT 37-38

German:

Infantry weapons, 14 SS 187-190
Military, 12 SS 1-246
Principles of forming, 12 SS 2

Japanese:

Airmen's code, 12 TT 56-59
Communication, 12 TT 54-56

Ships, 4 TT 25

Ackja sleds. *See Akja (Ackja)*
sleds.

Adhesive paste (*Kat. 39*), for demoli-
tion charges, German, 39 TT 19

Administration, military, Japanese:
Of conquered areas, 20 TT 37-46

Treatment of natives in SW Pa-
cific, I-8 IB 67-69

Adolf Hitler Bodyguard, 35 TT 51

Adolf Hitler Regiment (*SS* unit), 11
TT 49, 53

Advanced Infantry Assault School
for British Commandos, 1 SS 27-
29, 31, 53

Advance guard, German:

Infantry squad in, 9 SS 59-67

Organization of a battalion as,
9 SS 61

Purpose, 9 SS 60

Aerial bombs. *See* Bombs.

Aerial-gas-spray apparatus, 16 SS
24-25, 62, 124; 36 TT 45, 48, 51

Aerial minefield, German, 19 TT 4

Aerial photographs:

British:

Amphibious operations, value
for, 4 MR 41

Artillery targets, for locating, 4
MR 18, 22

Combat intelligence, value for,
10 MR 59

El Alamein, 4 MR 22

Merton method of gridded ob-
lique photography, (illus.) 4
TT, sec. II, 6-9

Tunisia, 10 MR 20-21

Aerial photographs—Continued

German, Otterbach sector of West
Wall, 17 SS 56, 57

Aerodescensore, Italian parachute, 7
SS 58

Africa (*see also Afrika Korps*;
Egypt; El Alamein operations;
Libya; Middle East; North Af-
rica; Tunisia):

Air support of tanks, 24 TT 3

AT units in rearguard action, 22
TT 10

Field notes on operations, 33 TT 34

French Equatorial, motor-trans-
port problems, 14 TT 42-45

Afrika Korps (see also Afrika
Egypt; El Alamein operations):

AA forces with 15th Panzer Divi-
sion, 8 TT 16-18

Composition, 6 SS 3

Defensive role in Cyrenaica, 5 SS
1-60

Division supply of 21st Armored
Division, 16 TT 34

Fuel consumption in Egyptian-
Libyan Campaign, 14 TT 49

Marking AT minefields, 8 TT 37

Organization, strength, and arma-
ment of 90th Light Division,
6 SS 3-4; 3 TT 5-7; 5 TT 23-25

Tactics in Egyptian offensive, 13
TT 35

Wire communication, 15 TT 42-46

Aichi 99, Japanese dive bomber, 6
TT 3

Air base, definition of, 7 SS 1

Airborne recoilless gun, 75-mm
German (illus.) 26 TT 15-18

Airborne recoilless howitzer, 105-mm
German, (illus.) 35 TT 20-23

Airborne troops (*see also* Airborne
operations; Gliderborne troops;
Parachute troops):

Air-landing troops, definition, 7
SS 1

Allied:

German estimate of tactics, II-
3 IB 17-18

Japanese estimate of tactics,
II-4 IB 1-2

Airborne troops—Continued

British:

Airborne division, 7 MR 49-52;
10 MR 3-7

Amphibious operations, 5 MR
55-56

Dieppe raid, 5 MR 55-56

Sicilian assault, 11 MR 59-60

Supply, 1 MR 41-42

Definition, 7 SS 1

German, 7 SS 8-14, 45-57, 76-77

German defense against, II-3, IB
16-21

History, 7 SS 3-5

Italian, 7 SS 50-61, 63-64; 28 TT
3-4

Japanese, 7 SS 14-17, 71-74

Japanese defense against, I-8 IB
60; II-4 IB 1-6

Tactics, 7 SS 75-82

United States:

AA units, 9 MR 15-16

Sicilian assault, 11 MR 56-57, 60-
64

Air-burst fuzes, artillery, British, 4
MR 24

Aircraft (*see also* Aircraft weapons;
Anti-aircraft measures; Glid-
ers):

Axis, in Middle East, 2 MR 4, 13-15
British:

Camouflage of, 7 MR 36

Hurricane IID, AT role of, 8
MR 1-4

Lancaster (heavy bomber), 13
MR 1-2

Mosquito planes, (illus.) 11 MR
1-3

Names of British and U. S.
planes in service with the
British, 5 TT 37-38

Spitfire IX compared with *Focke-
Wulf 190*, 11 TT 3

Warning against balloon bar-
rage, 5 MR 7

Canadian, Lancaster II (heavy
bomber), 13 MR 2

French, *SE 200* flying boat, 5 TT 4

German (*see also Dornier (Do)*;
Focke-Wulf (FW) *Heinkel
(He)*; *Henschel (Hs)*; *Jun-
kers (Ju)*; *Messerschmitt
(Me)*; *Stuka*):

Antifreezing methods, I-6 IB 61-
62

Aircraft—Continued

German—Continued

Cable cutters on wings of planes,
(illus.) 5 MR 3; 18 TT 1-2

Camouflage, 13 TT 1-2

Catapults for launching, (illus.)
2 TT 4-7; 10 TT 3

Communications, use for, 8 SS
24-25

Dinghy, single-seater inflatable,
(illus.) 9 TT 2-3

Dispersal of, at airdromes in
western Europe, 15 TT 3-4

Dive-bombing planes, I, 2 IB 12

Engine-heating device (illus.)
I-6 IB 59-61

Exploding device for jettisoning
bomb carriers on *Ju88*, 11
TT 3

Flying limitations, 23 TT 1-2

Gasoline, 22 TT 36-37; 30 TT
21

Gas warfare, equipped for, 36
TT 45-47

Kette, flight of planes, German, 7
SS 19, 54; 11 TT 19, 14 TT 3

Lubricants, 30 TT 21

Markings, 20 TT 3-4; 24 TT 1-2

Protection for aircraft at air-
dromes, 15 TT 4

Range and load of transport air-
craft, 7 SS 50

Refueling, 15 TT 5

Rescue buoy, (illus.) 12 TT 2-4

Rocket device for assisting
take-off, 10 TT 4

Salvage of captured aircraft, 16
TT 2-4

Skis on, (illus.) I-6 IB 53-57

Smoke material, 11 TT 11; 32
TT 50

Storage problem, I-6, IB 57-58

Substratosphere planes, I-3 IB
27-28; 9 TT 1

Tank-carrying, 3 TT 1

Towing planes for gliders, 7 SS
38, 43

Voltol used as lubricant, 6 TT 2

Winch system of assisting take-
off, 10 TT 3-4

Identification. *See* Aircraft recog-
nition; Airground communi-
cations.

Italian:

Aerial gas (or incendiary) con-
tainer, 36 TT 50-51

Aircraft—Continued

Italian—Continued

- Camouflage, 13 TT 3
- Cantieri Z 1007* bomber and reconnaissance plane, (illus.) 25 TT 1-3
- Gas loads, 36 TT 48-49
- Macchi 205* fighter (illus.) 30 TT 1-2
- Macchi 202* fighter, 22 TT 1
- Reggiane 2001* fighter, 22 TT 1-2
- Savoia-Marchetti 82 (Canguru)*, transport, 35 TT 1-2
- Savoia-Marchetti (SM 79)* torpedo bomber (illus.) I-5 IB 59-61

Japanese:

- Aichi 99* dive bomber, 6 TT 3
- Camouflage, 13 TT 2-3
- Code names for, 19 TT 1-3; 21 TT 32
- Fighter, code names for, 21 TT 32
- Gas loads and ranges, 36 TT 51-52
- Identification, 41 TT 2-3
- Katakana* (phonetic) markings, 12 TT 47
- Kawasaki 97* heavy bomber, 6 TT 4
- Mitsubishi Model 98* light bomber, 6 TT 3
- Mitsubishi Model 97*, Mark II, medium bomber, 25 TT 2, 4-5
- Mitsubishi Model 96* bomber, 6 TT 3-4
- Mitsubishi-Nagoya Zero* fighter, 5 TT 1-4; 6 TT 2-3
- Mitsubishi Zero* fighter, 6 TT 2-3; 8 TT 4-5
- Transport, 7 SS 50, 71-72
- Zero bombers, 2 TT 1-2; 6 TT 3-4; 25 TT 2, 4-5
- Zero fighters, I-1 IB 74-76; 2 TT 1; 5 TT 1-4; 6 TT 2-3; 8 TT 4-5, 16; 19 TT 1-3; 21 TT 32

Recognition:

- British, 3 MR 9-10; 5 MR 57-58; 6 MR 5; 8 MR 17-18
- German, I-2 IB 16-17; I-7 IB 38-42; 24 TT 27, 28
- Japanese, I-7 IB 20-21
- New Zealand, I-10 IB 90-91
- United States, 6 MR 5

Aircraft—Continued

Soviet:

- Lavochkin 5* against the German *FW190*, 37 TT 2-3
- Stormovik (Sturmovik)*, 10 MR 1-3, 27 TT 2-3

United States:

- Captured, Axis use of, 17 TT 4; 33 TT 1

- In service with British, 5 TT 38
- P-38F compared with German *FW190*, 11 TT 3

Warnings against:

- British, use of "screaming rockets" as, 6 MR 10
- German, 11 TT 8-9; 21 TT 3, 5
- New Zealand, I-10 IB 90-91

Aircraft weapons:

German:

- 15-mm machine gun (illus.) 12 TT 1, 2; (illus.) 30 TT 18-19
- 13-mm (illus.) 12 TT 1
- 20-mm gun *Oerlikon* (illus.) 28 TT 31
- 20-mm machine gun (illus.) 12 TT 1, 2; (illus.) 28 TT 31; (illus.) 30 TT 19-20

- Japanese 12.7-mm machine gun, Models 389 and 486, (illus.) 34 TT 36-37

- United States .50-cal Browning machine gun, M 1921, (illus.) 34 TT 36-37

Air Defense of Great Britain (ADGB), 4 MR 1-10

- Air-defense zone of German West Wall, AA installations, (illus.) 17 SS 125, 127-129

Airdromes:

Allied:

- AA defense of, in North Africa, 7 MR 4
- German dive-bombing attacks on, I-10 IB 26-27

British:

- AA protection of, 2 MR 8; 7 MR 8-9
- Camouflage of, 7 MR 35
- Construction in North Africa, 8 MR 43
- Construction of advanced landing fields, 19 TT 13-14

Definition of, 7 SS 1

German:

- Anti-airborne-troop obstacles on, II-3 IB 18-19

Airdromes—Continued

German—Continued

Camouflage, 7 TT 15-16, 17; 40 TT 18-19

Dummy, 15 TT 5

In occupied countries, 15 TT 2-7

Obstruction of, prior to withdrawal, (illus.) I-11 IB 48-51

Runways in winter, I-6 IB 52-53

Italian, obstruction of, prior to withdrawal, (illus.) I-11 IB 48-51

Japanese:

Camouflage and deception methods, 29 TT 3-4

Fighter planes for night defense of, II-4 IB 11-12

Protection from airborne troop attacks, II-4 IB 4-5

Metal spikes, "crowsfeet," dropped by Germans on, (illus.) 11 TT 36; 12 TT 40; 13 TT 40; 14 TT 41

Air forces (*see also* Aircraft; Air-ground communications):

Allied:

Air superiority in Tunisia, 10 MR 45-46

El Alamein, role at, 3 MR 42, 43, 46, 50, 51, 52, 53, 54, 56, 57, 59, 60.

German interrogation of air-force PWs, I-10 IB 28-30

Axis:

El Alamein, activity at, 3 MR 54, 57

Tactics in Middle East, 2 MR 13-15

Bombing, effect on morale of soldiers, 33 TT 7-8 34 TT 2, 3

Bombings, preliminary to airborne attacks, 7 SS 76-77

British:

Aerial photography, (illus.) 4 TT, sec. II, 6-9

Airdrome defense force, 7 MR 8-9

Air OPS, operation of, 11 MR 26-30

Artillery, cooperation with, 10 MR 20-23

AT activities in Middle East and North Africa, 8 MR 1-4

Balloon defense role, 1 MR 8

Air forces—Continued

British—Continued

Ground forces, direct support to, at battle of El Hamma, 7 MR 1-2

Libyan desert, story of crews of 3 Blenheim bombers lost in, 28 TT 1-2

Pantelleria gun positions, attacks on, 12 MR 13-14

Pathfinder Force, 12 MR 1-3

Smoke-laying methods, 9 MR 1-3; 11 MR 3-7

Spitsbergen operations, 1 SS 99-116

Supply of jungle troops by, 12 MR 26-28

Support of landing operations, 5 MR 47-50

Target location, 12 MR 1-3

Terminology, I-2, IB 85; 13 SS 80-82

Vaagso raid, role in, 1 SS 64-66, 67, 81-82, 84-85

German:

AA units of *Luftwaffe*, 5 TT 7; 7 TT 7; 8 TT 17

Airdromes, attacks on, I-10 IB 26-27

Bombing of aircraft in flight, 26 TT 2

Combined action with motorized arm, 2 SS 22-24

Concentration of air power over one area of battlefield, 33 TT 1-3

Cooperation of armored division with aviation, 2 TT 33

Cooperation of reconnaissance aviation with ground forces, 8 TT 7-15

Crete, attack on, 8 TT 51-60

Decoy targets, 17 TT 1-3

Dive-bombing, I-2 IB 11-14; I-8 IB 22-26; I-10 IB 24-28

Evasive tactics of level bombers, 16 TT 1

Fighter support for airborne troops, 7 SS 76-77

Fighter tactics to avoid AA fire, 11 TT 4

Flak directional arrows to guide fighter planes, 22 TT 3-6

Air forces—Continued

German—Continued

- Flying discipline, I-8 IB 26-28
- Ground security at night, use for, 22 TT 28
- Lorenz blind-flying system, 15 TT 5-6
- Low-level fighter-bomber raids, 26 TT 3-4
- Malta, attack on, 6 TT 5-6
- Maps for night bombing, 4 TT 2
- Night approach system on air-dromes, 15 TT 5-6
- Ports, attacks on, I-10 IB 24-26
- Recognition signals, (illus.) 34 TT 38-40
- Reconnaissance, 8 TT 7-15
- Reflectors to aid recognition of stranded flyers, (illus.) II-1 IB 72-73
- Roads and gun emplacements, attacks on, I-10 IB 28
- Salvage of captured aircraft, 16 TT 2-4
- Smoke, use of, 40 TT 14-17
- Soviet comment on experiences with the *FW 190*, 37 TT 1-3
- "Star raids" over U. S. S. R., 39 TT 5
- Stimulants for personnel, 5 TT 32
- Support of tank attacks, 20 TT 22-23; 24 TT 3; 35 TT 12
- Tactics against ground troops, I-8 IB 22-26
- Tactics in Middle East, 2 MR 13-15
- Tactics on Eastern Front, 32 TT 1-2; 33 TT 1-3
- Tanks and infantry, coordination with, 33 TT 2-3
- Transport of troops and supplies, 7 SS 45-57
- Uniform, new *Luftwaffe* overall, 20 TT 30
- U. S. aircraft, captured, use of, 17 TT 4; 33 TT 1
- U. S. S. R. operations, 20 TT 22-23; 32 TT 1-2; 33 TT 1-2; 39 TT 5
- Winter flying problems, I-6 IB 52-62
- Italian, 7 SS 59-60; 16 SS 62; 28 TT 3-4

Air forces—Continued

Japanese:

- Aerial chemical spray, 16 SS 124
- Aluminum "slick" as navigational aid over water, 17 TT 3-4
- Bombing tactics, I-1 IB 73-74; II-4 IB 7-10; 1 TT 1; 8 TT 5-6; 26 TT 1-2
- Code of abbreviations, 12 TT 56-59
- Components, of the Army and Navy, 37 TT 27
- Convoys, torpedo-plane attacks on, II-4 IB 10-11
- Decoy tactics (illus.), 20 TT 1-2
- Dive-bombing, I-1 IB 73
- Fighter planes, night defense of airfields by, II-4 IB 11-12
- Fighter tactics, I-1 IB 71-72; II-4 IB 11, 2 TT 2; 8 TT 4-5, 16; 20 TT 1-3
- Guadalcanal operations, 22 TT 45
- Naval forces at Wake, cooperation with, I-8 IB 53-54
- Pilots, training and ability, 15 TT 1-2
- Role in military operations, I-1 IB 70-71
- Solomon Islands, tactics in, I-4 IB 11-12
- Supplies dropped by parachute, I-1 IB 74
- "Swing" bombing, I-1 IB 74
- Tactics of a "Rufe" Zero, 20 TT 1, 2
- Target designation and signaling, 2 TT 2-3
- Torpedo bombing, I-1 IB 73
- Torpedo-plane attacks against convoys, II-4 IB 10-11
- U. S. planes, use of 17 TT 4; 33 TT 1
- Soviet:
 - Aircraft against tanks, 38 TT 1-2
 - Air-ground cooperation, 10 MR 1
 - Combating German tactics on Eastern Front, 33 TT 2-3
 - Experiences with the German *FW190*, 37 TT 1-3
 - Organization, 10 MR 1
 - School of aviation, Engels, 4 MR 59-60
 - Support of AT defenses, 35 TT 12

- Air forces—Continued
- Soviet—Continued
- Tactical employment of attack aviation, 27 TT 2-3
- United States:
- Air support of landing operations, 22 TT 48
- Diary of survivor of plane crash in south Pacific, 11-4 IB 79-89
- Guadalcanal operations, 22 TT 45
- Southwest Pacific, support of ground units in, 4 MR 44
- Air-ground communications:
- German, 1-2 IB 16-17; 1-7 IB 38-42; 7 SS 56-57, 82; 8 SS 24; 18 SS 118-119; 24 TT 26-33; 25 TT 28, 30
- Japanese, 1-7 IB 17-21; 41 TT 2-3
- Air-ground cooperation. *See* Air forces.
- Air observation posts (OPs), British, in North Africa, 10 MR 22; 11 MR 26-30
- Airplanes. *See* Aircraft.
- Airport (*see also* Airdromes), definition of, 7 SS 1
- Air Protection League, Germany, 16 SS 46-47; 17 TT 17
- Air Protection League (UNPA), Italian, 16 SS 83; 17 TT 17
- Air-raid shelters, Japanese, 17 TT 17
- Air-raid warnings:
- British, 2 MR 9-13; 6 MR 10; 9 MR 7
- German, 10 SS 73, 100-102; 11 TT 8-9; 21 TT 3, 5
- Air reconnaissance. *See* Reconnaissance.
- Air signal troops, German, 11 TT 8
- Air tactics. *See* Air forces.
- Akja (*Ackja*) sleds, description and German use of, (illus.) 18 SS 151, 152; 198-200, 204; (illus.) 19 TT 28-30; (illus.) 39 TT 28-30
- Alamein, El. *See* El Alamein operations.
- Alarms, German use as gas or plane warnings, 8 SS 24
- Alarm wires, barbed-wire obstacles, German, 11-1 IB 43-44; 15 SS 22
- Aleutian Islands (*see also* Attu):
- AA fire, Japanese, 4 TT 5
- Aleutian Islands—Continued
- Equipment, Japanese, found on Kiska, 37 TT 25-26
- Food, Japanese, available for troops, 1-11 IB 69-70
- Algiers operations, British, AA role in beach assault, 8 MR 11-12
- Allowances for and welfare of soldier's family, foreign practices, 11 SS 28-30
- Allowances of British Commandos, 1 SS 9-10
- Alpine chemical company, Italian, 16 SS 51
- Aluminum AT mine, German, (illus.) 35 TT 31-32
- Ambulance, German, 14 TT 37
- Ambulance sleds, German, 18 SS 208; 14 TT 37
- Ambushing, instructions, British, 1-7 IB 67-70
- Amedeo d'Aosta, Italian Air Force Assault Regiment, 28 TT 3-4
- Ammunition (*see also* Bombs; Shells; and individual weapons):
- AP cap, definition, (illus.) 18 TT 32, 33
- Ballistic cap, definition, (illus.) 18 TT 32, 33
- British:
- AA requirements for beach assault, 6 MR 3
- AA shrapnel, effectiveness of, 2 MR 2
- El Alamein, expenditure at, 4 MR 24
- Incendiary, 6 MR 40
- Small arms, interchangeability of, 4 TT 21-22; 22 TT 35
- Supply in Libya, 7 TT 35-36
- Captured munitions, British destruction or salvage of, 18 TT 27-28
- Flashless powder. *See* Flashless powder.
- German:
- AP (*see also individual weapons*), 1-9 IB 56-58; 4 TT 21
- AP 40 AT, (illus.) 18 TT 30, 33; 24 TT 4
- AT ammunition developments, 26 TT 9, 10-11
- AT rifle, standard, 14 SS 178-181
- Belted, 14 SS 172
- Caliber measurement, 14 SS 161

Ammunition—Continued

German—Continued

- Chart of pistol, rifle, machine-gun, and mortar, 14 SS 182-184
- Distribution to company in combat, I-9 IB 41
- Dummy or practice, 14 SS 8, 14, 33, 171, 179, 183
- Gas shells, I-7, IB 36; II-3 IB 89-91; 16 SS 17-18; 37 TT 10-12
- Gudol flashless powder, 31 TT 37
- Handling and storage in winter, 18 SS 168-170
- Hollow-charge (*see also individual weapons*), (illus.) 1-9 IB 56-58; 4 TT 21; 18 TT 27
- Infantry-weapon, (illus.) 14 SS 161-184
- Labeling practices, (illus.) 14 SS 162-171
- Liquid air in shells, 1 TT 5-6
- Markings on, 14 SS 172
- Parachute cartridge for wind measurement, 10 TT 23
- Pistol and submachine-gun, standard, 14 SS 173, 182-184
- Rifle and machine-gun, 7.92-mm, 14 SS 174-177; 182-184
- 7.92-mm types, 14 SS 174-177; 4 TT 23
- Small arms, interchangeability of, 4 TT 21-22; 22 TT 35
- Stacking in the field, 13 TT 41-43
- Storage on desert, 6 SS 37-38
- Tank *Pz.Kw. II*, carried by, 22 TT 13
- Tanks, supply of, in North Africa, I-4 IB 32-33
- Goerlich-type projectile, definition, (illus.) 18 TT 33, 34
- Hollow-charge, definition, (illus.) 18 TT 33, 34, 35
- Italian:
 - AP (*see also individual weapons*), 4 TT 21
 - Artillery, 6 SS 22
 - Comment by prisoners, I-6 IB 28-29
 - Hollow-charge (*see also individual weapons*), 18 TT 27
 - 75-mm (75/27) HE fragmentation shell, (illus.) 26 TT 40, 41

Ammunition—Continued

Italian—Continued

- Small arms, interchangeability of, 4 TT 21-22; 22 TT 35
- Tracer bullets, 14 TT 16
- Japanese:
 - 8-mm pistol, 19 SS 238
 - Flashless, 27 TT 39
 - Handling, II-2 IB 57-59
 - Identification by color of bands, 19 SS 234
 - 7.7-mm, 19 SS 237, 238
 - 6.5-mm, II-2 IB 59; 19 SS 234-236, 238
 - Small arms, 19 SS 238; 4 TT 22
 - Salvage by Germans, 7 TT 32-33
 - Storage during rainy seasons, 40 TT 13-14
 - United States, AA requirements for beach assault, 6 MR 7
- Ammunition belts:
 - German, 14 SS 78-80
 - Japanese, (illus.) 19 SS 34
- Amphetamine (benzedrine), 2 MR 39-43; 3 MR 26-28; 11 TT 29-30
- Amphibious operations (*see also Landing craft*):
 - Allied:
 - Dieppe, Aug 42, 5 MR 39-60; 35 TT 34
 - Tobruk, 35 TT 32-33
 - British:
 - Airborne troops, use of, 10 MR 55-56
 - Beach group, 10 MR 43-44
 - Beach landings, AA defense of, 3 MR 1-8
 - Madagascar, 4 MR 40-43
 - Salerno landings, (map) 13 MR 33-38
 - Sicily, 11 MR 53-56
 - Spitsbergen, 1 SS 99-116
 - Vaagso, Norway, 1 SS 57-97
 - Varengeville, France, 28 TT 48
 - Waterproofed vehicles, tests of, 2 MR 46
 - Japanese:
 - Corregidor, 12 MR 48-49
 - Guadalcanal, I-10 IB 62-63
 - Landing operations, I-1 IB 59; I-6 IB 9-13; I-9 IB 24-26; II-3 IB 49-58; 13 TT 14-22
 - New Guinea, I-10 IB 61-62
 - Timor, 8 TT 38-39

- Amphibious operations—Continued
 Japanese—Continued
 Tactics, I-1 IB 59; I-8 IB 47-54;
 I-10 IB 61-64; II-3 IB
 49-53; 22 TT 43
 Wake Island, (illus.) I-8 IB 47-
 54
 United States:
 Landing tactics, 9 MR 10, 12, 13-
 14; 22 TT 46-48; 30 TT 40-41
 Solomons, 22 TT 46-47
- Amphibious tanks:
 German:
 Pz. Kw. VI, "Tiger" equipped as,
 II-1 IB 60, 61; 30 TT 9; 34
 TT 18-19
 Pz. Kw. 38/T, 6 TT 30-31
 Pz. Kw. III equipped as, II-1 IB
 59-60, 61; 30 TT 8-9
 Soviet, 35 TT 15
- Amphibious troop carriers, German,
 1 TT 18-19
- Angle-iron grill AT obstacles, Ger-
 man, (illus.) 17 SS 135, 136
- Angle of impact, definition, in rela-
 tion to armor, 18 TT 30
- Animal-drawn transport:
 Japanese, 25 TT 30-31
 Soviet, 25 TT 30-31
- Annuities, Japanese, 11 SS 16, 17
- Ansaldo* mobile AA gun, 75-mm
 (75/46) Italian, 6 SS 24-25; 7
 TT 34
- Antiaircraft (AA) measures (*see*
also Balloon defenses; Search-
 lights):
- Allied:
 North African operations, 7 MR
 3-8
 Salerno, 13 MR 2-3
 Small-arms fire, effect of, I-8 IB
 24
- Australian, artillery-support role,
 6 MR 52
- Axis positions, effect of air attacks
 on, 12 MR 13-14
- British (*see also* 40-mm AA gun,
 British; 20-mm AA gun, Brit-
 ish):
 Aerial dart gun for training AA
 machine gunners, 33 TT 4-7
 Airborne division, 8 MR 4-5; 10
 MR 5
 Air Defense of Great Britain
 (ADGB), 4 MR 1-10
- Antiaircraft (AA) measures—Con-
 tinued
 British—Continued
 Airdromes in Great Britain, de-
 fense of, 2 MR 8; 7 MR 8-9
 Air-raid warnings, 2 MR 9-13;
 6 MR 10; 9 MR 7
 Armored cars, protection for, 6
 MR 17-18
 AT role, 1 MR 10-11; 2 MR 4-6;
 3 MR 13-14
 BC telescope, 4 MR 5
 Beach assault role, 6 MR 1-8; 8
 MR 11-12
 Britain, defense of, 4 MR 1-10;
 7 MR 9-12
 Camouflage and deception, 3 MR
 14; 8 MR 18-20
 Captured equipment, use of, 9
 MR 5
 Coastal defenses, 6 MR 10-11; 9
 MR 7-8
 Coast artillery in AA role, 1 MR
 20
 Deployment of guns, 10 MR 9-10
 Director, self-propelled, 2 MR 2
 Double parachute link arming
 system, (illus.) 6 MR 13-14
 El Alamein, 5 MR 13-14
 Emplacements, 1 MR 8-9
 Enemy aircraft destroyed by, 2
 MR 3-4
 Enemy aircraft engagement, 2
 MR 13-15; 8 MR 6-8
 Equipment, 7 MR 8-9
 Field-artillery role, 2 MR 6-8
 Fighter cover, 9 MR 5
 Fighter-searchlight cooperation,
 5 MR 12; 7 MR 9-12
 First and Eighth Army problems,
 8 MR 5-22
 4.5-in gun, 4 MR 4
 Glider engagement, 1 MR 11-12
 Ground target engagement, 1 MR
 6-7
 Gun control, 4 MR 7-9
 Gun mountings, 1 TT 2
 Gun operations room, function
 of, 4 MR 7, 8, 9, 10
 Heavy AA employment, 4 MR 11;
 8 MR 10, 13-14, 16; 9 MR 5
 Height finders, 4 MR 4
 Infantry use of AA weapons, 6
 MR 38
 Intelligence function, 4 MR 9-
 10

Antiaircraft (AA) measures—Con.

British—Continued

- Layouts and siting, 4 MR 5-7; 8 MR 14-16
- Light AA employment, 4 MR 11; 8 MR 8-10, 13, 14-15, 16; 9 MR 5-6
- London defenses, effectiveness of, 5 MR 11-12
- Malta, defenses at, 1 MR 1-6; 2 MR 3-4; 3 MR 8
- Merchant ships, 1 MR 7
- Middle East, in, 1 MR 6-7, 8-10; 2 MR 4, 13-15; 3 MR 11-14
- Mountain warfare, in, 11 MR 43-44
- Night fire, effectiveness of, 5 MR 12-13
- North African operations, 4 MR 11; 5 MR 13-14; 7 MR 3-8; 8 MR 5-22
- Organization, 2 MR 1; 3 MR 11; 4 MR 3; 6 SS 73-74
- Passive defense measures, 3 MR 14; 9 MR 4-5
- Physical training for AA units, 1-9 IB 79-83
- Ports, defense of, 9 MR 3-8
- Predictors, 4 MR 4; 9 MR 15
- Radar employment, 4 MR 5, 11; 12 MR 8-9
- RAF Regiment, 7 MR 8-9
- Raid on England, German, 12 MR 9-10
- Range finding, 12 MR 8-9
- Road discipline of AA units, 6 MR 5-6
- Rocket, 3 MR 5-7
- Shrapnel ammunition, effectiveness of, 2 MR 2
- Small-arms fire against aircraft, 9 TT 3-4; 13 TT 26; 14 TT 8
- Stiffkey stick, 4 MR 11; 6 MR 6-7; 9 MR 15; 11 MR 12-14; 12 MR 9
- 3-in mobile gun, 4 MR 4
- 3-in mortar, (illus.) 12 MR 16-18
- 3-in semimobile gun, 4 MR 4
- 3.7-in fixed gun, 4 MR 4
- 3.7-in, mobile gun, 3 MR 3-4; 4 MR 4, 11; 5 MR 16-17

Antiaircraft (AA) measures—Con.

British—Continued

- Tobruk, AA defense, 3 MR 14; 11 TT 4-5
- Training, 8 MR 20-22; 9 MR 9; 6 TT 7-8
- Troop-column protection, 1 MR 9-10
- Twin cable bomb system for balloon barrages, 4 MR 11-13
- 2-in UP (unrotating projectile) rocket, 3 MR 3, 5, 6, 7, 8
- Vickers Mk VIII automatic guns, 4 MR 4
- Warships in AA role, 9 MR 5
- Waterproofing equipment, 6 MR 5
- Canadian:
- 40-mm AA gun, QF, Mk I, 5 MR 15
- 3.7-in AA gun, QF, Mk II, 5 MR 15
- 3.7-in self-propelled gun, 6 MR 18-19
- Finnish, 6 TT 45
- French, 90-mm AA gun used by Germans as AT weapon, 4 TT 3
- German (*see also* 88-mm multipurpose gun, German; 50-mm AA/AT gun, German; 20-mm AA/AT gun, German):
- AA artillery, conclusions regarding, 10 SS 106-107
- Adapter used with machine gun (illus.) 14 SS 53, 56, 57
- Aerial defense with all weapons, 32 TT 2-4
- Air-defense zones of the West Wall, (illus.) 17 SS 53, 125, 126-129
- Airdrome protection, 15 TT 6
- Air-force component, 10 SS 2-11; 28 TT 4
- Air-raid-warning system, 10 SS-102; 11 TT 8-9; 21 TT 3, 5
- Air signal troops, 11 TT 8
- Area smoke-screen protection for cities, 38 TT 14-17
- Army *Flak* battalion, 13 TT 3-4
- Army ground forces contingent, 10 SS 11-13
- AT role in desert, 6 SS 9-18
- Ceilings, 25 TT 5-8; (illus.) 35 TT 6

Antiaircraft (AA) measures—Con.

German—Continued

- Coastal six-gun layout, (illus.) 10 SS 91
- Deception and concealment of, 10 SS 79-80
- Directors, fire, (illus.) 10 SS 46-49; 6 TT 8; 14 TT 7
- Dummy guns and positions, use of, 10 SS 88
- 83.5-mm AA gun (Czech) 21 TT 4, 6
- Emplacements, 10 SS 78-79; 17 SS 128, 129
- Field army, with, (illus.) I-10 IB 34-36; II-3 IB 26-36; 10 SS 60-80; 28 TT 9; 41 TT 41-49
- Fire-control methods (*see also individual weapons*), 10 SS 23-28, 46-51, 92-94; 28 TT 8; 35 TT 6-7
- Fla-Bataillone*, AA battalion, of infantry, 7 TT 7; 13 TT 3-4; 28 TT 4
- Flakartillerie*, AA artillery of the German Air Force, 10 SS 2-11; 28 TT 4
- Flak* directional arrows to guide fighter planes, 22 TT 3-6
- Flakgruppen*, 10 SS 84; 28 TT 7
- Flak* intelligence service, 10 SS 101-102
- 40-mm AA/AT gun, *Bofors*, 21 TT 4
- 40-mm AA gun, 10 SS 18, 34
- 47-mm AA/AT gun (Czech), 6 SS 9, 98
- 47-mm AA gun, 10 SS 18, 35; 5 TT 15
- 4.1-in naval AA gun, 9 TT 4
- Ground deployment as AA protection, 34 TT 4
- Ground targets, use against, 10 SS 73-78; 6 TT 8-9
- Heavy AA batteries, I-3 IB 19-20; II-3 IB 27-33; 11 TT 5-6; 16 TT 4; 20 TT 5-7; 35 TT 5-6; 41 TT 45-47
- Heimatflak* units, 20 TT 4-5
- Home defense, 10 SS 81-105; 20 TT 4-5; 28 TT 7
- Layouts, (illus.) 10 SS 78-79, 89-91

Antiaircraft (AA) measures—Con.

German—Continued

- Light AA guns, employment, 11 TT 5-6; 35 TT 4; 41 TT 47-48
- Light cannon, I-3 IB 20
- Low-flying aircraft, defenses against, 30 TT 6
- Luftwaffe* units, 5 TT 7; 7 TT 7; 8 TT 17
- Machine guns in AA role, I-3 IB 20; 35 TT 3, 4, 6
- Mission of ground AA defenses, 11 TT 5
- Mobile guns, 10 SS 86, 88
- Naval, 10 SS 13; 9 TT 4-5
- 150-mm AA gun, 10 SS 19, 43-45; 35 TT 6
- 105-mm AA gun, 10 SS 19, 43-45
- 1.46-in naval AA gun, 9 TT 4
- 128-mm AA gun, 26 TT 4
- 127-mm AA gun, 10 SS 19, 45
- Organization, 10 SS 1-13, 84-85; 5 TT 5-7; 28 TT 4-9
- Panzer* division, employment of AA forces by, 8 TT 16-18
- Positions, 10 SS 78-79; 17 SS 128-129
- Predictors, 26 TT 4; 40 TT 1-2
- Radio-location, equipment, 10 SS 5, 50-51
- Railway *Flak*, 5 TT 7-8; (illus.) 17 TT 5-11; 18 TT 3
- Railway trains, defense of, 10 SS 70-72
- Range, 10 SS 64, 65; (illus.) 25 TT 5-8; (illus.) 35 TT 3-6
- Range-finder, 1-meter-base, (illus.) 10 SS 25-28
- Rear-area installations, protection of, 10 SS 69-70, 88-92
- Rope barrage, 19 TT 4
- Self-protection by all troops, II-2 IB 18-20
- Sevastopol, employment at, 7 TT 1-2
- 75-mm AA gun, 6 SS 100; 10 SS 19, 36
- 0.79-in AA naval machine gun, 9 TT 4-5
- Shells, area burst of, 40 TT 2
- Sights, 10 SS 49-50; (illus.) 2 TT 8-11; 3 TT 3-4; 41 TT 4-6

Antiaircraft (AA) measures—Con.
German—Continued

- Small-arms fire against aircraft,
II-2 IB 20; 9 TT 3-4; 13
TT 26; 14 TT 8; 35 TT 3, 4
Sound-locator apparatus, I-3 IB
18-19
Static guns, use of, (illus.) 10
SS 86, 87
Stereoscopic fire director (illus.)
10 SS 46-49; 6 TT 8; 14 TT
7; 26 TT 4; 40 TT 1-2
Testing AA gun barrels in com-
bat areas, 34 TT 35-36
37-mm AA/AT gun, 6 SS 9;
(illus.) 10 SS 18, 28, 30-34,
77-78; 9 TT 42; (illus.) 25
TT 36-38
3.5-in AA naval gun, 9 TT 4
Towers, use of, 10 SS 86; (illus.)
15 SS 85-86, 87, 88; (illus.)
17 SS 127, 128
Training infantry squad in pro-
tection against aircraft, 9
SS 76-77
Transition from AA role to other
roles, 10 SS 62-63
Trends in weapon developments,
10 SS 14-17
Troop-column protection, II-2,
IB 18-20; 10 SS 64-66
Troop-train protection, 5 TT 7-8
20-mm mountain dual-purpose
gun Model 38, 13 TT 5-6
Warships, defense of, 9 TT 4-5
Weapons, classification of, 10 SS
16-17

Italian:

- 90-mm (90/53) AA/AT self-pro-
pelled gun, *Semovente*, 25
TT 48; (illus.) 26 TT 11-12
102-mm (102/35) AA and coast-
defense gun, 6 SS 26, 111; 7
TT 34-35; 11 TT 44
75-mm (75/50) AA gun, 6 SS
111; 11 TT 44
75-mm (75/49) AA/AT *Skoda*
gun, (illus.) 34 TT 33-35
75-mm (75/46) AA gun, Model
34, 6 SS 111; 11 TT 44
75-mm (75/46) AA mobile gun,
Ansaldo, 6 SS 24-25; 7 TT
34
75-mm (75/27) AA gun, truck-
mounted, 25 TT 48

Antiaircraft (AA) measures—Con.
Italian—Continued

- 76-mm (76/40) AA/AT gun, 6
SS 26; 7 TT 35
76-mm (76/40) AA gun, 6 SS
111; 11 TT 44
37-mm (37/54) AA gun, *Breda*,
6 SS 110; 11 TT 43
37-mm (37/54) AA gun, light
double-barreled, 6 SS 25-26;
7 TT 34
20-mm AA/AT gun *Breda*, I-3
IB 59; 11 TT 42; 28 TT 32
20-mm AA/AT gun, *Isotta*
Fraschini, 28 TT 32
20-mm AA gun, *Breda*, British
use of, 3 MR 12
20-mm AA gun, *Scotti*, I-3 IB
59
Japanese:
AA Defense Association, 17 TT
17
Aleutian Islands, AA fire over,
4 TT 5
Bomb used against grounded air-
craft, 41 TT 32
Camouflage, I-10 IB 78-79
.50 cal. machine gun, 12 TT 7
Fighters, tactics against, II-2 IB
56
5-in AA naval gun, 8 TT 19
4-in AA naval gun, 8 TT 19
Gun installations, 31 TT 2-8
Height finder, (illus.) 39 TT
30-32
Jungle troops, defense instruc-
tions to, I-11 IB 75
Landings, protection for, II-3 IB
62
Observation parties, I-8 IB 58;
II-4 IB 20
Organization of regiment, 32 TT
4-5
Radio direction-finders in the
Solomons, I-4 IB 12
78-in AA naval gun, 8 TT 19
75-mm AA gun, (illus.) I-8 IB
72-74; 10 TT 34; 12 TT 6-7
Ships, I-4 IB 12; II-3 IB 60-61
13-mm machine gun, Model 93
(1933) twin heavy, (illus.)
19 SS 127-134, fol. 241
13.2-mm AA machine gun,
Hotchkiss type, I-8 IB 75-
76; 10 TT 33

- Antiaircraft (AA) measures—Con.
 Japanese—Continued
 3-in AA naval gun, 8 TT 19
 25-mm pom-pom *Hotchkiss*-type gun, (illus.) I-8 IB 74-75; 12 TT 7
 20-mm AA/AT gun, Model 98, (illus.) II-1 IB 21-24; (illus.) 19 SS 177-187, 241; 10 TT 33; 38 TT 2-6
 Warships, defense of, II-3 IB 60-61; 8 TT 19-22
 New Zealand, I, 10 IB 87-91
 Soviet:
 Artillery vs. enemy planes, 37 TT 8-9
 Methods, 3 TT 41-42; 39 TT 5-6
 Motor column on the march, defense of, 12 TT 4-6
 United States:
 Airborne AA units, 9 MR 15-16
 North African campaign, 9 MR 9-16
 Philippine Islands defense, 12 MR 38, 39, 43, 49
 Tactics in combat, 11 MR 9-10; 30 TT 40
 Anticoncrete shells, 150- and 210-mm, German, 18 TT 23-24; 32 TT 34-35
 Antifreeze, German use of Diesel oil as, 21 TT 26
 Antifreezing methods used on aircraft, German, I-6 IB 61-62
 Antigas measures (*see also* Chemical warfare; Decontamination; Gas):
 British training, 1 MR 21-25
 German:
 Antigas sheet, 29 TT 16
 Cellaplan, antigas material for clothing, 17 TT 16
 Civilian protection, 16 SS 46-47; 17 TT 15-16
 Clothing, 16 SS 40-42; 18 SS 177; 13 TT 49-50; 15 TT 11-13; 17 TT 16
 Collective protection, 16 SS 42-43
 Equipment, I-7 IB 32-34
 Eyeglasses for use with gas mask, 5 TT 19
 Gas detectors, 16 SS 38-39; 18 SS 177; (illus.) 23 TT 11, 12
 Antigas measures—Continued
 German—Continued
 Gastläufer, impregnated paper, 16 SS 43
 Gas masks, (illus.) 16 SS 36-38; 18 SS 175-176; 5 TT 19; 17 TT 16, 18; 29 TT 16
 Gasproofing fortifications of West Wall, 17 SS 83
 Gas-proof shelters, 17 TT 15-16
 Gas sentries, 16 SS 5
 “*Gastilt*,” 16 SS 42; 15 TT 12-13
 Horse protection, 16 SS 45; 18 SS 176-177; 17 TT 18; 25 TT 15
 Losantin tablets for treatment of contaminated skin, I-4 IB 52-53; I-7 IB 33; 16 SS 43; 29 TT 16
 Parachute-troop equipment, 13 TT 46, 49-50
 Rhodasopa antigas soap, 17 TT 16
 Training, I-7 IB 32-34; 16 SS 4-5
 Warning flags for gassed areas, (illus.) 24 TT 11-12
 Wax-paper gas cape, 15 TT 13
 Italian:
 Civilian protection, 16 SS 83; 17 TT 17
 Clothing, (illus.) 16 SS 75-76, 77
 Collective protection, 16 SS 76, 78
 Gas alarms, 16 SS 82
 Gas detectors, 16 SS 74-75
 Gas masks, (illus.) 16 SS 70-74; 17 TT 17; 29 TT 17
 Regimental units, 16 SS 51-52
 Japanese:
 Civilian protection, 16 SS 147-148; 17 TT 17
 Clothing, 16 SS 141-142
 Collective protection, 16 SS 142
 Gas alarms, 16 SS 141
 Gas detectors, 16 SS 139-141
 Gas masks, (illus.) 16 SS 135-139
 Military personnel, I-2 IB 47-48; I-3 IB 52-53; I-10 IB 85; 22 TT 18-19
 United States, clothing, 1 TT 8
 Antilice clothing, German, 36 TT 33

- Antilifting device fitted to French AT mine, 22 TT 27
- Antiparachutist tactics:
British lessons from Crete, 8 TT 1-4
German, II-3 IB 16-21; II-4 IB 54-56
Japanese, I-8 IB 60; II-4 IB 6
- Antipersonnel bombs. *See* Bombs.
- Antipersonnel mines. *See* Mines.
- Antipersonnel switch, British, (illus.) I-12 IB 80-82
- Antitank (AT) measures (*see also* Antitank obstacles; Mines):
AT gun, evaluation of, 41 TT 13-16
British:
AA in AT role, 1 MR 10-11; 2 MR 4-6; 3 MR 13-14
Air force AT activities in Middle East, 8 MR 1-4
AT guns in defense, 12 MR 33; 6 SS 85-86
Attack against German heavy tank, *PZ. KW. IV.* 30 TT 7-8
Batteries of airborne division, 10 MR 5
Desert tactics, 6 SS 73-86; 15 TT 32
El Alamein, 1 MR 12; 5 MR 17-18
Field artillery in AT role, 1 MR 13; 7 MR 13-15
57-mm AT gun (6-pounder), 4 MR 25-26, 28; 6 MR 39, (illus.) 6 SS 29-30; 8 TT 46-47; 16 TT 24
40-mm (2-pounder) gun, 5 MR 16; 6 MR 39; 6 SS 26-29, 78-79
Hawkins No. 75 grenade, (illus.) 9 MR 24-26; 35 TT 13
Hurricane IID plane in AT role, 8 MR 1-4
Infantry AT projector (PIAT), 6 MR 39; (illus.) 7 MR 45-48
Infantry division, AT guns of, 3 MR 25; 6 MR 39
Malaya, tactics in, 13 TT 24
Medenine, role of AT weapons in Battle of, 7 MR 13-15
Middle East, measures in, 1 MR 12-14
Mountain warfare, 11 MR 43
- Antitank (AT) measures—Con.
British—Continued
Positions for AT guns, I-5 IB 78-80
Remote-control device for AT guns, 8 TT 23-24
17-pounder, 6 MR 39; 13 MR 3-4
Siting of AT weapons, 13 TT 4-5
Spotlight AT laying apparatus, (illus.) 27 TT 6-7
Tactical employment of AT guns, I MR 13-14
3.7-in AA gun used as, 5 MR 16-17
Tunisia, AT artillery in, 10 MR 46
25-pounder, 5 MR 16
Warning system, 1 MR 12
Finnish defense, 6 TT 43-45; (illus.) 21 TT 8-11
French:
90-mm (AA) gun used by Germans as AT weapon, 4 TT 3
German (*see also* 88-mm multipurpose gun, German; 50-mm AA/AT gun, German; 50-mm AT gun, German; 37-mm AT gun, German; 20-mm AA/AT gun, German)
AA in AT role, I-9 IB 53-54; II-3 IB 27, 30, 33-34; 10 TT 50; 21 TT 6; 32 TT 5
Ammunition developments, I-9 IB 56-58; 26 TT 9, 10-11
AP 40 AT shot, (illus.) 18 TT 30, 33; 24 TT 4
Armor penetration of AT guns, 12 TT 10-11
Artillery in AT role, I-8 IB 19
Assault decoration for tank hunters, (illus.) I-12 IB 32
AT gun mounted on ski runners, (illus.) 18 SS 208
AT guns used with tanks, (illus.) 27 TT 8
AT magnetic charge, (illus.) 23 TT 3-6; 36 TT 5
AT protection of defensive zone, 17 SS 18-20
AT role in defense, 2 SS 24-25
Attacking the U. S. M-3 General Lee tank, (illus.) 41 TT 6-8
Defense against armored division, 2 SS 31-34

Antitank (AT) measures—Con.

German—Continued

- Defense of towns, 37 TT 37
 Defense within the main defensive belt, 39 TT 47
 Desert tactics, 5 SS 8-19, 35, 39-43, 48-49; 6 SS 86-87; 14 TT 10-11; 32 TT 6
 Developments in AT guns, I-9 IB 53-55; 26 TT 4-11
 88-mm AT gun ("Hornet"), 38 TT 7
 83.5 mm AA (Czech.) gun, 21 TT 4, 6
 Emplacements, (illus.) 6 TT 10, 11; (illus.) 17 SS 118-121; 28 TT 10-11
 Equipment, 5 TT 9-17; 10 TT 41
 Explosives used by tank hunters, (illus.) I-12 IB 26-30
 40-mm AA/AT gun *Bofors*, 21 TT 4
 47-mm AA/AT gun (Czech), 6 SS 9, 98
 47-mm AA gun, 5 TT 15
 47-mm AT self-propelled gun, 5 TT 12; 9 TT 42; 17 TT 13; 25 TT 39-40
 42/28-mm AT tapered-bore gun, 7 TT 3; 9 TT 42; 17 TT 12; (illus.) 19 TT 7-8; 37 TT 4-5; 41 TT 25
 Foxholes in West Wall, (illus.) 17 SS 103-105
 Incendiary agents used by tank hunters, I-12 IB 24-25
 Infantry tactics, (illus.) 9 SS 77-79; I-8 IB 19; 10 TT 50-51
 Infantry weapons, 6 MR 39
 Layout of AT gun positions, 32 TT 6
 9-mm French AA gun used as AT gun, 4 TT 3
 Organic AT protection, I-2 IB 19-20; 5 TT 9-17
 Organization of AT units, 5 TT 9-10; 10 TT 42-43; 34 TT 25-28
 Performance of AT guns against British Matilda tank, 6 SS 94-95; 3 TT 9-10
 Principles of AT defense, 27 TT 22
 Rearguard action in Africa, 22 TT 10

Antitank (AT) measures—Con.

German—Continued

- 7.92-mm AT rifle (illus.) 14 SS 34-40; 18 SS 160; (illus.) 5 TT 10-11; 9 TT 40; (illus.) 30 TT 28-29; (illus.) 37 TT 32-34
 75/55-mm AT gun (illus.) 40 TT 5-8
 75-mm AT gun I-9 IB 54-55; (illus.) I-11 IB 38-41; 18 TT 4; 22 TT 6; (illus.) 25 TT 9-12, 40
 75-mm M-1897 gun, French, used as an AT gun, 34 TT 6-7
 76.2-mm gun, Soviet, (illus.) 6 SS 20, 21, 102; 8 TT 24-26; 17 TT 13; (illus.) 21 TT 6-7; (illus.) 25 TT 41-42; (illus.) 29 TT 7-8
 Simultaneous use of guns of various calibers, 32 TT 5, 7
 Smoke weapons, I-7 IB 58-60; I-12 IB 24-25
 Tactical employment, I-8 IB 18-19; I-11 IB 27-31; II-2 IB 30; (illus.) 5 SS 8-19, 35, 39-43, 48-49; 6 SS 76; 10 TT 45-51; 14 TT 10-11; 18 TT 3, 18; 32 TT 6
 Tank-destroyer-battalion organization, 6 SS 107
 Tank-hunting tactics, (illus.) I-12 IB 19-32; 10 TT 50-51; (illus.) 23 TT 31-47; (illus.) 29 TT 8-9
 Tapered-bore gun, developments, (illus.) 6 SS 8-9, 98; (illus.) 5 TT 13, 14; 9 TT 41; 17 TT 11-12; 25 TT 38; 26 TT 6-7
 37-mm AA/AT gun, 6 SS 9; (illus.) 10 SS 18, 28, 30-34, 77-78; 9 TT 42; (illus.) 25 TT 36-38
 37-mm AA gun, 5 TT 15
 28/20-mm AT tapered-bore guns, (illus.) 6 SS 8-9, 98; (illus.) 5 TT 13, 14; 9 TT 41; 17 TT 11-12; 25 TT 38
 20-mm dual-purpose mountain gun, Model 38, 13 TT 5-6
 Training, 10 TT 43-45; 26 TT 49
 Italian:
 47-mm AT gun, I-3 IB 59; (illus.) 15 TT 7-9

Antitank (AT) measures—Con.

Italian—Continued

- 47-mm (47/32) AT gun, 6 SS 110; 11 TT 43
- 90-mm (90/53) AA/AT self-propelled gun, *Semovente*, 25 TT 48; (illus.) 26 TT 11-12
- 75-mm (75/49) AA/AT *Skoda* gun, (illus.) 34 TT 33-35
- 76-mm (76/40) AA/AT gun, 6 SS 26; 7 TT 35
- 20-mm AA/AT gun; *Breda*, I-3 IB 59; 11 TT 42; 28 TT 32
- 20-mm AA/AT gun, *Isotta-Fraschini*, 28 TT 32
- 20-mm AT rifle, *Solothurn*, (illus.) 5 TT 18; 7 TT 35; 11 TT 42

Japanese:

AT rifle, employment, II-2 IB 68-69

Equipment, 1 TT 3

Explosive weapons, II-2 IB 56

Flame throwers, I-8 IB 66

47-mm AT gun, 19 TT 5-6

47-mm AT gun, Model 1 (1941), (illus.) II-3 IB 44-45; (illus.) 19 SS 206-210

Landing barges, operation of AT guns from, I-10 IB 60-61

Organization of AT company, 1 TT 3-4

Tactics, I-4 IB 6-7; II-2 IB 56; 19 TT 5-6

13-mm AT rifle, *Arisaka* (1939), 10 TT 33

37-mm AT gun, Model 94 (1934), (illus.) 19 SS 194-206, 241; 7 TT 20; 10 TT 34

20-mm AA/AT gun, Model 98, II-1 IB 21-24

20-mm AA/AT machine cannon, Model 98 (1938), (illus.) 19 SS 177-187; (illus.) 38 TT 2-6

20-mm AT gun, (illus.) 28 TT 31

20-mm AT rifle, Model 97 (1937) (illus.) 19 SS 170-177, 241

Polish *Tankbuchse* AT rifle, 14 SS 34, 38

Soviet:

Air support of AT defenses, I-5 IB 75; 35 TT 12

AT gun, evaluation of, 41 TT 13-16

Antitank (AT) measures—Con.

Soviet—Continued

AT rifle, use of, I-3 IB 81-82; I-5 IB 75-77

85-mm AA guns, 3 TT 47-48

Organization, 31 TT 9-10

Reserves, 31 TT 10; 35 TT 11

Tactics, I-5 IB 71-77; II-2 IB 1-4; 3 TT 32-33; 7 TT 2-3; 9 TT 6; 19 TT 4-5; 31 TT 8-10; 35 TT 9-13; (illus.) 40 TT 2-4

United States:

AA in AT role, 11 MR 10

Destruction of disabled German tanks, 27 TT 8-9

Antitank mines. *See* Mines.

Antitank obstacles (*see also* Mines):

British methods of dealing with road obstacles, I-12 IB 72-74

Finnish tank traps over frozen rivers, 21 TT 8-11

German:

Angle-iron grill, (illus.) 17 SS 135, 136

British demolition and gapping of 31 TT 16-18

Camouflage and deception, 15 SS 46-48; (illus.) 18 SS 121-122

Chevaux-de-frise, II-1 IB 42; (illus.) 15 SS 21, 41-42; (illus.) 17 SS 135, 137

Coastal defenses, II-1 IB 47-50; 15 SS 40-48; 35 TT 7-9

Concrete, II-1 IB 47-50; 15 SS 43-45; 35 TT 7-8

Defense areas (*see also* Coastal defenses), use in, 39 TT 47, 49, 50

Ditches, I-8 IB 19-20; 15 SS 40-41; (illus.) 17 SS 130, 131; (illus.) 18 SS 121-122

"Dragon's teeth," (illus.) II-1 IB 49-50; 15 SS 40, (illus.) 49; (illus.) 17 SS 130, 132-134; 35 TT 8

Logs and rails, II-1 IB 50; 15 SS 42-43

Map symbols for, I-6 IB 65

Permanent fortifications, 21 TT 41-42

Road blocks, 15 SS 40-48; (illus.) 17 SS 135, 138; 35 TT 8

Antitank obstacles—Continued

German—Continued

Snow and ice, employment in, (illus.) 18 SS 100-104; (illus.) 36 TT 16-20

Snow walls, (illus.) 18 SS 100-101; (illus.) 36 TT 19-20

Steel tetrahedra and rails, 35 TT 9

Terrain features, (illus.) 17 SS 129, 130, 131

West Wall, (illus.) 17 SS 129-138

Japanese:

Doctrine, 10 TT 11

Road blocks, I-4 IB 15-17; (illus.) 7 TT 19-20

Trench tank traps, I-4 IB 17-18

Soviet:

Barbed-wire barricades, (illus.) 12 TT 9

Chevaux-de-frise, (illus.) 26 TT 25, 26

Defense lines, use in, (illus.) 3 TT 32, 35, 36; (illus.) 26 TT 24-26

Ditches, 12 TT 9-10; (illus.) 23 TT 18, 19

Escarpments, (illus.) 12 TT 8

X-shaped obstacles, (illus.) 3 TT 35-36

AP ammunition. *See* Ammunition, and *individual weapons*.

Approach tactics:

British, I-12 IB 76; II-1 IB 93-94

German:

Infantry tactics, II-1 IB 64

In wooded country, I-8 IB 6-7

Japanese:

By night, I-3 IB 46-47; I-10 IB 75

In jungle, I-6 IB 1-3

Raiding-demolition detachments, II-4 IB 15

Arakan sector, Burma. *See* Burma.

Arctic clothing, Japanese, I-11 IB 60; II-2 IB 41, 50-51

Area smoke screens, German, 18 TT 39-46; 24 TT 8-11; 38 TT 14-17

Arisaka 90, 12.7-mm machine gun, heavy, Japanese, 8 TT 39, 40

Arisaka Sampachi 6.5-mm rifle, Model 38 (1905), Japanese, 19 SS 2, (illus.) 25-27, 29-38, 234, 235, 236, 238, 241; 10 TT 33; 38 TT 39-40

Arisaka 6.5-mm carbine, Model 44 (1911), Japanese, 10 TT 33

Arisaka 13-mm AT rifle (1939), Japanese, 10 TT 33

Armament. *See* Aircraft; Armored cars; Landing craft; Tanks; and *individual units*.

Armed forces propaganda, German, 30 TT 22-25

Armor (*see also* Aircraft; Armored vehicles; Landing craft; Self-propelled guns; Tanks):

Body, British report on development, 6 MR 40-41

British glossary of terms used in relation to, 18 TT 30-36

Coins (U. S., British, and French) as measurement of thickness, 23 TT 6

Spaced, British report on use, 39 TT 32-33

Armored cars:

British, AA protection for, 6 MR 17-18

German:

Eight-wheeled command vehicle, (illus.) 32 TT 8, 11-12, 13, 14-17

Eight-wheeled heavy (illus.), 32 TT 8, 11-12, 13, 14-17

Eight-wheeled, with smoke generators, 40 TT 17

Four-wheeled light, 38 TT 10, 14

Protective clothing for crew, 1 TT 22

Railroad patrol car, (illus.) II-1 IB 68-70

Six-wheeled medium (illus.), 39 TT 6-9

Tactics in North Africa, I-4 IB 32

Japanese, speed and fording ability, 2 TT 20

Sand channels, 1 TT 18

Armored forces (*see also* Armored cars; Tanks):

British: Communications, 3 MR 34-35; 4 MR 14

Desert tactics, I-2 IB 73-79; 12 MR 33-34; 6 SS 60-61; 13 TT 35; 14 TT 30; 15 TT 32-33; 16 TT 23-24

El Alamein, operations, 2 MR 15-16; 2 MR 49-60

Armored forces—Continued

British—Continued

Organization, 3 MR 15-16; 6 MR 38; 7 MR 12-13; 13 MR 9

Radio set No. 19, 3 MR 34-35

Smoke, use of, 5 MR 19-20

Canadian, reorganization of division, 8 MR 51

Dust, effects on motors, I-4 IB 85-86

German:

AA forces, employed by *Panzer* division, 8 TT 16-18

Artillery regiment of *Panzer* division, 7 TT 4

Beuteberge - Abteilung, salvage section, 9 TT 48; 18 TT 28

Characteristics in battle, 2 SS 19-25

Communications, 2 SS 20-21

Corps, duties of, 2 SS 18

Defense against, 2 SS 31-34

Development, 2 SS 6-13

Division, duties of, 2 SS 15-19

Division formation on desert, 6 SS 53-54

Driving in Libya, suggestions for, I-4 IB 28-31

French General Staff study, 2 SS v-vi, 1-34

French mechanized equipment, use of, 9 TT 28-29

Fuel consumption in Egyptian-Libyan campaign, 14 TT 49

Groupment, duties of, 2 SS 15-18

Instructions, combat, for *Panzer* army operations in Tunisia, 25 TT 21-24

Maintenance and repair services, I-4 IB 33; I-6 IB 63-64; I-8 IB 34-39; I-11 IB 47; 4 TT 8, 10-15; 10 TT 24-32; 11 TT 37-40; 12 TT 37; 37 TT 30-31; 38 TT 35

March discipline of motorized troops, 24 TT 51-53

Officers, 2 SS 19-20

Organization, 2 SS 14-18; 6 SS 2-3

Panzergrenadier. See Infantry, motorized, German.

Principles, 2 SS 1-5

Rifle company of an armored reconnaissance battalion, 24 TT 4-6

Armored forces—Continued

German—Continued

Security measures of a division, 12 TT 32-33

Supply of 21st Armored Division, 16 TT 34

Tactics, I-1 IB 7-10; (illus.) I-6

IB 44-51; I-8 IB 15-18; 2

SS 6-34; 6 SS 52-60; 2 TT

18-19, 30-33; 3 TT 7-8; 7

TT 22-29; 13 TT 35; 14 TT

30; 16 TT 14-15, (illus.) 25-

29; 17 TT 28-31; 31 TT 11

Uniforms, I-3 IB 6; 9 TT 29

Italian, organization for desert warfare, 6 SS 4

Maintenance and repair in the field, 2 TT 21

Soviet, organization, 8 MR 57

United States, reconnaissance, 30 TT 39-40

Armored infantry. See Infantry; Infantry, motorized.

Armored OPs, British, 1 MR 19-20

Armored portable pillbox, "Armored Crab," German, (illus.) 40 TT 20-23

Armored troop carriers, German, field patching of, (illus.) I-6 IB 63-64

Armored-turret fortifications, German, (illus.) 15 SS 66-67, 71, 72, 73; (illus.) 17 SS 73-76; 21 TT 39-40

Armored vehicles (see also Armored cars, Tanks):

Fumes, Canadian investigation of, 9 TT 31

German, reconnaissance, 6 SS 40-43

Japanese, speed and fording ability, 2 TT 20

Armored-workshop squadron, German, 4 TT 10-12

"Armored Zepp," German railroad patrol car, (illus.) II-1 IB 68-70

Armor-piercing cap, definition, (illus.) 18 TT 32, 33

Arms containers for dropping parachutists' equipment, German, 7 SS 30-31, 103-104

Army-Navy relations, Japanese, II-3 IB 69

Army Welfare and Education Department, British, 11 SS 37, 53-54, 58

- Army War College, officers' training, Japanese, 11 SS 7-8
- Arnim, Col. Gen Jürgen von :
 Order for improvement of defensive positions, II-2 IB 12-15
 Orders for dispersal as precaution against air attacks, II-2 IB 17-18; 34 TT 4
- Arrowhead formations, infantry, German, 4 SS 21, 57; 16 TT 11
- Artillery. *See* Assault guns; Coast artillery; Field artillery; Field guns; Gun-howitzers; Howitzers; Mortars; Mountain weapons; Self-propelled artillery.
- Aryanism, German doctrine, I-3 IB 1-2
- Asia, (*see also* Burma; China; India; Malaya) health rules for, II-3 IB 70-85
- Assault tactics. *See* Tactics.
- Assault courses, British training, I-6 IB 86
- Assault detachments :
 German, I-12 IB 33-36; 14 TT 26-28; 16 TT 11-13; 27 TT 24
 Japanese, operation during landings, II-3 IB 54
- Assault guns, 75-mm, German. *See* 75-mm assault guns, German
- Assault howitzers :
 German :
 150-mm self-propelled, *Brumbar*, (illus.) 41 TT 16, 17
 105-mm self-propelled (*Stu. II. 42*), 36 TT 11-13
- Assault tactics, Japanese, I-7 IB 16; II-2 IB 55
- Assault troops, German, motorized infantry used as, 39 TT 27
- Assembly area, protection of, German squad exercises, (illus.) 9 SS 83-84, 85
- Atabrine, treatment for malaria, 20 TT 25; 26 TT 39-40
- Atolls (coral islands), Japanese defense plans, (illus.) 37 TT 45-52
- Attack methods. *See* Tactics and arms and services.
- Attu (*see also* Aleutian Islands) :
 Camouflage practices of Japanese and U. S. forces, II-2 IB 39-43; 40 TT 17-18
 Cave emplacements, Japanese, (illus.) I-11 IB 65, 66, 67
- Attu—Continued
 Holtz Bay, Japanese forces and installations at, 27 TT 38-41
 Japanese soldiers' characteristics, II-2 IB 33-34
 Japanese tactics, I-12 IB 48-53; II-2 IB 35-39; 28 TT 33-34
 Loss of life caused by souvenir hunting of U. S. soldiers, II-2 IB 72-74
 Map, 27 TT 40
 Massacre Bay, Japanese forces, 27 TT 38-41
 Sarana Bay, Japanese forces, 27 TT 38
 Temnac Bay, Japanese operations, I-12 IB 51
 U. S. communications, Japanese disruption of, II-2 IB 39
 Weapons, installations, and equipment, Japanese, I-11 IB 64, 67-70; II-2 IB 41, 48-50; 27 TT 38-41
- Austen 9-mm submachine gun, Australian, (illus.), 1 MR 38-40
- Automatic meteorological transmitter, German, 16 TT 37-38
- Auxiliary AA fire director, German, 10 SS 49
- Aviation gasoline, German, 22 TT 36-37; 30 TT 21
- Awards and decorations, (illus.) I-12 IB 32; (illus.) 11 SS 16-20

B

- Badges, identification, Japanese, I-9 IB 30
- Bailey bridge. *See* Bridges, British.
- Ballistic cap, definition, (illus.) 18 TT 32, 33
- Balloon-cable cutters, German, 5 MR 3; (illus.) 17 TT 1-2
- Balloon defenses (*see also* Balloons, barrage) :
 Balloon barrage, function, organization, control, and effects, 1 MR 8; 5 MR 1-8; 6 MR 7-9
- British :
 Aircraft warning devices, 5 MR 7
 Coastal convoys, 5 MR 8-9
 Comments on, 5 MR 1-11
 Coordination with AA fire, 5 MR 5
 Double parachute link arming system, (illus.) 6 MR 13-14

- Balloon defenses—Continued
- British—Continued
- Middle East, 6 MR 7-10
 - Moving targets, 5 MR 8-11
 - North Africa, 8 MR 11
 - Overseas base port, 6 MR 7-10; 9 MR 6-7
 - Psychological effect, 5 MR 3; 6 MR 8
 - Railway trains, (illus.) 5 MR 9-11; 6 MR 9
 - Responsibility for, 1 MR 8
 - Road transports, 5 MR 11; 6 MR 9
 - Ships, 5 MR 8
 - Target disclosure by, 5 MR 6
 - Twin-cable bomb system, 4 MR 11-13
 - WAAF role, 1 MR 8
 - Warnings to friendly aircraft regarding, 5 MR 7; 6 MR 12
- German:
- Barrage-balloon unit, organization of, 10 SS 11
 - Heimatluftsperrbatterien*, balloon-barrage batteries, 20 TT 4
 - Types and uses, (illus.) 10 SS 56-59; 11 TT 7; 28 TT 9
- Balloons, barrage (*see also* Balloon defenses):
- British:
- LZ ballonet balloon, 5 MR 1, 2, 3, 4, 6; (illus.) 6 MR 13-14
 - Mk VI pressure balloon, 5 MR 1, 2, 3, 4, 8, 9; 6 MR 7, 8, 9
- German:
- Description, (illus.) 10 SS 57-59
 - Development and purpose, 10 SS 56-57
 - Employment, I-3 IB 21; 10 SS 99-100
 - Units, 10 SS 11
- Balloons, captive, use for artillery observation, 8 SS 25
- Bamboo, used as building material in South Pacific, 33 TT 16-17
- Bandages, foot, German, (illus.) 11 TT 30-31
- Bangalore torpedoes:
- German, II-3 IB 37-38; (illus.) 14 SS 51-52
 - Japanese, (illus.) I-10 IB 83-84; II-1 IB 15; 19 SS 58-61
- Barbed-wire obstacles:
- German:
- Coastal defenses, (illus.) II-1 IB 40-46; 15 SS 19-24
 - Electrified, II-1 IB 44; 15 SS 22; 36 TT 18, 19
 - Field defenses, 39 TT 47, 49
 - Infantry obstacles, 21 TT 42
 - In snow and frozen ground, (illus.) 18 SS 101-103; (illus.) 36 TT 16-19
 - Types, (illus.) II-1 IB 42-46
 - West Wall, (illus.) 17 SS 139-141
- Hessian Carpet, British, for crossing, (illus.) 7 MR 29-31
- Penetration by New Zealand troops, methods of, I-6 IB 92-95
- Scaling device, Japanese, I-1 IB 68-69
- Soviet, (illus.) 12 TT 8
- Barges. *See* Landing craft.
- Barrage, artillery, defensive, German, I-10 IB 17-18
- Barrage balloons. *See* Balloons, barrage.
- Barrage mortar, 70-mm, Japanese, (illus.) II-2 IB 44-48; (illus.) 19 SS 146-150
- Barrage, rope, German, 19 TT 4
- Barrage, smoke, German, in Libyan Campaign, 6 SS 87-90
- Bataan (*see also* Philippine Islands): II-1 IB 27-28; 12 MR 42-43
- Batteries, storage, German, winter protection of, 18 SS 182-183
- "Battlefield Discipline," Japanese manual, extract from, I-5 IB 50-51
- Battle order, battalion sector on stabilized front, German, 17 SS 25-27
- Bayonets (*see also* Rifles):
- German, (illus.) 9 SS 118; (illus.) 30 TT 28
- Japanese:
- Employment, II-2 IB 39, 64; 35 TT 36-37
 - Model 44 (1911), (illus.) 19 SS 27-28
 - Model 30 (1897), (illus.) 19 SS 25, 26, 27, 31, 33, 34
- Beach assault. *See* Amphibious operations.

- Beach defenses. *See* Coastal defenses.
- Beesley thrust-type pole charge, British, (illus.) 13 MR 20-21
- Belgium:
- Airborne invasion, German, 1 MR 51; 7 SS 8-10, 52
 - British field-security activities in, 1 MR 47-58
 - Coastal defenses, German, (illus.) 15 SS 1-89
 - German currencies in, 37 TT 40
 - Underground mining operations in 1917; 29 TT 39, 42-43, 47
- Belt, ammunition:
- German, (illus.) 14 SS 78-80
 - Japanese, (illus.) 19 SS 34
- Benzedrine (amphetamine), 2 MR 39-43; 3 MR 26-28; 11 TT 29-30
- Beretta weapons, Italian, I-3 IB 55, 57-58; 11 TT 42
- Berlin:
- Camouflage of, 7 TT 16; 32 TT 25
 - Smoke screens for air-raid protection, 38 TT 15, 17
- Billets. *See* Quarters
- Bir Nun, Egypt, German defensive position, 5 SS 53
- Bivouacs:
- British, lecture by Maj. Lord Lovat, I-7 IB 71-73
 - German:
 - Estimate of terrain for, 8 SS 4-5
 - Winter, 18 SS 57-60
 - Japanese, defense of bivouac positions, I-5 IB 38-39
 - Soviet:
 - Camouflage in summer, 23 TT 17
 - Ski patrols, 16 TT 21-22
- Blackout headlights for night-driving, German I-1 IB 40-41, 42; 1 TT 21; 9 TT 35, 37, 38
- Blackshirts, Italian Fascists, I-4 IB 57; 11 SS 25
- Blank cartridges, German, 14 SS 180
- Blast drive rod, *D. K.*, German, (illus.) 27 TT 18-20
- Blind-flying system, Lorenz, German, 15 TT 5-6
- Blinding agents. *See* Flame throwers; Grenades; Incendiary bottles; Signal rockets; Smoke.
- Blinkers, German:
 - Signal communications, 8 SS 23
 - Use in winter, 18 SS 119, 190
- Blister gas. *See* Gas.
- Blockships, German, 15 SS 12
- Blotting paper to remove vesicants, Japanese, I-10 IB 85
- Boats (*see also* Landing craft):
 - German:
 - Pneumatic, (illus.) 14 TT 19-21
 - Use in presence of ice, 17 TT 20
 - Japanese, rubber, I-8 IB 60-61; I-9 IB 29-32
- Bodeo, 10.35-mm, revolver, Model 89, Italian, I-3 IB 55; 11 TT 42
- Body armor, developments in, British, 6 MR 40-41
- Bofors 40-mm AA/AT gun, German, 21 TT 4
- Bofors 40-mm AA gun, British. *See* 40-mm Bofors AA gun, British.
- Bomb carriers, jettisoning device for, German, 11 TT 3
- Bombers. *See* Aircraft and individual planes.
- Bombing, aerial (*see also* Air forces), protection against, II-2 IB 18-20; 33 TT 7-8; 34 TT 2-4
- Bombs (*see also* Bomb throwers; Mortars; Rocket weapons):
 - Australian, gasoline, at Milne Bay, 6 MR 54
 - British:
 - Jet flame, 6 MR 23-24
 - Smoke, 2 MR 26
- Fragmentation, characteristics, 29 TT 1-3
- French, incendiary, known types, 14 TT 14
- German:
 - Antipersonnel, 5 TT 36; (illus.) 18 TT 24
 - "Butterfly" (*SD 2*), I-12 IB 2; 29 TT 2; (illus.) 34 TT 22-24; 36 TT 21-23
 - Chemical shrapnel, 10-kg, K. C. 10, 16 SS 25; 36 TT 48
 - Gas, 16 SS 25-26; 36 TT 48
 - HE, 18 TT 25; 20 TT 26-27; 35 TT 47
 - Hollow-charge, 37-mm stick, (illus.) 14 SS 118-119; 19 TT 28; (illus.) 24 TT 25

Bombs—Continued

German—Continued

Incendiary, (illus.) 16 SS 26-30, 31; 6 TT 21-22; 11 TT 16; 14 TT 12-14; 15 TT 10-11

Incendiary - antipersonnel, (illus.) 16 SS 27, 28; 6 TT 21; 14 TT 12, 14; 29 TT 3

Magnesium, 16 SS 27

Mortar, 200-mm spigot, (illus.) 16 TT 32-34; 21 TT 24

Mustard gas, 16 SS 26; 11 TT 16

Nose-rod for air bombs, (illus.) 23 TT 24, (illus.) 41 TT 32

Phosphorus and oil, (illus.) 16 SS 27, 28, 30

Plastic-wood liquid-air, (illus.) 25 TT 26

Provisions for parachute troops, 7 SS 31-32

Rocket, *PC-1000-RS*, 13 TT 40-41

Shrapnel, 10-kg, *K. C. 10* chemical, 16 SS 25; 36 TT 48

Smoke, 18 TT 25; (illus.) 29 TT 27-29; 40 TT 16

Spike, (illus.) 37 TT 27, 28

Stick, use with 37-mm AT gun, (illus.) 14 SS 118-119; 19 TT 28; (illus.) 24 TT 25

Italian:

Circling parachute torpedo, (illus.) 11 TT 1-2

Fragmentation, 4 A. R. ("thermos"), 29 TT 2

Gas-filled, aircraft, 16 SS 62-63; 36 TT 50

Incendiary, 16 SS 63; 14 TT 13, 14

Target-indicator, 5-kg, *bomba vento*, (illus.) 25 TT 26-28, 29

Japanese:

AA type, I-1 IB 69; 41 TT 32

Air, 2 TT 2; 28 TT 32-33; 37 TT 27-30

Antipersonnel, 1-kg combination incendiary, 16 SS 126-127

Fragmentation, 29 TT 2, 3

Gas, (illus.) 16 SS 94-96, 124-126; 36 TT 52-53

HE, (illus.) 6 TT 32-34

HE incendiary, (illus.) 36 TT 39-42

Bombs—Continued

Japanese—Continued

Incendiary, I-4 IB 21; 16 SS 126-130; 4 TT 23; 12 TT 17-18; 14 TT 13, 14

Magnetic AT, (illus.) II-1 IB 6-8; (illus.) 19 SS 63-37

Parachute bombs, for 70-mm barrage mortar, (illus.) 19 SS 148-149

Phosphorized incendiary, 50-kg., 16 SS 127-128

Smoke, 36 TT 53

Stick, for 50-mm mortar, (illus.) 19 SS 137, 140

Bomb throwers:

German, (illus.) 16 SS 14-16; 18 SS 163; 8 TT 28-30; 12 TT 12; 14 TT 15; 18 TT 26

Italian, 16 SS 57-58

Booby traps (*see also* Mines):

Definition and principles of operation, I-1 IB 21-26; 24 TT 12-14

German:

Airfield-obstruction methods, I-11 IB 48-51

Grenades, (illus.) I-1 IB 27-31; I-8 IB 21; 14 SS 43-44, 47, 49-50; 19 TT 14; 25 TT 17

Mines, I-1 IB 32-33; I-5 IB 11; I-10 IB 5-6, 10-13; I-12 IB 1-6; II-2 IB 32; 6 TT 23-24; 15 TT 18; 24 TT 13-14; 28 TT 25; 40 TT 19-20

Soap-cake, II-2 IB 32; 40 TT 20

Italian earphone, 5 TT 22

Japanese:

Doctrine of obstacles, 10 TT 10-11

Electrical, II-1 IB 15

Grenades, II-1 IB 12, 13, 15; II-3 IB 42; (illus.) II-4 IB 22-25; 19 SS 49-50, 55, 58

Mines, II-1 IB 1-2, 8; 19 SS 62

Miscellaneous, (illus.) II-3 IB 46-48

Books, captured, Japanese, combat intelligence value of, 13 MR 58

Booms, antiboat, German harbor obstacles, 15 SS 11-12, 19

"Bouncing babies." *See* S-mines, German.

"Bounding mines." *See* S-mines, German.

- Box mines, wooden. *See* Mines.
- "Box" tactics of German armored force, (illus.) I-6 IB 44-45, 47; 16 TT 27
- Brandt weapons:**
- 81-mm mortar, Brazilian, 13 MR 25
- 120-mm mortar, French, 39 TT 11
- Brassards for identifying camouflaged troops, German, 18 SS 118
- Brauchitsch, Walther von, Field Marshal: statement of role of fortifications in German strategy, 17 SS VIII-IX
- Breakthrough:**
- German tactics, 8 SS 54-55
- Soviet tactics, 10 TT 17-18; 28 TT 29-30
- Breda weapons:**
- AA/AT gun 43, I-3 IB 59; 11 TT 42-43
- Machine guns, I-3 IB 56-57; 7 TT 33; 11 TT 41-42; (illus.) 23 TT 25-26; (illus.) 26 TT 40, 42-43
- 37/54-mm AA gun, 6 SS 110
- 20-mm weapons, 3 MR 12; 28 TT 32
- Bren gun, British, employment, I-11 IB 84-86; 3 MR 21-22
- Bridges:**
- British:**
- Bailey bridge, launching, 35 TT 28-30
- Camouflage, 7 MR 38
- Construction, 1 TT 10
- Mobile scissors-bridge, (illus.) 15 TT 14-16
- Training in repair of standard equipment, 14 TT 18
- German:**
- Constructed by *Bautruppen*, (illus.) 26 TT 19-21
- Construction over the Dnieper, 7 TT 46
- Ice bridges, (illus.) 18 SS 51, 52; (illus.) 17 TT 20-22
- Light assault bridge, (illus.) I-7 IB 56-58
- Soviet, submerged-bridge construction, 29 TT 17-18
- Briefing of troops for amphibious operations, British, 5 MR 55, 56
- Brinell number, derivation of, 18 TT 32, 34
- British and metric scales, table of equivalents, 4 TT, sec. II, 10-11
- Brixia* mortars, Italian, I-3 IB 58; 6 SS 110; 11 TT 43; (illus.) 21 TT 19-22
- Browning aircraft machine gun, cal. 50, M1921, U. S. (illus.) 34 TT 36-37
- Brumbear*, 150-mm self-propelled assault howitzer, German, (illus.) 41 TT 16, 17
- Buna area. *See* New Guinea.
- Bundle float, British, (illus.) I-11 IB 81, 82
- Bunkers, defensive, Japanese, I-9 IB 8-9; 21 TT 17; (illus.) 26 TT 33-34, 35; (illus.) 31 TT 31-33
- Buoy, rescue, for *Luftwaffe*, (illus.) 12 TT 2-4
- Burges barges, German, 15 SS 12
- Burma (*see also* Jungle warfare):
- Abandoned vehicles, British, destruction of, 1 MR 40-41
- Arakan area:
- Artillery, Japanese, 37 TT 24; 38 TT 7-8
- Combat intelligence in, 7 MR 41-45
- Tactics, Japanese, I-10 IB 65-72; I-11, IB 70-71; II-1 IB 30-33; 32 TT 29-32; 37 TT 23-25
- Artillery, British, 8 TT 27-28
- AT-company organization, independent, Japanese, 1 TT 3
- AT guns, British use of, 6 TT 10, 12
- Fighting in, British observations, 27 TT 27-29
- Infantry patrols, 11 TT 23-24
- Jungle fighting:
- Equipment for, British recommendations, 11 TT 22
- Lessons from, 9 TT 15-18; 11 TT 22-25
- Movement, II-1 IB 91
- Observation and reconnaissance in, British notes, II-1 IB 90
- Mandalay offensive, Japanese operational principles for, 9 TT 19-22
- Medical notes, 6 TT 31-32
- Mortars, Japanese use of, I-1 IB 58; 27 TT 29
- Road blocks, Japanese use of, I-4 IB 15-17; (illus.) 7 TT 19

Burma—Continued

- Tactics, Japanese, I-3 IB 29-34; (illus.) 7 TT 19-21; 9 15-18, TT 19-22; 11 TT 23, 25
- Tank performance, 7 TT 30, 32
- Transport problems, British, I-3 IB 33
- Village fighting, 11 TT 24-25
- Burney recoilless gun (3.5 in.), British, 2 MR 45; 6 MR 41-42

Burns:

- Causes and treatment, in British Middle East forces, 14 TT 35-37; 15 TT 34
- Losantin tablets for treatment of, 17 TT 16
- Tank personnel, 13 TT 37
- Butane, 3 TT 24
- "Butterfly" (SD 2) bombs, German, I-12 IB 2; 29 TT 2; (illus.) 34 TT 22-24; 36 TT 21-23

C

- Cable communications. *See* Communications.
- Cable cutters:
 - British, Martin-Baker explosive-type, 5 MR 2
 - German, *Kutonase* (*Kutenase*) knife-edge type, 5 MR 3; (illus.) 18 TT 1-2
- Cadres, British, training of, I-6 IB 80-81
- Caissons for stowing ammunition, British, 6 SS 37-38
- Caliber-marking system, Japanese weapons, 19 SS 6
- Caliber measurement of ammunition, German, 14 SS 161
- Camouflage and concealment:
 - Aircraft, 7 MR 36; 13 TT 1-3
 - Air observation, against, (illus.) I-2 IB 51-68; I-10 IB 78-79; 10 MR 47; 32 TT 3
 - AT gun emplacements, (illus.) 6 SS 78; (illus.) 6 TT 10, 11
 - British:
 - AA installations, 3 MR 14; 8 MR 18-20
 - Aircraft, 7 MR 36
 - Air OPs, 11 MR 29
 - Artillery, 3 MR 14; 7 MR 37; (illus.) 6 SS 45-47, 79; 38 TT 24

Camouflage and concealment—Con.

- British—Continued
 - AT gun, 2-pounder, (illus.) 6 SS 78
 - Middle East, methods in, 7 MR 31-38
 - Searchlights, 12 MR 6
 - Shadows, elimination of, 37 TT 17-18
 - Definition, 32 TT 20
 - Desert, (illus.) I-2 IB 60-63; (illus.) I-3 IB 64-65, 73; (illus.) 6 SS 45-47; 7 TT 17-18; 32 TT 22-24
- German:
 - AA defense, used in, 10 SS 79-80, 102-105
 - Aircraft, 13 TT 1-2
 - Airdromes, 7 TT 15-16, 17; 15 TT 4-5; 40 TT 18-19
 - Artillery, 38 TT 24; 40 TT 18
 - AT ditches in snow, (illus.) 18 SS 121-122
 - Cities, 7 TT 16; 32 TT 25
 - Desert, 7 TT 17-18
 - Fortifications, (illus.) 9 SS 52-53; (illus.) 15 SS 46-48; 17 SS 86, 92-95, 96, 99-101
 - Ground forces, from aerial observation, 9 SS 51-53; 32 TT 3
 - Infantry position, 9 SS 51-53
 - Main defensive zone, 32 TT 21-22
 - Minefields, 32 TT 23-24
 - Necessity of, in defense, 28 TT 27
 - Personnel, 18 SS 115-119; 19 TT 43; 28 TT 27; 32 TT 25; 38 TT 24-25
 - Pillboxes, 38 TT 23-24
 - Snow, in, II-2 IB 6; (illus.) 18 SS 115-117, 122-126
 - Tactical doctrine, 8 SS 7-10; 28 TT 27
 - Tanks, 18 SS 122, 123; 17 TT 32-33
 - Trails, 18 SS 123-126
 - Training, 32 TT 24
 - Trenches, (illus.) 18 SS 120-121; 19 TT 22
- Italian, aircraft, 13 TT 3
- Japanese:
 - Aircraft, 13 TT 2-3
 - Airfields, 29 TT 3-4
 - Attu, on, I-11 IB 67; II-2 IB 39-43; 40 TT 18
 - Chameleon principle, 16 TT 6-7

Camouflage and concealment—Con.

Japanese—Continued

Dazzle painting, 26 TT 33

Gun emplacements, 26 TT 33

Personnel, II-2 IB 41; 13 TT 9-10; (illus.) 14 TT 16, 17; 16 TT 6; 32 TT 25

Solomon Islands, I-3 IB 37-38; I-4 IB 9-10

Troops and supplies, I-10 IB 78-79

Vehicles, 13 TT 10

Matching geometric patterns, (illus.) I-3 IB 68-70

Nets, use of, (illus.) I-3 IB 66-67, 76; 7 MR 33; 6 SS 45-46; (illus.) 6 TT 10, 11; (illus.) 23 TT 14, 15; 26 TT 33

New Zealand, AA installations, I-10 IB 89-90

Paint and dazzle paintings, (illus.) I-3 IB 77-79; 26 TT 33

Principles, II I-2 IB 49-68; (illus.) I-3 IB 63-80; 7 MR 31-38; 8 SS 7-10; 3 TT 15-16; 25 TT 16-17; 37 TT 12-19

Shadows, treatment of, (illus.) I-3 IB 64, 65, 74-75; 7 MR 33-34; 37 TT 17-18

Soviet:

Dummy positions, 23 TT 19

Materials used, (illus.) 23 TT 14-16

Summer, (illus.) 23 TT 13-19

Terrain patterns, matching, (illus.) I-2 IB 55-68; (illus.) I-3 IB 63-71

Tracks, (illus.) I-3 IB 71-73; 7 MR 34

Trenches, (illus.) I-3 IB 73-74; 7 MR 38; (illus.) 18 SS 120-121; 19 TT 22

United States, methods on Attu, 40 TT 17-18

Candles. *See* Gas, lacrimatory candles; *and under* Smoke.*Canguru*, Italian *Savoia-Marchetti*-82 aircraft, (illus.) 35 TT 1-2Cannons (*see also* Antiaircraft; Howitzer; Machine cannon):

German:

AA light equipment, 11 TT 6

Aircraft, (illus.) 12 TT 1, 2; 30. TT 18-19

Cannons—Continued

German—Continued

75-mm mountain, 9 TT 45; 31 TT 47

Japanese, 20-mm AA/AT machine, Model 98 (1938), (illus.) 38 TT 2-6

Cantieri Z 1007, Italian bombing and reconnaissance plane, (illus.) 25 TT 1-2, 3

Capsules, incendiary, German, (illus.) 16 TT 5

Captive balloons, German, 8 SS 25

Captured matériel:

British, German salvage of, 9 TT 48; 16 TT 2-4

German, U. S. use of, 14 SS 1-190

Italian, British use in Libya, 6 SS 24-26, 35-36

Japanese, U. S. use of, 19 SS 1-241

United States aircraft, Axis use of, 17 TT 4; 33 TT 1

Capuzzo, Fort, Libya, German defensive position, 5 SS 5, 7-8, 12-13, 27-30, 37-38

Carbines (*see also* Machine car-

bines; Rifles):

German:

Care in winter, 18 SS 157

7.92-mm (illus.) 14 SS 21-33, 182-183; 9 TT 40

Italian:

7.35-mm, Model 38, *Moschetto*, I-3 IB 56; 11 TT 416.5-mm, Model 91, *Moschetto*, I-3 IB 56; 11 TT 41

Japanese:

6.5-mm, (illus.) 19 SS 26-27, 28, 234-236, 238; 10 TT 33

Carburizing, definition, 18 TT 32

Carrier pigeons. *See* Communica-

tions.

Carriers, pack, British commando use of, 1 SS 51

Cartridge, parachute, for wind measurements, German, 10 TT 23

Cartridge pouch, Japanese, II-2 IB 49-50

Casemates. *See* Fortifications.

Casualties:

British, tank personnel in North Africa, 13 TT 36-38

Caused by bombing, 33 TT 7-8; 34 TT 2, 3

Casualties—Continued

- German, airborne troops, 7 SS 8, 12, 34, 88
- Japanese, airborne troops in attack on Palembang, 7 SS 16
- Catapults, German, (illus.) 2 TT 4-7; 10 TT 3
- Caterpillar motorcycles, German, 13 TT 50; (illus.) 19 TT 31-40
- Caterpillar-wheeled car (*RR*), type 7, German, (illus.) 39 TT 35-37
- Caucasus, North (*see also* Union of Soviet Socialist Republics);
- Changes in place names, 10 TT 36-37
- Defenses of, (illus.) 6 MR 57-64
- Cavalry:
 - Burma, suitability in, I-3 IB 33
 - Soviet:
 - Tactical doctrine, I-2 IB 69-72; 3 TT 49-50; 8 TT 32-34
 - Training, (illus.) 8 MR 33-41
- Cavalry carbine, 6.5-mm Model 44 (1911), Japanese, (illus.) 19 SS 27, 28, 234-236; 10 TT 33
- Cave emplacements on Attu, Japanese, (illus.) I-11 IB 65, 66, 67
- Cellaplan*, antigas clothing material, German, 17 TT 16
- Censorship:
 - Axis, of mail, 11 SS 31
 - German, of soldiers' letter, II-4 IB 64-65
 - Japanese, I-12 IB 68-69
 - Soviet, of mail, 11 SS 31
- Char B* tank, French, 5 TT 32; 35 TT 14
- Charcoal-making, German, (illus.) 18 SS 111-113
- Chemical warfare (*see also* Antigas measures; Bombs, incendiary; Flame throwers; Gas; Grenade dischargers; Grenades; Molotov cocktails; Mortars; Smoke):
 - British:
 - El Alamein, employment of chemical troops, 4 MR 30-31
 - Gas-defense training, 1 MR 21-25
 - German:
 - Ammunition, handling in winter, 18 SS 171
 - Bulk-contamination, 16 SS 21-22
 - Classification of agents, I-7 IB 31

Chemical warfare—Continued

- German—Continued
 - Equipment, winter care of, 18 SS 175-178
 - Organization of chemical troops, I-7 IB 32; 16 SS 1-4
 - 10 kg *K. C. 10*, chemical shrapnel bomb, 36 TT 48
- Italian:
 - Bomb throwers, 16 SS 57-58
 - Organization of chemical troops, 16 SS 48-52
 - Schools and training, 16 SS 52-53
- Japanese:
 - Manufacture and storage of chemical munitions, 16 SS 89-91
 - Markings on chemical munitions, list of, 39 TT 16
 - Organization of chemical troops, 16 SS 85-87; 9 TT 12-13
 - Schools and training, 16 SS 87-88
 - United States rocket-type chemical projector, 1 TT 8-9
- Chevaux-de-frise, tank obstacles, German use, II-1 IB 42; 15 SS 21, (illus.) 41-42; (illus.) 17 SS 135, 137; 35 TT 9
- Soviet use, (illus.) 26 TT 25, 26
- Chichagof Harbor, Attu. *See* Attu.
- China, Japanese tactics in, I-2 IB 41-42; 13 TT 13-22; 19 TT 22-23
- Chinese, physical differences from Japanese, (illus.) I-2 IB 29-31
- Christie tank, U. S., German comment, 35 TT 15
- Churchill tank, British, (illus.) 10 MR 12-14; 11 MR 14-19; 13 MR 9
- Circling torpedo bomb, Italian, (illus.) 11 TT 1-2
- Civilians:
 - British measures for control during a campaign, 14 TT 38-39
 - German:
 - AA organization, 20 TT 4-5
 - Antigas protection, 16 SS 46-47; 17 TT 15-16
 - Nazi Party military training and indoctrination of, 3 SS 4-12
 - Italian antigas protection, 16 SS 83; 17 TT 17
 - Japanese antigas protection, 16 SS 147-148; 17 TT 17

- Classification of documents, British, 13 SS 187-189
- Clausewitz, Karl, principle of total war, 2 SS 6; 3 SS 3, 43-45
- Clearing of minefields. *See* Minefield clearance.
- Clearing unit or terrain obstruction unit, Japanese, I-10 IB 85
- Climates, tropical, I-9 IB 70-71; II-1 IB 75-77; II-3 IB 84; 19 TT 53-54; 27 TT 29; 30 TT 13
- Climatic testing laboratory, German, 38 TT 35-36
- Close-combat instructors' course for British Commandos, 1 SS 33-35
- Close-combat tactics, Japanese, I-6 IB 11-12
- Clothing (*see also* Footgear; Uniforms; Insignia):
- Allied for desert wear, I-9 IB 75-76
 - British:
 - Commandos, 1 SS 9, 15; 1 TT 13
 - Mountain warfare, 1 SS 48-51
 - German:
 - Antigas, 18 SS 177; 13 TT 49; 15 TT 11-13; 17 TT 16
 - Antilice, 36 TT 33
 - Armored-car crew, 1 TT 22
 - Parachute-troop, 7 SS 25-27; 13 TT 45, 49
 - Wax-paper gas capes, 15 TT 13
 - Winter, 18 SS 6, 59, 128-136
 - Japanese:
 - Antigas, I-3 IB 52
 - Arctic, I-11 IB 69; II-2 IB 41, 50-51
 - Camouflage, II-2 IB 41; (illus.) 14 TT 16, 17
 - Parachute-troop, 7 SS 69-70
 - Undergarments, I-2 IB 33-34
 - Soviet:
 - Camouflaged coats for ski troops, 12 TT 25
 - Varlenki*, soldier's felt boot, 12 TT 26
 - United States:
 - Antigas, 1 TT 8
 - Tropical, I-9 IB 75-76; II-3 IB 72, 75, 84, 87-88; 3 MR 37
- Coal gas, German gasoline substitute, 3 TT 24
- Coastal convoys, balloon defenses of, British, 5 MR 8-9
- Coastal defenses:
- Allied, AA, of North African ports, 7 MR 3-4
 - British, AA role in, 6 MR 6, 10-11; 9 MR 3-8
 - German:
 - AA six-gun layout, (illus.) 10 SS 91
 - AA towers, (illus.) 15 SS 85-86, 87, 88
 - Artillery in, II-1 IB 38-39; 37 TT 23
 - AT obstacles, II-1 IB 47-50; (illus.) 15 SS 40-48; 35 TT 7-9
 - Barbed wire, (illus.) II-1 IB 40-46; (illus.) 15 SS 19-24
 - Basic principles, 37 TT 21-23
 - Beach obstacles, (illus.) 15 SS 14-49
 - Buildings converted to, 15 SS 14-15
 - Camouflage and deception, 15 SS 46-48
 - Cliff and cave positions, 15 SS 71, 74, 75
 - "Dragon's teeth," 15 SS 40-41, 49; 35 TT 8
 - Dune shelters, 15 SS 55-58
 - Elevator (*Flak*) positions, (illus.) 15 SS 86, 88
 - Emplacements, (illus.) 15 SS 60-89
 - Fortifications, (illus.) 15 SS 50-89
 - Harbor obstacles, 15 SS 11-13
 - Hypothetical layout, (illus.) 15 SS 49
 - Infantry positions, (illus.) 15 SS 80, 84-85
 - Küstenverteidigungsabschnitte*, divisional coastal sectors, 17 SS 44
 - Log and rail obstacles, 15 SS 42-43
 - Minefield, (illus.) 15 SS 24-40
 - Naval factors, (illus.) 15 SS 5-11
 - Organization, II-1 IB 37-38; 15 SS 1-5; 17 SS 42-44; 37 TT 22
 - Principles of defense, II-1 IB 37-39; 15 SS 1-2; 37 TT 21-23
 - Road blocks, 15 SS 41-45, 46, 49; 35 TT 8, 9

Coastal defenses—Continued

German—Continued

Shelters, concrete, (illus.) 15 SS 52-60

Siebel ferries, (illus.) 15 SS 7-11
Sperrbrecher (obstacle breakers), 15 SS 6-7

Steel rails, 15 SS 42-43; 35 TT 9
Steel tetrahedra, (illus.) 15 SS 41-42; 35 TT 9

Stützpunkt (strongpoint), II-1 IB 37-38; 17 SS 43-44

Underwater obstacles, 15 SS 17-19, 49

Walls and promenades, (illus.) 15 SS 15, 17, 43-46, 49; 35 TT 7, 8

Widerstandsnest (shell-proof infantry post), 17 SS 43

Japanese:

Burma (Arakan front), I-11 IB 71

Tactics, II-4 IB 19

Coast artillery:

British:

AA employed as, 2 MR 3; 9 MR 7-8

AA role of, 1 MR 20

18-inch howitzer, Mk I, (illus.) 13 MR 14-16

14-inch guns, 13 MR 16

HE ammunition, use of, 1 MR 20

9.2-inch gun, Mk XIII, 13 MR 16

13.5-inch gun, Mk V, 13 MR 16

12-inch howitzer, Mks III, IV, and V, 13 MR 16

German:

Batteries, 37 TT 23

Principles of employment, II-1 IB 38-39

305-mm gun (*L/50 Skoda*), 12 TT 13-14

Italian:

102-mm (102/35) AA and coast-defense gun, 6 SS 26, 111; 7 TT 35; 11 TT 44

305-mm (305/50) gun, 6 SS 112; 11 TT 45

280-mm (280/16) howitzer, 6 SS 112; 11 TT 45

Japanese:

105-mm AA gun (*Flak*), German, 9 TT 46; 10 TT 5; 21 TT 6; (illus.) 30 TT 2-5

Coast artillery—Continued

Japanese—Continued

240-mm howitzer M 12, 10 TT 35

United States use of AA at, 9 MR 7-8

Coaxial sighting telescope, (*TZF 5b*), German, (illus.) 8 TT 41-46

Cochenhhausen, Friedrich von, Gen., excerpts from "Tactical Handbook for the Troop Commander" by, 7 TT 22-29; 8 TT 7-15; 11 TT 5-16; 32 TT 45-59

Codes:

British, use in radio messages, I-3 IB 61-62

Desert operations, use in, 6 SS 50-52

German:

Communications for 105-mm gun battery, 26 TT 43-44

Ground-panel, 24 TT 31-33

Smoke, 25 TT 28, 30

Italian, smoke, 25 TT 28, 30

Japanese:

Fighter-aircraft names, 19 TT 1-3; 21 TT 32

Phonetic, 12 TT 51-59

Collapsible boats, Japanese; I-9 IB 29-30

Collimator telescope sight for 81-mm mortar, Model 99 (1939), Japanese, (illus.) 19 SS 153-154

Combat engineers. *See* Engineers.

Combat intelligence (*see also* Counterintelligence; Engineer intelligence; Prisoners of war; Propaganda; Security):

Allied, report on German 5th Parachute Regiment, 7 SS 83-98

British:

AA defense, function in, 4 MR 9-10

Amphibious operations, function with, 4 MR 40-41, 43

Documents and equipment, enemy, preservation, 1-7 IB 61-64

Tunisia, intelligence problems in, 10 MR 51-60

German:

Allied documents, collecting of, II-1 IB 68

Divisional training, organization and scope, 24 TT 15-16

Combat intelligence—Continued
 German—Continued
 During battle, 8 SS 11-19
 Preparation of reports, 8 SS 11-12
 Radio intelligence, 17 SS 39
 Signal intelligence platoon, 17 SS 38-39
 Wire-communication, 17 SS 39-40
 Indian, on the Arakan front, 7 MR 41-45
 Japanese, procuring of information about enemy forces, I-10 IB 79
 United States:
 Attu, activities on, 13 MR 49-59
 Enemy property, captured or abandoned, regulations regarding II-2 IB 74
 Guadalcanal, activities on, 13 MR 41-49
 Infantry, importance to, 11 MR 34-35
 Combat instructions:
 German:
 For individual work on a stabilized front, 17 SS 28-29
 Orders of Panzer army headquarters in Tunisia, 25 TT 21-24
 Combat methods. *See* Tactics.
 Combat outposts, German, 9 SS 56-59, 105-113
 Combat pistol, German parachute-troop weapon, 7 SS 28-29
 Combat trains, German, 4 SS 50-51
 Combined fences (German barbed-wire beach obstacle), 15 SS 22
 Combined operations. *See* Amphibious operations; Commandos.
 Command:
 British, functions and responsibilities of, 9 MR 49-57
 German:
 AA, in an air district, 10 SS 84-85
 Aerial reconnaissance, 8 TT 7
 Armored army, 2 SS 14-15
 Artillery, 7 TT 5-6; 29 TT 9, 14-16
 Control in a fortified zone, 17 SS 23
 Infantry squad, 9 SS 1-11
 Post, 8 SS 1
 Powers and duties of artillery commander, 29 TT 14-16

Commandos:
 Australian Independent Company, 1 SS 19-24
 British:
 Administration, 1 SS 9-11
 Arms, equipment, and clothing, 1 SS 1-38, 48-52, 133-134; 1 TT 12-13
 Discipline and morale, 1 SS 6-7; 1 TT 16-17
 Missions, 1 SS 3-5, (maps) 57-116; 28 TT 37-53
 Origin and organization, 1 SS 3-11; 1 TT 11-12
 Personnel procurement, 1 SS 7-9
 Training, I-4 IB 70-78; I-7 IB 65-73; 1 MR 32-37; 1 SS 11-13, 27-52; 1 TT 13-16; 17 TT 24-25; 18 TT 21-22; 28 TT 39, 52-53
 Indian, raids in Burma, 7 MR 41-42
 Command vehicles, importance to communications, British, 13 MR 30
 Communications (*see also* Air-ground communications; Radio communications):
 Airborne troops, 7 MR 49-52; 7 SS 55-57, 82
 British:
 Airborne division, 7 MR 49-52
 Air-defense warning system, 2 MR 9-13; 6 MR 10; 9 MR 7
 Air OPs, 11 MR 27
 Amphibious operations, 4 MR 43; 5 MR 43-44
 Armored force, 3 MR 34-35; 4 MR 14
 Armored OPs, 1 MR 20
 Bren gun used for signaling, I-11 IB 85
 Command vehicles, 13 MR 30
 Dogs, messenger, I-5 IB 68-69
 8th Army in North Africa, 8 MR 43
 Field artillery in jungle, 7 MR 23-24; 11 MR 23
 Field wire in desert, 1 MR 42-43
 Middle East operations, lessons from, 5 MR 33-36
 Mountain warfare, problems in, 11 MR 44
 Pigeons, 7 MR 50
 Radar, airborne, 11 MR 48-50

Communications—Continued

British—Continued

- Road-movement requirements, 8 MR 49
- Self-propelled artillery, 1 MR 17; 2 MR 21
- Signal security in North Africa, 19 TT 43-45
- Standard procedures for transmitting messages, 13 SS 198-202
- Tunisian Campaign, lessons from, 13 MR 29-33
- Vaagso raid, 1 SS 91-94
- Wire, 1 MR 42-43; 5 MR 35-36; 7 MR 49; 13 MR 31-32
- Desert, 1 MR 42-43; 6 SS 47-52
- Disruption by airborne troops, 7 SS 78

German:

- Airborne operations, 7 SS 55-57
- Air Force visual signals, (illus.) 34 TT 38-40
- Armored army, importance to, 2 SS 20-21
- Artillery visual, (illus.) 23 TT 7, 8
- Blinkers and heliograph, 8 SS 23; 18 SS 119, 190
- Cable-laying in winter, 18 SS 185-187
- Camouflaged troops on snow-covered terrain, 18 SS 118-119
- Convoy-control signals on desert, 23 TT 28
- Defense areas, II-2 IB 14; 8 SS 22
- Dogs, messenger, I-2 IB 23; 17 SS 35; 8 TT 24
- Field-telephone batteries, 35 TT 47-48
- Intercommunication, company, I-9 IB 42
- Meteorological transmitter ("radiosonde"), automatic, 16 TT 37-38
- Motorized arm, importance to, 2 SS 20-21
- Mountains, snow, and cold, maintenance in, I-11 IB 21, 25; 31 TT 48, 51
- Notsignalbehälter*, emergency signal container and flare pistol, (illus.) 22 TT 38-40

Communications—Continued

German—Continued

- Organization of signal units, 6 TT 35-36; 16 TT 38; 34 TT 28-29
- Permanent visual signals, (illus.) 34 TT 39-40
- Pigeons, 8 SS 24; 17 SS 35-36
- Principles, 3 SS 36-38; 8 SS 12-13, 20-25; 6 TT 35-36
- Pyrotechnic equipment, desert use, 6 SS 48
- Reflectors on headgear of stranded flyers, (illus.) II-1 IB 72-73
- Searchlight sections, 10 SS 54-55, 56
- Signal intelligence platoon, 17 SS 38-39
- Signal, on desert, 6 SS 48, 50-52
- Signal troops, operation of, 8 SS 20-24
- Smoke, I-2 IB 16-17; I-7 IB 39; 24 TT 27, 28; 25 TT 28, 30
- Soviet Union, defense of lines in, 29 TT 19
- Stabilized front, 17 SS 23, 29-40
- Staff signal officer's duties, 17 SS 30-31
- Swastika flags, use of, I-7 IB 40; 24 TT 27, 28
- Tank intercommunication system, I-4 IB 36-38; 12 TT 30, 31-32
- Very lights I-7 IB 42; 24 TT 30
- Visual, I-2 IB 16-17; I-7 IB 38-42; II-1 IB 72-73; 7 SS 56-57, 82; 8 SS 23-24; 18 SS 118-119; (illus.) 23 TT 7-8, 28; 24 TT 26-33; 25 TT 28, 30; (illus.) 34 TT 38-40
- West Wall, 17 SS 82-83
- Winter protection of equipment, 18 SS 179-191
- Wire, 6 SS 48-49; 8 SS 22-23; 17 SS 23, 31-35, 36-37, 39-40; 18 SS 47-48, 184-187, 189-191; 6 TT 35-36; 7 TT 39; 35 TT 47-48
- Italian:
 - Parachute signal flare, (illus.) 18 TT 29-30, 31
 - Smoke codes, 25 TT 28, 30
 - Tank signals, 14 TT 33-34

- Communications—Continued
- Japanese:
- Amphibious operations, I-8 IB 54; II-3 IB 56
 - Defense areas, II-4 IB 18
 - Katakana* (phonetic Japanese) used in, 12 TT 45-59
 - Night, II-1 IB 33
 - Sentries, II-4 IB 30
 - Solomon Islands, in, I-4 IB 5-6; II-2 IB 66
- Soviet:
- Field-artillery, 8 MR 38
 - Ski patrol, 16 TT 19
- United States:
- AA units, 11 MR 8
 - Air support of ground units, 4 MR 44
 - Corregidor, 12 MR 49
 - Guadalcanal experiences, 3 MR 36
 - Jungle warfare, 3 MR 36
 - Communications zone, British, 9 MR 43
- Compasses:
- German:
- Compass card, (illus.) 34 TT 22; 41 TT 18
 - Gyroscopic electrical, (illus.) 7 TT 29-30, 31
 - Lensatic, 18 SS 21, 22
 - Maintaining direction by, I-4 IB 70-71
 - Sun compass, I-4 IB 75-76
- Concealment. *See* Camouflage and concealment; Ruses.
- Conscription:
- German, 3 SS 3, 7, 8, 9, 11, 12; 35 TT 51-54; 41 TT 35-37
 - Italian, I-4 IB 57-58
- Construction troops, German, 26 TT 19-21
- Contamination. *See* Chemical warfare; Gas.
- Contamination vehicles, German, 16 SS 21-22; 23 TT 9, 10
- Convalescent camps, German, in U. S. S. R., 18 SS 15
- Convoys:
- British:
- Balloon defenses of, 5 MR 8-9
 - Spitsbergen operations, 1 SS 102-103, 110-111
- Japanese torpedo-plane attack, II-4 IB 10-11
- Coral Islands, Japanese plan for defense, (illus.) 37 TT 45-52
- Corazzata* Division, Italian, 6 SS 4
- Cordtex, British use of, 1 MR 27; 1 SS 33
- Corinth, German airborne attack, 7 SS 10-11
- Corregidor (*see also* Philippine Islands), siege of, (maps) 12 MR 37-52
- Counterintelligence, United States, 12 MR 22-26; 13 MR 25-29
- Crete, German airborne attack on: Lessons of, 8 TT 1-4
- Operations, 7 SS 12-14, 52-53; (maps) 8 TT 51-60
- Parachute-troop equipment, German, 13 TT 45-50
- Cromwell tank, British, (illus.) 13 MR 9-11
- "Crowsfeet," spike aircraft and vehicle obstacles, German, (illus.) 11 TT 36; 12 TT 40; 13 TT 40; 14 TT 41
- Cruiser tanks:
- Australian, (illus.) 2 MR 18-20
 - British, 35 TT 14
- Crusader tanks, British, 3 MR 16
- Cup-type grenade launchers (rifle), German, 21 TT 23-24; (illus.) 36 TT 34-37
- Japanese, (illus.) 19 SS 35-36
- Currency:
- British and United States conversion tables, 13 SS 203-204
 - German, used in occupied countries, 37 TT 39-42
- Cyrenaica. *See* Africa; Libya.

D

- Date systems, Japanese, 19 SS 4-5; 21 TT 31
- Dazzle painting for camouflage, (illus.) I-3 IB 77; 26 TT 33
- Dazzle tactics, searchlight, German, 10 SS 98; 6 TT 6-7; 38 TT 16
- Debarkation work units, Japanese, duties during landing operations, II-3 IB 56-57
- Deceptions. (*See* Booby traps; Camouflage and concealment; Fifth column; Ruses.)
- Decontamination (*see also* Antigas measures; Gas):
- British procedure, 1 MR 24-25

Decontamination—Continued

German :

Clothing and equipment, I-7 IB 33-34; 16 SS 44-45; (illus.) 23 TT 11, 12

Ground, I-7 IB 33-34; 16 SS 43, 44; (illus.) 23 TT 9, 10

Losantin tablets, I-7 IB 33; 16 SS 43

Organization for, 16 SS 3, 4

Personnel, I-7 IB 33; 16 SS 43, 44; (illus.) 23 TT 11, 12

Vehicles used, (illus.) 23 TT 9-13

Weapons, 31 TT 15

Winter care and use of materials, 18 SS 177-178

Italian :

Clothing, 16 SS 81-82

Ground, 16 SS 79-80

Personnel, 16 SS 78-79, 80-81

Japanese :

Ground, I-3 IB 53; 16 SS 145-146

Personnel and clothing, (illus.) 22 TT 18-19; (illus.) 16 SS 142-145, 146

Decorations. *See* Awards and decorations.

Decoys. *See* Camouflage; Deceptions; Dummy installations; Ruses.

Defense methods. *See* Coastal defenses; Defensive positions; Emplacements; Fortifications; Strongpoints; Tactics, Defense; Trenches; Winter positions.

Defense systems (*see also* Coastal defenses; Defensive positions; Stabilized front; West Wall), Soviet, 22 TT 29-30; (illus.) 26 TT 24-26

Defensive positions (*see also* Emplacements; Fortifications; Stabilized front; Strongpoints; Tactics; Trenches; Winter positions):

German :

Artillery, in Sicily, weakness of, II-3 IB 22-25

Atlantic coast to Maginot Line, 17 SS 44-45

Carpathian, 17 SS 46

Coordination of weapons, (illus.) 9 SS 29

East Prussian system, 17 SS 47

East Wall (*Ostwall*) system of fortifications, 17 SS 46-47

Defensive positions—Continued

German—Continued

El Alemein, 32 TT 33-34

Location, 27 TT 20; 33 TT 28-30; 39 TT 48-49

Maginot Line, 17 SS 45

Orders to improve, II-1 IB 62-64; II-2 IB 12-15; 38 TT 28-29

Organization of, II-1 IB 37-38; 8 SS 63-64

Polish border, 17 SS 45-46

Strongpoints (*Stützpunkte*), I-8 IB 20; II-1 IB 37-38; (illus.) 5 SS 3-60; 17 SS 43-44; (illus.) 12 TT 28; (illus.) 14 TT 24-25; 27 TT 21

Japanese :

Arakan front, (illus.) I-10 IB 66-69; I-11 IB 70-71

Attu, II-2 IB 35-37

Selection and protection, I-12 IB 61-62

South Pacific, II-2 IB 63; I-3 IB 39

Soviet, layout for camouflage, 23 TT 18-19

United States, Japanese estimate of, 22 TT 52

Delayed-action bombs, Italian, 29 TT 2

Delaying tactics, German, I-11 IB 51-53; 8 SS 62, 70-71; 26 TT 18-19

Demolitions (*see also* Booby traps; Mines; Grenades; Explosive weapons)

Axis :

Engineer intelligence study of, British, 10 MR 36

British :

Abandoned vehicles, 1 MR 40-41

AT obstacles, German, 31 TT 16-18

Commando training course in, 1 TT 15

Cordtex, use of, 1 MR 27; 1 SS 33

Depth charges, 1 MR 26-27

Gelignite, use of, 1 MR 25-26

Malaya, lessons from, 1 MR 25-27

Pole charge, antibunker, (illus.) 13 MR 20-21

Pressure charges in Malaya, 1 MR 25

- Demolitions—Continued
- British—Continued
- Spitsbergen, facilities at, 1 SS 105-106, 112
- Training of engineer units, 14 TT 18
- Underwater demolitions in Malaya, 1 MR 26-27
- Dutch, of facilities and matériel in Netherlands Indies, 2 TT 16
- German:
- Adhesive paste, for demolition charges, 39 TT 19
- Airdromes, methods of obstructing, (illus.) I-11 IB 48-51
- Bangalore torpedo, II-3 IB 37-38; (illus.) 14 SS 51-52
- "Bell" demolition charge, (illus.) 3 TT 21-23
- Booby traps in relation to, I-1 IB 32-33
- Demolition charge for 20-mm AA/AT gun, 12 TT 20
- Equipment and vehicles, I-8 IB 40-41; I-10 IB 37-38; 18 TT 28; 27 TT 11; 41 TT 34-35
- Hollow demolition charge, new type, (illus.) 18 TT 16
- Molotov cocktails. *See* Molotov cocktails.
- Pole charge, 10 TT 41
- Stores, handling in winter, 36 TT 21
- Japanese:
- Artillery destruction, detachments for, II-4 IB 13-16
- Bangalore torpedo, use of, I-10 IB 83-84; II-1 IB 15; 19 SS 58
- Electrical obstacles, I-4 IB 18-19
- Dengue fever in Far East, II-3 IB 73-74
- Deployment (*see also* Dispersal):
- German:
- Motorized infantry deployment and detrucking, 4 SS 19-23
- Protection from aerial bombing, 34 TT 4
- Squad, 9 SS 35-36
- Japanese, in jungle, I-6 IB 3-4
- Depth charges, use for demolition in Malaya, 1 MR 26-27
- Desert experiences of crews of British bombers, 28 TT 1-2
- Desert warfare (*see also* Egypt; El Alamein operations; Libya; North Africa; Tunisia):
- Allied (*see also* British; United States):
- Ammunition, 6 SS 37-38
- Captured equipment, use of, 6 SS 35-36
- Direction, maintenance of, I-4 IB 77-78
- Food and water, protection of, I-9 IB 66-75
- Health rules, I-9 IB 65-78
- Organization of forces in Libyan campaign, 6 SS 5
- British (*see also* Allied):
- AT operations, 1 MR 12-14; 6 SS 73-86
- Defensive position, 6 SS 82-86
- Minefield defense, 8 MR 44-45
- Organization, Imperial forces in Libyan campaign, 6 SS 5
- Tactics, (illus.) 6 SS 60-73; I-2 IB 73-79; 2 MR 15-16
- Weapons in Libyan campaign, 6 SS 26-36
- Camouflage, I-2 IB 60-63; (illus.) I-3 IB 64-65, 73
- Clothing, bathing, and housing in North Africa—Middle East, I-9 IB 75-78
- Communications, 1 MR 42-43; 5 MR 33-36; 7 MR 51, 52; 13 MR 29-33; 6 SS 47-52
- Dust, effects on operations, I-4 IB 84-87
- Effect of rain, 13 TT 39
- German:
- Air-ground communication, I-2 IB 16-17
- Armored-division organization, 6 SS 2-3
- Drivers, suggestions for, I-4 IB 28-31
- Health rules, I-4 IB 24-27
- Minefields in, I-2 IB 16; I-5 IB 7-14
- Organization for, 6 SS 1-3, 106-107
- Salvage procedure, 9 TT 48; 18 TT 28
- Slit trenches, I-2 IB 17
- Supply, I-2 IB 18
- Tactics, I-2 IB 15; 5 SS 1-60; 6 SS 52-60; 14 TT 10-11; 15 TT 32-33; 16 TT 23-24

- Desert warfare—Continued
 German—Continued
 Transportation, I-2 IB 17
 Water rations, 5 TT 36; 16 TT 35
 Weapons in Libyan campaign, 6 SS 6-21, 93-103
 Weather, effect of, I-2 IB 18
 Italian:
 Organization for, 6 SS 4-5
 Weapons and equipment, 6 SS 21-26, 110-112
 North Africa, summary of operations, 1940-42, 9 TT 51-60
 Positions, selection and occupation of, 6 SS 43-47
 Reconnaissance, 6 SS 39-40
 Smoke screen, 6 SS 87-90
 Supply methods, 6 SS 91
 Terrain as factor in, 6 SS 43-44, 53
 United States, rations and kitchen equipment, 15 TT 40
- Destruction of equipment and vehicles. *See* Demolitions.
- Destructors. *See* Demolitions.
- Desyanti*, Soviet infantry on tanks, 13 MR 8; 3 TT 44-45; 10 TT 18
- Detectors, mine. *See* Minefield clearance.
- Detonation of mines. *See* Minefield clearance.
- DFS-230* glider, German, 7 SS 33, 36-39; 14 TT 3, 4, 5; 36 TT 47
- Diaries:
 Canadian newspaperman on Spitsbergen raid, 1 SS 110-114
 Japanese:
 Combat intelligence value, 13 MR 57-58
 Extracts, I-5 IB 43-45; I-6 IB 18-26
 U. S. aviator lost in Pacific, II-4 IB 79-89
- "Dick," Japanese fighter plane, 19 TT 2, 21 TT 32
- Dictionaries. *See* Glossaries.
- Dieppe, France, British raid on, 5 MR 39-60; 35 TT 34
- Diesel oil as antifreeze, German use, 21 TT 26
- "Dinah," Japanese Zero fighter, 19 TT 1
- Dinghy, single-seater inflatable, German, (illus.) 9 TT 2-3
- Direction finders, Japanese, radio equipment in Solomons, I-4 IB 12
- Direction, maintaining. *See* Orientation.
- Directors. *See* Antiaircraft measures.
- Disciplinary measures (British, German, Italian, Japanese, Soviet), 11 SS 12-13
- Discipline:
 British commandos, 1 SS 6-7; 1 TT 16-17
 German army, 3 SS 21-23; 18 SS 18-19; 18 TT 18-19; 20 TT 31-32; 24 TT 51-53
 Japanese army, I-5 IB 50-51; I-6 IB 9-11; I-8 IB 55-57; I-10 IB 80; 13 TT 53-54; 33 TT 25
 Soviet army, 8 MR 59
 United States Army, instructions of Lt. Gen. G. S. Patton, Jr., 30 TT 35-36
- Diseases. *See* Health rules; Medicine and surgery.
- Disguise, principle of camouflage, 37 TT 18-19
- Disking, definition, 18 TT 32, 34
- Disks, identification:
 German, I-3 IB 11; 9 TT 32, 33, 34; 19 TT 25-26
 Japanese, I-10, IB 86
- Disks (leaves), incendiary, German, 14 TT 15-16; 16 TT 6
- Dispersal of aircraft, German, at airdromes in western Europe, 15 TT 3-4
- Dispersal of troops:
 Australian, in Malaya, 34 TT 2-3
 German regulations, II-2 IB 16-18, 19
 Japanese, on Arakan front, I-11 IB 71
- Ditches, antitank. *See* Antitank obstacles.
- Dive-bombers. *See* Aircraft and individual planes.
- Dive-bombing (*see also* Air forces; Antiaircraft), protection against, II-2 IB 18-20; 33 TT 7-8
- Dnieper River, German crossing of, 7 TT 40-49
- Documents, captured, Japanese, combat intelligence value of, 13 MR 43-44, 56-59

- Documents, classification of, British, 13 SS 187-189
- Dogs:
- British, training for military purposes, 1-5 IB 68-70
 - German:
 - Messenger, 1-2 IB 23; 8 SS 24: 17 SS 35
 - Training for military purposes, 1-2 IB 21-23
 - Japanese, used in Arakan area, 37 TT 25
 - Don-Stalingrad area, U. S. S. R., operations, (map) 4 MR 46-60
 - Dornier (do)* planes, German:
 - Do 217* dive-bomber, 1-2 IB 12
 - Do 217E* bomber, 1-7 IB 54-55; 10 TT 1-2; 18 TT 2; (illus.) 36 TT 1-2
 - Do 217E2*, 4 TT 1-2
 - Double apron fence, New Zealand methods of penetrating, 1-6 IB 92-93
 - Double-parachute link arming system, British, (illus.) 6 MR 13-14
 - "Dragon's teeth," tank obstacle, German, II-1 IB 49-50; 15 SS 40 (illus.) 49; (illus.) 17 SS 130, 132-134; 35 TT 8
 - Drags, for transportation in snow and mud, German, (illus.) 18 SS 212, 213
 - Drive rod, blast, *D. K.*, German, (illus.) 27 TT 18-20
 - Dual-purpose guns. *See* Antiaircraft; Antitank; Multipurpose guns; and individual guns.
 - Dugouts. *See under* Fortifications, German and Japanese
 - Dummies. *See* Camouflage and concealment; Ruses.
 - Dumps, camouflage of, British, 7 MR 37-38
 - Dunkirk, British field-security activities in withdrawal to, 1 MR 51-58
 - Dust, effects of, 1-4 IB 84-87; 14 TT 41-42
 - Dutch East Indies. *See* Netherlands Indies
- E**
- Earth huts, German improvised winter shelters, (illus.) 18 SS 85, 87
 - East Prussian fortifications, German, 17 SS 47
 - East Wall fortifications, German, 17 SS 46-47
 - Eben Emael, Belgium, German airborne invasions, 7 SS 9, 10
 - Egg-type hand grenade 39 (*Eirhandgranate*), German, (illus.) 14 SS 47-50
 - Egypt (*see also* Africa; *Afrika Korps*; El Alamein operations):
 - Armored tactics, British, 13 TT 35
 - Armored tactics, German, 13 TT 35
 - British Middle East Infantry Training Depot at Geneffa, 13 TT 25-26
 - Egyptian-Libyan campaign (*see also* Libya), 14 TT 49
 - El Alamein area, terrain, 3 MR 44-45
 - Minefields, Axis, 13 TT 8-9; 19 TT 10-13; 41 TT 18
 - Minefields, Axis techniques in clearing, 13 TT 9
 - Operations, 23 Oct-7 Nov 1942, 15 TT 46-48
 - Rain, effect on desert operations, 13 TT 39
 - Tank personnel, British, casualties, 13 TT 36
 - Tank warfare, 13 TT 29
 - Western desert, terrain, 3 MR 44-45
 - 18-in howitzer, Mk I, British, (illus.) 13 MR 14-16
 - Eighth Army, British (*see also* El Alamein operations; Minefield clearance):
 - AA problems, 8 MR 5-22
 - Engineer notes on, 10 MR 25-33
 - Equipment, 10 MR 26
 - Field artillery at Messina, 13 MR 11-14
 - General characteristics, 10 MR 25-26
 - Mines, Axis, experiences with, 10 MR 27-29, 31, 32; 13 TT 8-9
 - 18th Antiaircraft Regiment, German, operations in Libya, 5 SS 16
 - 8th Tank Regiment, German, operations in Libya, 5 SS 22, 23, 26, 28-32
 - 8-mm medium machine guns, Italian:
 - Breda*, Model 38, (illus.) 26 TT 40, 42-43

- 8-mm medium machine guns, Italian—Continued
Breda, Model 37, I-3 IB 57; 11 TT 42; (illus.) 23 TT 25-27
Fiat, Model 35, I-3 IB 57; 11 TT 41; 23 TT 27
- 8-mm pistols, Japanese:
 Model 14 (1925), (illus.) 19 SS 14-20, 238, fol. 241; 10 TT 33
 Model 94 (1934), (illus.) 19 SS 21-25, 238
Nambu, (illus.) 19 SS 7-14, 238
- 88-mm AT gun (*Pak 43*—"Hornet"), German, (illus.) 38 TT 7
- 88-mm multipurpose gun, German:
 AT role, 10 SS 74-75; 1 TT 29-31; 28 TT 11-12
 Characteristics, (illus.) I-1 IB 1-4; II-3 IB 29; (illus.) 6 SS 9-18, 101; (illus.) 10 SS 19, 37-43; (illus.) 5 TT 15-17; 8 TT 24; 9 TT 45; 12 TT 11; 17 TT 14; 29 TT 5; 36 TT 3-5; 41 TT 45-46
 Emplacement, (illus.) I-9 IB 59
 New model ultra-high-velocity, (*Flak 41*), (illus.) 29 TT 5-7; 30 TT 17-18; 36 TT 3-5; 41 TT 46
 Self-propelled model, 25 TT 38
 Tactical employment in field, II-3 IB 27-33; 2 MR 53-54, 60; 5 SS 22-24, 26, 30, 32; 10 SS 74-77
 Telescopic sight for, 10 SS 49-50
- 88-mm self-propelled gun ("Ferdinand"), German, (illus.) II-2 IB 1-4; (illus.) 35 TT 16-20; 39 TT 12
- 88-mm tank gun, (*Kw. K. 36*), German, I-9 IB 56, 58
- 81-mm mortars:
 Brazilian, *Brandt*, 13 MR 35
 German, Model 34, heavy (s. *Gr. W. 34*), (illus.) 14 SS 102-112, 180, 181, 184; 18 SS 167; 9 TT 45; (illus.) 30 TT 28-29
 Italian, Model 35, I-3 IB 58; (illus.) I-5 IB 55-58; 6 SS 111; 16 SS 56-57; 7 TT 33; 11 TT 44; 24 TT 26
 Japanese:
 Model 99, (illus.) 19 SS 152-160, fol. 241; 10 TT 35; 40 TT 27; (illus.) 41 TT 30-31
- 81-mm mortars—Continued
 Japanese—Continued
 Model 97, (illus.) 19 SS 150-152; 40 TT 27
 United States, compared with Italian, I-5 IB 55; with Japanese Model 97 (1937), (illus.) 19 SS 150-152
- 83.5-mm AA gun German, 21 TT 4, 6
- El Alamein operations (see also Africa; *Afrika Korps*; Desert warfare; Eighth Army, British; Libya; North Africa; Tunisia):
 Allied air-force role, 3 MR 42, 43, 46, 50, 51, 52, 53, 54, 56, 57, 59, 60
 Axis (see also German):
 Air-force activity, 3 MR 54, 57
 Minefields, 13 TT 10-13; 19 TT 10-13
 Strength before British offensive, 3 MR 45-46
 Battle of El Alamein, 2 MR 49-60; 3 MR 41-60
- British:
 AA artillery at, 5 MR 13-14
 Aerial photographs, value to field artillery, 4 MR 22
 Armored defensive battle, 2 MR 15-16
 Armored-force offensive, (map) 2 MR 49-60
 AT guns, Axis, measures against, 5 MR 18-19
 AT gun, 6-pounder, in, 4 MR 25-26, 28
 AT measures, 1 MR 12-14; 5 MR 17-18
 Chemical-warfare troops, 4 MR 30-31
 Eighth Army offensive, (map) 2 MR 49-60; 3 MR 41-60
 Field artillery. See Field artillery, British.
 5.5-in gun employed in, 4 MR 16
 44th Division, role of, 2 MR 51
 Medical services during, 2 MR 49, 52
 Medium artillery, employment of, 4 MR 15-24
 Minefield clearance by Eighth Army, 5 MR 23-25; 7 MR 38-41; 10 MR 29-30
 Minefield employment, 1 MR 12-13

- El Alamein operations—Continued
- British—Continued
- 105-mm self-propelled howitzer, M7, "Priest", use of, 2 MR 22-23; 4 MR 26-28
 - Radio deception, 6 MR 42
 - Self-propelled artillery, 2 MR 22-23; 4 MR 26-28
 - 6-pounder AT gun in, 4 MR 25-26, 28
 - Survey of, value to field artillery, 4 MR 23-24
 - Tank employment in, 2 MR 15-16; 4 MR 13-14
 - Tank recovery and maintenance, 4 MR 37-39
 - 10th Corps, role of, 4 MR 15, 17
 - 13th Corps, role of, 4 MR 17
 - 30th Corps, role of, 4 MR 15, 16, 19, 20
- German (*see also* Axis):
- Attack of 31 Aug-5 Sep 42, (map) 17 TT 44-53
 - 88-mm AT gun, 2 MR 53-54, 60
 - Rommel's defense of stabilized positions, 32 TT 33-34
 - Initial action, 14 TT 22-23
 - Terrain of El Alamein area, 3 MR 44-45
- Electrical gyroscopic compass, German, (illus.) 7 TT 29-31
- Electrical igniters, German, for "S" mine, (illus.) 28 TT 22-25
- Electrical mobile shop truck, German, 37 TT 31
- Electrified obstacles, Japanese, I-4 IB 18-19; 10 TT 9-10
- Electrified wire obstacles, German, II-1 IB 44; 15 SS 22; 36 TT 18, 19
- Elevator *Flak* positions in German coastal defenses, 15 SS 86, 88
- XIth Air-Borne Corps, German, organization, 7 SS 19, 45-46
- 11-ton Czech tank, German, 16 TT 30
- Embarkation security, British, I-10 IB 92-93
- Emergency radio transmitter *NS-4*, German, (illus.) 39 TT 37-39
- Emergency rations. *See* Rations.
- Emergency signal container and flare pistol (*Notsignalbehälter*), German, (illus.) 22 TT 38-40
- Emplacements (*see also* Defensive positions; Fortifications; Trenches):
- Emplacements—Continued
- British:
- AA-gun, 1 MR 8-9
 - AT-gun, I-5 IB 80; (illus.) 6 SS 80-82; (illus.) 6 TT 10, 11
 - Gun pits, (illus.) 6 SS 43-47
- German:
- AA positions, (illus.) 15 SS 85-86, 87, 88; 17 SS 128, 129
 - Artillery, 15 SS 63, 66; (illus.) 17 SS 122-125, 126, 127
 - AT-gun, (illus.) 17 SS 118-121; (illus.) 28 TT 10-11
 - Cantilever-type, (illus.) 15 SS 73, 77, 78
 - Cliff and cave positions, (illus.) 15 SS 71, 79, 82
 - Coastal-defense, (illus.) 15 SS 60-86, 87, 88
 - Concrete pillboxes, (illus.) 17 SS 76, 77, 78, 79, 80, 90, 91
 - Fort-type, (illus.) 15 SS 62-63, 64-65, 67, 68-70
 - Gun pits, 6 SS 43-47
 - Howitzer, (illus.) 6 SS 46; (illus.) 17 SS 126
 - Infantry gun, (illus.) 15 SS 80, 84-85; (illus.) 17 SS 116-117
 - Logs and timber in snow, (illus.) 18 SS 95, 96
 - Machine-gun, (illus.) 15 SS 77-79, 81; (illus.) 17 SS 16-17, 18, 20, 80, 103-105, 110-113; 18 SS 95-96
 - Mortar, (illus.) 17 SS 106-107, 114-115
 - Open, artillery, 15 SS 63, 66
 - Open brick type, (illus.) 15 SS 77, 80
 - Promenade, (illus.) 15 SS 79-80, 83
 - Roofless pillbox, (illus.) 15 SS 80, 84
 - Sandbag, for AA guns, 17 SS 128, 129
 - Tank-turret, in coastal defenses, (illus.) 15 SS 66-67, 71, 72, 73
 - T-shaped, (illus.) 15 SS 60-62
 - Underground, (illus.) 15 SS 76-77, 79
 - Waasenaar, (illus.) 15 SS 71, 73, 76
 - West Wall, (illus.) 17 SS 106, 107, 114-129

Emplacements—Continued

Japanese:

- AA-gun, 31 TT 2-8
- Caves for riflemen on Attu, (illus.) I-11 IB 65, 66, 67
- Gun camouflage, 26 TT 33
- Machine-gun, (illus.) I-11 IB 65-67; II-2 IB 36-37; 13 TT 57; 37 TT 51

Soviet AT-artillery, I-5 IB 74, 76

Energen, energy-producing drug of German parachutist, 7 SS 30

Engels school of aviation, Soviet, 4 MR 59-60

Engineer intelligence, British (*see also* Combat intelligence; Counterintelligence; Prisoners of war; Propaganda; Security), 10 MR 33-36

Engineers (*see also* Booby traps; Bridges; Camouflage and concealment; Demolitions; Engineer intelligence, British; Fortifications; Minefield clearance; Minefields; Mines; Obstacles): Australian, School of military engineering, 6 MR 31-32

British:

- Airborne division, 10 MR 5-6
- Airfield construction in North Africa, 8 MR 43
- Bailey bridge, 35 TT 28-30
- Beesley thrust-type pole charge, (illus.) 13 MR 20-21
- Box girders (bridge), use in North Africa, 8 MR 42-43
- Bridge construction, 8 MR 42-43; 1 TT 10; (illus.) 15 TT 14-16; 35 TT 28-30
- Chemical warfare groups, El Alamein employment of, 4 MR 30-31
- Communications in North Africa, 8 MR 43
- Eighth Army, notes on, 10 MR 25-33
- Hessian Carpet, for crossing wire obstacles, (illus.) 7 MR 29-31
- Jungle operations, (illus.) 13 MR 18-20; 38 TT 25-28
- Landing-field construction, 8 MR 43, 19 TT 13-14
- Mined craters, detouring and filling, 10 MR 31

Engineers—Continued

British—Continued

- Minefield defense in North Africa, 8 MR 44-45
- Mobile scissors-bridge, (illus.) 15 TT 14-16
- Mountain warfare, role in, 11 MR 44
- Panjis (bamboo spikes), use of, (illus.) 13 MR 18-20
- Personnel requirements in North Africa, 8 MR 44
- Pole charge, antibunker, (illus.) 13 MR 20-21
- Replacements, problems of, 10 MR 31-32
- Road craters and obstacles, dealing with, I-12 IB 72-74
- Road machinery, value in North Africa, 8 MR 42
- Training of, 14 TT 16, 18
- Water-purification plant, mobile, (illus.) 5 MR 21-22
- Water supply in North Africa, 8 MR 43-44
- Wire entanglements, Hessian Carpet for crossing, (illus.) 7 MR 29-31
- Construction with native materials in South Pacific, (illus.) 33 TT 16-19
- German (*see also* *Organisation Todt*):
 - Armored portable pillbox, (illus.) 40 TT 20, 23
 - Assault detachments, I-12 IB 33-36; 14 TT 26-28
 - Attack methods, I-12 IB 36-37; 22 TT 26-27
 - Baurouppen* (construction troops), (illus.) 26 TT 19-21
 - Blast drive rod, *D.K.*, (illus.) 27 TT 18-20
 - Clearing unexploded "butterfly bombs," 36 TT 21-23
 - Combat engineers, I-2 IB 7-9
 - Compass card, *MKZ* (*Marschkompass*), (illus.) 34 TT 22; 41 TT 18
 - Crossing ice, methods, (illus.) 18 SS 46-52, (illus.) 17 TT 18-22
 - Delaying tactics, I-11 IB 52; 8 SS 62, 70; 26 TT 18-19
 - Explosive rivet, 41 TT 25
 - Field engineering, 39 TT 49-50

Engineers—Continued.

- German—Continued
 Field exploder, *Siemens*, 1941 model, 24 TT 12
 Flame-throwing detachment, I-12 IB 33, 35, 36
 Light assault bridge, (illus.) I-7 IB 56-58
 Organization of engineer battalion of infantry division, 34 TT 28
 Reconnaissance, II-4 IB 64
 Reich Labor Service, assistance by, I-2 IB 10
 Steel invasion barges, 1 TT 10
 Underground mining operations, (illus.) 29 TT 39, 55
 Winter, practices in, 22 TT 20-26; 36 TT 16-21
- Japanese:
 Jungle-clearing units, I-10 IB 85
 Pillbox-attack group, I-12 IB 55-60
- Sicilian operations, lessons learned from, 37 TT 20-21
- Soviet:
 Submerged-bridge construction, 29 TT 17-18
 Support of tanks, 15 TT 17-18
 With mountain troops, 31 TT 48-49, 51
- Engine-heating device for aircraft, German, I-6 IB 59-61
- Enunciator system, use in desert communication, 6 SS 49
- Enveloping attack:
 German, forms of, 8 SS 45-46
 Japanese, 32 TT 26
- Equipment (*see also various arms, services, weapons, and specific equipment*):
 Australian, of independent companies, 1 SS 22-24
 Axis (*see also German and Japanese*), intelligence value of, 10 MR 55-56
 British, jungle, II-1 IB 84-85; 11 TT 22
 Finnish, of small units, 6 TT 40-41
 French, mechanized, used by Axis, 9 TT 28-29
 German (*see also Axis*):
 Basic requirements for winter war in U. S. S. R., 18 SS 6-7
 Performance, 15 TT 40-41
 Train-defense, 17 TT 5

Equipment—Continued

- Japanese (*see also Axis*):
 Attu, used on, I-11 IB 64, 68-70
 Carried by individual soldier during Pacific operations, 35 TT 35
 Comment by Japanese prisoners regarding, I-6 IB 28; I-9 IB 29-30
 Kiska, found on, (illus.) 37 TT 25-26
 Notes on, I-1 IB 66-69
 Philippines, used in, I-2 IB 40-41
 South Pacific operations, used in, I-5 IB 39-40
 United States, for men on Guadalcanal, 3 MR 37
- Erkennungsmarke*, German identification disk, I-3 IB 11; 9 TT 32, 33, 34; 19 TT 25-26
- Escarpments as AT defense, Soviet, (illus.) 12 TT 8
- Evacuation of wounded:
 British, in difficult situations, I-11 IB 77-83
 German, (illus.) 18 SS 149-153; 33 TT 31-32; 35 TT 42-43; (illus.) 39 TT 28-30
- Evacuation order of Hermann Göring Division in Sicily, 40 TT 29-30
- Everest carriers used by British commandos, 1 SS 51
- Expeditionary force, British, air-defense warning system for, 2 MR 9-13
- Exploder, field, *Siemens*, 1941 model, German, 24 TT 12
- Exploding device for jettisoning bomb carriers on plane, German, 11 TT 3
- Explosive rivet, German, 41 TT 25
- Explosive weapons used by German tank hunters, (illus.) I-12 IB 26-30; 10 TT 50-51; 23 TT 37-47; (illus.) 29 TT 8-9
- Eyeglasses for use with gas masks, German, 5 TT 19
- F**
- Face-hardened armor, British definition, 18 TT 32, 34
- Fake gases, German, 13 TT 8
- Fascist Party of Italy, I-4 IB 32, 56-57; 11 SS 25, 57

- Fastov, U. S. S. R., German capture of, 11 TT 56-57
- Feet, care and protection of (*see also* Footwear), I-4 IB 26; I-9 IB 75; II-3 IB 86-88; (illus.) 18 SS 130-131, 132; 11 TT 30-31; 30 TT 15; 31 TT 33-35
- Fences (*see also* Barbed-wire obstacles), snow, (illus.) 18 SS 41-44; (illus.) 36 TT 17
- "Ferdinand." *See* 88-mm self-propelled gun, "Ferdinand," German.
- Festivals, Japanese, I-3 IB 53-54; 27 TT 37-38
- Fiat machine guns, Italian:
8-mm medium, Model 35, I-3 IB 57; 11 TT 41; 23 TT 27
6.5-mm, Model 14, 11 TT 41
- Field artillery (*see also* Assault guns; Coast artillery; Field guns; Gun-howitzers; Howitzers; Mortars; Mountain weapons; Self-propelled artillery):
Argentine mountain training, 1 TT 5
Axis (*see also* German; Italian; Japanese), effect of air attack on, 12 MR 13-14
British (*see also* Medium artillery):
AA employed as, 2 MR 6-8
Aerial photographs, target location by, 4 MR 18, 22
Airborne division, 10 MR 5
Air-burst fuzes, use at El Alamein, 4 MR 24
Air cooperation with, in Tunisia, 10 MR 20-23
Allotment of, in army, 2 MR 23-24
Ammunition expenditure at El Alamein, 4 MR 24
Amphibious operations, with, 5 MR 60
Armored OPs, 1 MR 19-20
AT, in Middle East, 1 MR 13-15
Burma campaign, 8 TT 27-28
Close-support, importance to infantry, 1 MR 27-32
Command communications, 4 MR 19-20
Counterbattery fire, 4 MR 20-22; 6 SS 70-71
Desert tactics, (illus.) 6 SS 39-52, 60-73, 87-91
- Field artillery—Continued
British—Continued
Effect on enemy morale, 13 MR 14
Effect on enemy tanks, 4 MR 18-19
El Alamein, employment at, 2 MR 54, 55, 56, 57, 58, 59; 4 MR 15-24
Fire concentration, 4 MR 19
Flash ranging, 7 MR 18-19; 6 SS 71; 4 TT 21
Jungle warfare tactics, 7 MR 19-24; 11 MR 21-26
Maneuvers of, regiment, 6 MR 19-23
Messina, employment at, 13 MR 11-14
Middle East, employment in, 13 MR 17
Mountain warfare, role in, 11 MR 42-43
Observation, 6 SS 41-43
Self-propelled-gun regiment, organization of, 2 MR 20-22
Sound ranging, 9 MR 18-24; 6 SS 71
Tactics, 7 MR 19-24; 11 MR 21-26, 42-43; (illus.) 6 SS 39-52, 60-73, 87-91
Terms, with U. S. equivalents, II-4 IB 75-78
Tunisia, employment in, 10 MR 18-25, 46
Desert tactics, I-2 IB 15; 6 SS 39-91
German (*see also* Axis):
Alternate gun positions, I-10 IB 15
Attack tactics, I-2 IB 15; 6 SS 54-59; 8 SS 50-51, 53, 75
Bomb thrower (*s. W.G. 40*), (illus.) 8 TT 28-30; 12 TT 12, 14 TT 15
Camouflage, 40 TT 18
Classification of weapons, 36 TT 13
Command in the Army, 7 TT 5-7; 29 TT 9, 14-17
Cooperation with other arms, 8 SS 53, 75-76; 9 SS 22-32; 6 TT 14-15, 8 TT 30-32; 32 TT 18-20
Counterbattery fire, I-10 IB 16
Deceptive methods, 33 TT 9, 11

Field artillery—Continued

German—Continued

- Defensive tactics, I-10 IB 17-18; 6 SS 63-70; 8 SS 67-68, 75
- Desert, tactics in, I-2 IB 15; 6 SS 39-60, 86-91
- Emplacements, I-10 IB 14-15; (illus.) 15 SS 63-66; (illus.) 17 SS 122-125, 126, 127
- Flak*, employment with field army, I-10 IB 34, 36; II-3 IB 26-36; 10 SS 60-80; 28 TT 9; 41 TT 41-49
- Flash-ranging nets, 17 SS 33
- Infantry, support of, 8 SS 53, 75-76; 9 SS 22-32; 6 TT 14-15
- Observation and reconnaissance, I-10 IB 15-17; 6 SS 39-43; (illus.) 15 SS 59-60; 17 SS 22-23; 18 SS 173; 28 TT 13-15; 33 TT 14-15
- 105-mm gun battery radio communication, 26 TT 43-44
- 120-mm mortar battalions, 40 TT 12-13
- Organization, 6 SS 106; 6 TT 12; 7 TT 4-7; 34 TT 26-27
- Precautions against counterbattery fire, 19 TT 9
- Protection of fortified zone, 17 SS 20-21
- Protective cover for gun crew, (illus.) 17 SS 123-125, 127
- Railway gun, (illus.) 10 TT 7, 8
- Roving guns, I-12 IB 40-41
- Smoke- and gas-filled shells, 16 SS 17-18
- Sound and flash reconnaissance, Soviet, counteracting of, 33 TT 9, 11
- Tactical employment, I-2 IB 15; I-8 IB 15; I-10 IB 14-18, 34, 36; II-3 IB 26-36; 6 SS 39-60, 86-91; (illus.) 8 SS 50-51, 53, 67-68, 73-76; 10 SS 60-80; 6 TT 13-15; 8 TT 30-32; 28 TT 9; 31 TT 15; 32 TT 18-20; 33 TT 9, 11; 34 TT 9; 41 TT 41-49
- Telephone nets on stabilized front, 17 SS 32-33
- Visual signal system for fire control, (illus.) 23 TT 7, 8
- Weakness of defensive positions in Sicily, II-3 IB 22-25

Field artillery—Continued

German—Continued

- Winter care of weapons, 18 SS 161-162
- Winter weather, effect on fire, 18 SS 172-173
- Wooded areas, tactics in, 33 TT 12-16

Italian:

- Gas- and smoke-filled shells, 16 SS 57
- Organization for desert warfare, 6 SS 5
- Parachute artillery equipment, 18 TT 7
- Weapons used in desert, I-3 IB 59-60; 6 SS 21-26, 110-112

Japanese:

- Gas- and smoke-filled shells, 16 SS 100-101
- Philippines, use in, I-2 IB 39; 12 MR 41-42, 50
- Tactics, British comment on, II-1 IB 31-32

Soviet:

- AA role, 37 TT 8-9
- AT role, 35 TT 11
- Counterpreparation, 36 TT 9-11
- Don-Stalingrad front, effectiveness at, 4 MR 52
- Observation, 34 TT 9-11
- Organization, 7 MR 15-17; 8 MR 56-57
- Tactical employment, II-2 IB 1-4; 4 MR 57; 7 MR 17-18; 3 TT 46-48; 32 TT 18-20; 34 TT 9-11; 35 TT 11, 20; 37 TT 8-9
- Tanks, support of, 32 TT 18-20; 34 TT 9-11
- Training, (illus.) 8 MR 36-39; 9 TT 6-7

United States:

- Air support of, 4 MR 44
- Fire in combat, 30 TT 39
- Guadalcanal, employment on, 3 MR 38
- Infantry, cooperation with, 11 MR 33
- Terms, with British equivalents, II-4 IB 75-78

Field exploder, *Siemens*, 1941 model, German, 24 TT 12

- Field fortifications. *See* Fortifications
- Field guns (*see also* Field artillery):
- British:
- 4.5-in, 6 SS 34
- 9.2-in, Mk XIII, 13 MR 16
- French:
- 90-mm, German AT use of, 4 TT 3
- 75-mm, German AT use of, 34 TT 6-7
- German:
- 150-mm, 6 SS 101; 9 TT 47
- 150-mm infantry, on self-propelled mount, 8 TT 28; 13 TT 6-7; (illus.) 22 TT 13-15
- 105-mm, 6 SS 101; 9 TT 46; 12 TT 12-13; 25 TT 45; (illus.) 30 TT 28, 29
- 105-mm, light, 13 TT 43; 17 TT 15
- 172-mm long-range, 22 TT 35
- 75-mm, 13 TT 43
- 75-mm, light, 9 TT 45; 17 TT 15; 18 TT 27
- 75-mm, mounted on 3-ton half-track, 25 TT 44
- 75-mm recoilless, (illus.) 26 TT 15-18
- 76.2-mm (Soviet), (illus.) 6 SS 20, 21, 102
- 380-mm, 6 SS 102
- 280-mm, 13 TT 44
- 240-mm, 6 SS 102
- 210-mm, 6 SS 102; 13 TT 44
- Italian:
- 90-mm (90/50) multipurpose, 6 SS 111
- 152-mm (152/45), 6 SS 111; 11 TT 45
- 105-mm (105/40), 6 SS 111; 11 TT 45
- 105-mm (105/32), 6 SS 111; 11 TT 45
- 105-mm (105/28), (illus.) 6 SS 24, 25, 111; 11 TT 45
- 105-mm (105/27), 7 TT 34
- 149-mm (149/40), 6 SS 111; 11 TT 45
- 149-mm (149/35), 6 SS 111; 11 TT 45
- 75-mm (75/34), 6 SS 23, 111; 11 TT 44
- 77-mm (77/28), 6 SS 111; 11 TT 44
- Field Guns—Continued
- Italian—Continued
- 75-mm (75/27), Models 06, 11, and 12, I-3 IB 59; 6 SS 22-23; 7 TT 33-34, 35; 25 TT 47-48
- 381-mm (381/40) railway gun, 6 SS 112; 11 TT 45
- Japanese:
- 150-mm, 10 TT 35
- 105-mm, 10 TT 35
- 75-mm, Models 38 and 90, 10 TT 34
- Soviet 76.2-mm, used by Germans, (illus.) 6 SS 20, 21, 102
- Field instructions, Japanese, extracts from, 16 TT 39-43
- Field kitchen, sled-mounted, German, (illus.) 18 SS 206, 210
- Field orders, German, 8 SS 30-33, 77-86; 36 TT 26-32
- Field patching. *See* Maintenance and repair.
- Field positions. *See* Ditches; Dug-outs; Emplacements; Fortifications; Trenches.
- Field rations. *See* Rations.
- Field security. *See* Security.
- Field uniforms. *See* Uniforms.
- Field wire. *See* Communications.
- Field works. *See* Fortifications.
- 15-kg bomb, HE/toxic smoke, Japanese, 36 TT 53
- 15-mm aircraft machine gun, (M.G. 151/15), German, (illus.) 12 TT 1, 2; (illus.) 30 TT 18, 19
- 15th Armored Division, German (*see also* *Afrika Korps*), 5 SS 5-19; 13 TT 35; 14 TT 47
- 15th Motorized Infantry Brigade, German, 5 SS 14, 38
- 15th Panzer Division, German, employment of AA forces, 8 TT 16-18
- Fifth column (*see also* *Ruses; Security*):
- German, I-3 IB 23-26
- Japanese, I-1 IB 62-66; I-3 IB 32; 33 TT 26
- Security measures against, 39 TT 39-40
- .50-cal AA machine gun, Japanese, 12 TT 7

- .50-cal Browning aircraft machine gun, M 1921, U. S., (illus.) 34 TT 36-37
- 50-kg bomb, gas, Model 92, Japanese, 16 SS 124-125; 36 TT 52-53
- 50-kg bomb, mustard gas, German 36 TT 48
- 50-kg bombs, incendiary, German, (illus.) 16 SS 27, 29-31; 6 TT 22; 14 TT 13; 15 TT 10-11
- 50-kg bombs, incendiary, Japanese, 16 SS 126-128; 29 TT 2
- 50-mm AA/AT gun, German:
Characteristics, 10 SS 19; 9 TT 43; (illus.) 35 TT 6
Description, 10 SS 35-36; 4 TT 3; 21 TT 4
Self-propelled, 25 TT 38
- 50-mm AT gun, German:
Ammunition, I-6 IB 36-37; (illus.) 3 TT 16-18; 15 TT 38-39
AP shell, (illus.) 3 TT 16-18
Characteristics, (illus.) I-6 IB 31-33; 6 SS 94, 98; 3 TT 10; 12 TT 10-11; 15 TT 38-39; 17 TT 13
Compared with 75-mm AT gun, (illus.) 25 TT 9
Description, (illus.) I-6 IB 33-36; I-11 IB 38; (illus.) 6 SS 6-7; (illus.) 14 SS 123-136; (illus.) 5 TT 12-14; 9 TT 43; 15 TT 38-39
Infantry weapon, used as, (illus.) 30 TT 28-29
Self-propelled model, 25 TT 40
Tank gun, used as, 4 TT 15
Winter, use in, II-2 IB 11; 18 SS 167-168
- 50-mm grenade dischargers, Japanese:
Model 89 (1929):
Ammunition, I-9 IB 20-21; (illus.) 19 SS 50, 80-84
Characteristics, I-9 IB 16; 10 TT 34
Description, (illus.) I-9 IB 15, 16, 17; II-2 IB 48-49; (illus.) 16 SS 99-100; 19 SS 73-87, fol. 241
Effectiveness in jungle, 19 SS 2
Modified version, (illus.) 19 SS 76, 78
Model 10 (1921):
Ammunition, I-9 IB 22-23; (illus.) 19 SS 45-49, 71
- 50-mm grenade dischargers, Japanese—Continued
Model 10 (1921)—Continued
Characteristics, I-9 IB 19; 16 SS 100; 10 TT 34
Description, I-9 IB 15, 18-19; (illus.) 19 SS 68-73
Operation, I-9 IB 19-20
- 50-mm mortar, light (*l. G. W. 36*), German:
Ammunition, I-5 IB 21-22, 26-27
Characteristics, (illus.) I-5 IB 21-24; (illus.) 14 SS 95-101, 179, 180, 184; 9 TT 43; (illus.) 30 TT 28-39
Compared with U. S. 60-mm mortar, I-5 IB 21-27
Operation, I-5 IB 24-26; 18 SS 166-167
- 50-mm mortar, Model 98 (1938), Japanese, (illus.) 19 SS 135-142
- 50-mm tank gun, German, 6 SS 7-8, 98; 3 TT 10, 12; 5 TT 14; 9 TT 43; (illus.) 20 TT 10, 11; 22 TT 13; (illus.) 32 TT 8, 9, 10; (illus.) 33 TT 9, 10
- 57-mm AT gun (6-pounder), British, 4 MR 25-26, 28; 6 MR 39; (illus.) 6 SS 29-30; 8 TT 46-47; 16 TT 24
- Fighter planes. *See Aircraft and individual planes.*
- Fighter-plane tactics. *See Air forces.*
- Fighter-searchlight team, operation of, British, 7 MR 9-12
- Fighting French, occupation of Réunion Island, 9 MR 57-59
- Filariasis (elephantiasis), II-3 IB 74
- "Filleting" attack methods, Japanese, I-9 IB 6; 13 TT 24-25
- Filter, portable haversack, German, (illus.) 38 TT 41-43
- Finland. *See Finnish subdivision of subject.*
- Fire bombs. *See Bombs (incendiary).*
- Fire control (*see also individual weapons*):
Allied, light AA in North Africa, 7 MR 6
British, in amphibious operations, 4 MR 43
German, 10 SS 46-51, 92-94; 17 SS 16-18
United States, of AA units, 11 MR 10

- Fire directors, German, 10 SS 46-49; 6 TT 8; 14 TT 7
- Fire fight, German infantry, I-8 IB 42-46; 9 SS 11-22
- Fire, hostile, and its effect, German, 3 SS 61-63
- Fireplaces for emplacements and caves, German, (illus.) 18 SS 108
- "Fire pockets," German, 39 TT 48
- Fires in jungles, making of, II-1 IB 89-90
- Fires in winter. *See* Heating facilities.
- First-aid dogs, German, I-2 IB 23
- First-aid measures (*see also* Medicine and surgery):
German, I-4 IB 26; 7 SS 30; 30 TT 15, 16
Japanese, II-2 IB 50
United States, II-3 IB 80, 81, 82, 83, 85; 17 TT 36; 30 TT 42
- First Army, British, AA problems of, 8 MR 5-22
- 5-inch naval AA gun, Japanese, 8 TT 19
- 5-kg bomb, target-indicator (*bomba vento*), Italian, (illus.) 25 TT 26-28, 29
- 5.5-in gun-howitzer, British, 4 MR 16; 6 SS 34-35
- 5-mm rifle, Japanese, I-4 IB 14
- Fla.* *See* Antiaircraft (AA) measures, German
- Fla-Bataillone* (AA battalions of infantry, German), (*see also* Antiaircraft (AA) measures: German) 10 SS 12; 7 TT 7; 13 TT 3-4; 28 TT 4
- Flak.* *See* Antiaircraft (AA) measures, German; 88-mm multipurpose gun, German; 50-mm AA/AT gun, German; 37-mm AA/AT gun (*Flak 36*), German; 20-mm AA/AT gun, German (*Flak 30* and *38*)
- Flaking or diskling, British definition, 18 TT 34
- Flame throwers:
German:
Portable, I-12 IB 33, 35, 36; (illus.) 16 SS 30, 32-34; 2 TT 22-26
Tank, I-9 IB 62-63; 16 SS 35; (illus.) 39 TT 9-11
- Flame throwers--Continued
Italian:
Battalion organization, 16 SS 50
Motorized, 16 SS 69
Portable, I-4 IB 65-67; (illus.) 16 SS 65-68, 69; 9 TT 12; 34 TT 21
Tank I-4 IB 67-68; (illus.) 16 SS 69
- Japanese:
Operation and use, I-6 IB 28; (illus.) I-8 IB 63-66
Portable, I-8 IB 62-63; (illus.) 16 SS 130-133; (illus.) 18 TT 8-10; (illus.) 39 TT 12, 14-16
Tank, 16 SS 134
Soviet, 5 TT 30; (illus.) 26 TT 25, 26
- Flare pistols. *See* Signal pistols.
- Flares, signal. *See* Communications.
- Flashless powder:
German, 31 TT 37
Japanese, 27 TT 39
Used on desert, 6 SS 37
- Flash ranging, 7 MR 18-19; 6 SS 71; 17 SS 33; 18 SS 173; 4 TT 21
- Fleas, I-4 IB 25; I-9 IB 78; II-3 IB 76; 30 TT 14
- Fleet Air Arm, British, in Spitsbergen raid, 1 SS 103
- Flies, diseases from and precautions against, I-4 IB 25; I-9 IB 78; II-3 IB 78-80; 30 TT 14
- Floats for evacuating wounded, British, I-11 IB 81-83
- Floats, smoke, British. *See* Smoke.
- Fluorescent maps for night bombing, German, 4 TT 2
- Focke-Wulf (FW) 190* planes, German:
Aerial bombing attacks, I-10 IB 24-25, 26-28; 26 TT 2-4
Compared with British Spitfire IX and U. S. P-38F, 11 TT 3
Compared with Soviet *La 5*, 37 TT 1-3
Description, (illus.) I-1 IB 11, 12; 6 TT 1; 27 TT 1-2
Misleading markings, 20 TT 3-4
Speed limitations, 23 TT 1
Tactics, I-10 IB 24-25, 26-28; 26 TT 2-4; 37 TT 1-3
- Fog and darkness, fighting in, German, 4 SS 42

Food (*see also* Rations):**British:**

- Commando, 1 SS 53-54
- Mountain warfare, 1 SS 47-48
- Self-heating soup, 19 TT 42

Containers for cooking in Indo-Pacific area, 15 TT 59-60

Desert areas, precautions in, I-4 IB 25; I-9 IB 72-75; 30 TT 14

German:

Concentrated, for military uses, 20 TT 30

Emergency, in U. S. S. R. forests, 18 SS 139

"Food bomb," 550-pound, 22 TT 36

North Africa, precautions in, I-4 IB 25; 30 TT 14

Japanese:

Attu, kinds available on, I-11 IB 69-70

Guadalcanal, supply on, I-9 IB 13-14

Jungle, available in, II-1 IB 86-88; 21 TT 28-31

Sago palm, (illus.) 16 TT 44-48

Seafood in the Indo-Pacific area, 15 TT 50-60

Footwear:**German:**

Bandages for marching, (illus.) 11 TT 30-31

Care, II-3 IB 87-88; 18 SS 134-136

Foot cloths, methods of wrapping, (illus.) 18 SS 130, 131

Winter, (illus.) 18 SS 130, 131, 132, 133, 193-197

Japanese soldier's, I-9 IB 30

Forced labor, Japanese treatment in South Pacific, I-8 IB 67-68

Ford trucks used in North Africa by Germans, 20 TT 27-28

Formations:**German:**

Approach and attack, 16 TT 11

Arrowhead, 4 SS 21, 57; 16 TT 11

Infantry-squad, (illus.) 9 SS 4-8

Motpulk (armored, motorized, and air columns), I-1 IB 48-51

Motorized infantry battalion, (illus.) 4 SS 21, 57

Formations—Continued**German—Continued**

Platoon wedge, I-11 IB 47; (illus.) 9 SS 34

Tank, I-11 IB 44-47

Fort Capuzzo, Libya, German defensive position, 5 SS 5, 7-8, 12-13, 27-30, 37-38

Fortifications (*see also* Defensive positions; Emplacements; Trenches):

Attacks on, German:

Concrete, I-6 IB 42-43

In U. S. S. R., 5 TT 39-45; 16 TT 14

Maginot Line, 16 TT 14; 21 TT 43-44

German (*see also* West Wall):

Armored turret, (illus.) 15 SS 66-67, 71, 72, 73; (illus.) 17 SS 73-76; 21 TT 39-40

Camouflage, (illus.) 17 SS 86, 92-95, 96, 98-101; (illus.) 18 SS 95, 120-123

Casemates, (illus.) 17 SS 67, 88, 89, 90

Closed, (illus.) 17 SS 63-64, 84-86

Coastal-defense, (illus.) 15 SS 50-89; 17 SS 42-44

Communications 17 SS 23, 29-40

Decentralized, (illus.) 17 SS 63, 68-84

Depth in defensive areas, 17 SS 13-14

Dugouts, (illus.) 18 SS 97, 98; 39 TT 49, 50

Dummy installations, 15 SS 48; 17 SS 101; 18 SS 126; 17 TT 1-3

Field, I-7 IB 43-46; (illus.) 17 SS 9, 12-13, 95-122; (illus.) 18 SS 95-100; 22 TT 20-22, 24

Fire control for defense, 17 SS 15-18

Foxholes, (illus.) 17 SS 102, 103-105, 108-109, 110-113, 122

Gapless firing chart in defense of, 17 SS 15-16

Living quarters, 17 SS 69, 72-73, 85

Loophole positions, 21 TT 37-39

Observation, reconnaissance, and reports for, 17 SS 22-23

Fortifications—Continued

German—Continued

- Obstacles, permanent (*see also* Obstacles), (illus.) 17 SS 129-141; 21 TT 41-42
- Permanent, (illus.) 15 SS 50-86; (illus.) 17 SS 2-3, 5-6, 9-12, 13-25, 28-40, 42-47, 127 fol. 141; 21 TT 35-42
- Pillboxes, (illus.) 15 SS 79, 80, 82, 84; (illus.) 17 SS 76-79, 141
- Power installations, 17 SS 83-84
- Shelters, (illus.) 15 SS 52-60; 17 SS 63, 127; 21 TT 36-37; 22 TT 20-22, 24
- Tactical doctrine, 17 SS 5-23
- Winter field, (illus.) 18 SS 95-100; (illus.) 22 TT 20-26
- Japanese:
- Bunkers, I-9 IB 8-9; 21 TT 17; (illus.) 26 TT 33-34, 35; (illus.) 31 TT 31-33
- Dugouts, I-3 IB 39; I-9 IB 8, 9; (illus.) 1-10 IB 68, 69; (illus.) 10 TT 13; 21 TT 17; 40 TT 23-24
- Foxholes, on Arakan front, (illus.), I-10 IB 66-67, 68, 69
- Soviet, pillboxes, concrete, (illus.) 3 TT 33-35
- Underground mines in combat against, 29 TT 47-48
- Western European (Belgian, French, Netherland), German review of failure of, 21 TT 43-46
- Fort-type emplacements, German coastal defenses, 15 SS 62-70
- 45-mm AT gun emplacements, Soviet, I-5 IB 74
- 45-mm light mortar, *Brixia*, Model 35, Italian, I-3 IB 58; 6 SS 110; 11 TT 43; (illus.) 21 TT 19-20
- 44th Division, British, at El Alamein in Eighth Army offensive, 2 MR 51
- 40-mm AA/AT gun Bofors (*Flak 28*), German, 21 TT 4
- 40-mm AA gun, Bofors, British, 1 MR 9-10; 2 MR 2, 3; 3 MR 3, 5, 6, 11-12, 13; 4 MR 4; 8 MR 4-5; 9 MR 9; 10 MR 10

- 40-mm AA gun, German, 10 SS 18, 34
- 40-mm (2-pounder) AT gun, British, 5 MR 16; 16 MR 39; 6 SS 26-29, 78-79; 6 TT 10, 12; 8 TT 46-47
- 47-mm AA/AT gun (Czech), German, 6 SS 9, 98; 5 TT 15
- 47-mm AA gun, German, 10 SS 18, 35
- 47-mm AT and infantry gun, Model 1 (1941), Japanese, (illus.) 11-3 IB 44-45; (illus.) 19 SS 206-209, fol. p. 241; 19 TT 5-6
- 47-mm AT gun, Italian, I-3 IB 59; (illus.) 15 TT 7-9
- 47-mm AT gun, self-propelled, German, 5 TT 12; 9 TT 42; 17 TT 13; 25 TT 39-40
- 47-mm (47/32) AT gun, Italian, 6 SS 110; 11 TT 43
- 46th Infantry Division, British, mission at Salerno, 13 MR 33
- 42/28-mm AT gun, tapered-bore, German, 7 TT 3; 9 TT 42; 17 TT 12; (illus.) 19 TT 7-8; 37 TT 4-5; 41 TT 25
- Forward artillery observation, Soviet, 34 TT 9-11
- Forward artillery observer, German, 28 TT 13-15
- Forward observation officer, British, 6 SS 72-73
- 4.5-inch AA gun, British, 4 MR 4
- 4.5-mm field gun, British, 4 MR 16, 6 SS 34
- 4-inch mortar, Japanese, 7 TT 20; 9 TT 17-18
- 4-pound bomb, smoke, British, 2 MR 26
- 4.7-inch naval AA gun, Japanese, 8 TT 19
- 14-inch gun, British, 13 MR 16
- Fowler roller, British minefield-clearing device, 3 MR 17
- Foxholes. *See* Fortifications.
- Fragmentation bombs. *See* Bombs.
- Fragmentation grenades. *See* Grenades.
- Fragmentation shells. *See* Shells.
- France:
- Airborne attack, German, 7 SS 10
- Airdromes, German, 15 TT 2-7
- British commando operations, (map, illus.) 28 TT 37-53

France—Continued

- Coastal defenses, German, (illus.)
15 SS 1-89; 10 TT 8
- Dieppe raid, 5 MR 39-60; 35 TT 34
- Dunkirk, British field-security activities at, 1 MR 51-54
- Maginot Line, 17 SS 45; 16 TT 14;
21 TT 43-44
- Frangible smoke grenade. *See* Grenades.
- Frankfurt mine detector, German, 24 TT 14; (illus.) 39 TT 16-19
- French Equatorial Africa, motor-transport problems, 14 TT 42-45
- Fuel:
- British, gasoline supply in Libya, 7 TT 35-36

German:

- Aviation gasoline, 22 TT 36-37;
30 TT 21
- Consumption by *Afrika Korps* in Egyptian-Libyan campaign, 14 TT 49
- Daily consumption by motorized infantry, 4 SS 61
- Diesel, 22 TT 37
- Gasoline substitutes, 3 TT 24-25
- Libya, driving conditions in, 1-4 IB 28-31
- Motor gasoline, 21 TT 26; 22 TT 37; 30 TT 21
- Tank supply, 7 TT 29
- Japanese flame-thrower, I-8 IB 63-64
- Fumes in armored vehicles, Canadian investigation, 9 TT 31
- Furloughs, in foreign armies, 11 SS 20-21, 28-29
- Fuzes. *See* Air-burst fuzes; Bombs; Grenades; Igniters; Mines; Mortars

G

- Gapless firing chart, German basis for defense of positions, 17 SS 15-16
- Gas (*see also* Antigas measures; Chemical warfare; Decontamination):
- British mustard bombs, effect on tanks, 2 MR 28-30
- Comparison chart, II-3 IB 89-91; 16 SS, facing 156; 37 TT 10-12
- French, compared with gases of other nations, II-3 IB 89-91; 16 SS, facing 156; 37 TT 10, 11

Gas—Continued

German:

- Aerial sprays, I-7 IB 35; 16 SS 23-25; 36 TT 45-47
- Ammunition, I-7 IB 36; II-3 IB 89-91; 16 SS 17-18; 37 TT 10-12
- Blister, treatment for, I-4 IB 52-53; 5 TT 19
- Blue cross (blue band), I-7 IB 31; II-3 IB 89-91; 16 SS 8, facing 156; 37 TT 11
- Bombs, 16 SS 25-26; 36 TT 48
- Bulk contamination, I-7 IB 36-37; 16 SS 21-22; (illus.) 23 TT 9, 10
- Classification, I-7 IB 31; II-3 IB 89-91; 16 SS 7, 8; 37 TT 10-11, 12
- Compared with gases of other nations, II-3 IB 89-91; 16 SS, facing 156; 37 TT 10-11, 12
- Contaminating terrain, rules for, II-1 IB 34-36
- Fake, 13 TT 8
- Form for report on enemy use of gas, 8 TT 35-36
- Gas-cloud cylinders, 16 SS 22
- Green cross (green band), I-7 IB 31; II-3 IB 89-91; 16 SS 8; 37 TT 11
- Grenades, I-7 IB 35; 16 SS 21; 20 TT 13
- Infantry weapons used for gas warfare, 16 SS 18-19
- Lacrimatory candles, 16 SS 58
- Livens projector, 16 SS 22-23
- Losantin tablets for treatment of blister gas, I-4 IB 52-53
- Manufacture, 16 SS 6
- Markings. *See* Comparison chart.
- Mines, 16 SS 23
- Mustard, II-3 IB 90-91; 16 SS 7, 9; 11 TT 16; 12 TT 18-19; 13 TT 48; 37 TT 11
- Nerve, 1 TT 7
- Nitrogen-mustard, II-3 IB 90-91; 16 SS 7, 9; 37 TT 11
- Projectors, 1 TT 8
- Shells, gas-filled, artillery, 16 SS 17-18
- Tear-gas grenade, 20 TT 13
- Uses in field, I-7 IB 36-37

Gas—Continued

German—Continued

Vesicant (*see also* Mustard, Nitrogen-mustard), I-7 IB 31-32; II-3 IB 90-91; 1 TT 7; 37 TT 11

Warning flags for gassed areas, (illus.) 24 TT 11-12

White cross (white band), I-7 IB 31; II-3 IB 90-91; 16 SS 8; 37 TT 11

Yellow cross (yellow band), I-7 IB 31; 16 SS 8; 37 TT 10, 11

Italian:

Aerial sprays, 16 SS 62; 36 TT 48-49

Bombs, gas-filled, (chart) 16 SS 62-63; 36 TT 49-51

Compared with gases of other nations, II-3 IB 90-91; 16 SS facing 156; 37 TT 11

Knapsack sprayer, 16 SS 60

Light tank with trailer, 16 SS 61

Manufacture and storage, 16 SS 54

Markings, II-3 IB 90-91; 16 SS 55; 37 TT 11

Mustard-gas trucks, 16 SS 60-61 "Peril No. 1," 16 SS 56

Shells, artillery, 16 SS 57

Types, II-3 IB 90-91; 16 SS 55-56; 37 TT 11

Japanese:

Aerial sprays, 16 SS 124; 36 TT 51-52

Blotting paper for removing blister gas, I-10 IB 85

Bombs, (illus.) 16 SS 94-96, 124-126; 36 TT 52-53

Bulk-contamination vehicles, 16 SS 124

Compared with gases of other nations, II-3 IB 90-91; 16 SS, facing 156; 37 TT 11

Cylinders, 16 SS 123

Field gas companies, I-10 IB 39

Grenades, (illus.) 16 SS 107-109, 110-112; 21 TT 16

Lacrimatory. *See* Tear.

Manufacture and storage, 16 SS 89-91

Markings, II-3 IB 90-91; (illus.) 16 SS 108, 111; 21 TT 16; 37 TT 10, 11

Mines, 16 SS 123

Gas—Continued

Japanese—Continued

Projector, 160-mm, 16 SS 97, 98, 99

Shells, artillery, 16 SS 100-101

Sprayer, portable, 16 SS 124

Tear, (illus.) 16 SS 109-112; (illus.) 21 TT 13-16

Types, II-3 IB 90-91; 16 SS 92-93; 9 TT 14-15; 37 TT 11

United States, II-3 IB 89-91; 16 SS, facing 156; 37 TT 10, 11, 12

Gas detectors:

German, 16 SS 38-39; 18 SS 177; 23 TT 11, 12

Japanese, 16 SS 139-141

Gas generators (producer gas), German, 3 TT 24-25

Gas masks:

German, (illus.) 16 SS 36-38; 18 SS 175-176; 17 TT 16, 18; 29 TT 16

Italian, (illus.) 16 SS 70-74; 17 TT 17; 29 TT 17

Japanese, I-2 IB 47-48; (illus.) 16 SS 135-139; 17 TT 17

Gasoline (*see also* Fuel), use by tank hunters, I-12 IB 25

Gasproofing of West Wall fortification, German, 17 SS 83

Gasproof shelters, German, 17 TT 15-16

Gavutu Island (*see also* Solomon Islands), U. S. assault on, 22 TT 46-47

Gazala, Libya (*see also* Libya), German defenses, 5 SS 9, 11-12, 40, (map) 44; 12 TT 32-33

Gelignite, British, demolition use of, 1 MR 25-26

General Grant tank:

Characteristics and performance of U. S. M3, I-1 IB 7; 3 MR 16

Casualties of British personnel in North Africa, 13 TT 36

General Lee tanks, M3 and M4, U. S., I-1 IB 7; 35 TT 14; (illus.) 41 TT 6-8

General Sherman tank, M4, U. S., 2 MR 55, 59; 3 MR 15, 16, 54, 55-56; 4 MR 13-15; 12 MR 10-13; 35 TT 14, 15, 16; 35 TT 14, 15, 16

General Staff, arms, and services, British, 11 TT 32-34

General Staff, French, study on German armored army, 2 SS 1-34

- General Staff, German, 8 SS III-IV, 2
 General Stuart tank, U. S., 6 MR 14-17; 35 TT 14
 Generators, searchlight, German, 10 SS 54, 55
 Generators, smoke. *See* Smoke.
 Generators, gas, German, 3 TT 24-25
 Generator vehicle for smoke; German, (illus.) 23 TT 11, 12
 George Cross, British, 11 SS 19
 Gerlich-principle guns. *See* Goerlich-principle guns.
 German cities, air-raid protection of, 10 SS 81-105; 7 TT 16; 32 TT 25; 38 TT 14-17
 German-Italian relations, I-2 IB 24-25
 German navy, coastal-defense patrol by, 15 SS 5-6
 German relations with natives of Libya, I-4 IB 27-28
 German soldier, characteristics of, I-3 IB 1-3; 27 TT 20, 23; 28 TT 26-29
 "German Squad in Combat," excerpts from, 3 SS 30, 44
Gigant glider, German, 21 TT 1; 36 TT 47
 Gilbert Islands, Japanese defenses on Makin, I-9 IB 11; (map) 13 TT 56-59
 Glass smoke grenade, German, (illus.) 36 TT 13-15
 "Glen," submarine-based float plane, Japanese, 19 TT 1
 Glider-borne troops (*see also* Airborne troops):
 British, training and use, 2 TT 13-14
 German:
 Development, 7 SS 33-44
 Operations, 7 SS 34; 8 TT 57-59; 14 TT 5-6
 Organization, 14 TT 3
 Support parachute troops, I-1 IB 15, 16
 Training, 7 SS 36; 14 TT 4
 Glider pilots:
 British, 10 MR 6
 German, training, 14 TT 4
 Gliders:
 British:
 Airborne division, 10 MR 6
 Airborne operations, advantages for, 11 MR 63
 Glider—Continued
 British—Continued
 Sicilian assault, use in, (illus.) 11 MR 57-59
 Types, 10 MR 6
 German:
 AA engagement of, British, 1 MR 11-12
 Development for military purposes, 7 SS 33-44
 DFS 230, 7 SS 36-39; 14 TT 3, 4, 5; 36 TT 47
 Gas loads and ranges, 36 TT 47
 Gigant, 21 TT 1; 36 TT 47
 Goliath, 7 SS 42; 10 TT 4
 Gotha (Go) 242, 7 SS 39-41; (illus.) 14 TT 4; 36 TT 47
 Merseburg, 7 SS 41-42; 10 TT 4; 14 TT 5; 21 TT 1; 36 TT 47
 Towing range, 7 SS 43; 36 TT 47
 X2A heavy, 7 SS 42
 History of, 7 SS 5-7
 Italian, types, 7 SS 62-63
 Technique, 7 SS 5-7
 Glisenti, 9-mm automatic pistol, Model 1910, Italian, I-3 IB 55; 11 TT 42
 Glossaries:
 Civilian terms, British, I-2 IB 86-90; 13 SS 83-92
 Japanese, phonetic, used in communications, 12 TT 45-59
 Military terms and abbreviations:
 British, I-2 IB 81-85, 90-91; II-4 IB 75-78; 13 SS 1-82, 93-210; 6 TT 37-38; (illus.) 18 TT 30, 32-36
 German, 12 SS 1-246; 14 SS 185-190; 8 TT 48
 Ship abbreviations, 4 TT 25
 Göring, Hermann, Division, II-3 IB 8, 22-25; 36 TT 26-32; 40 TT 29-30
 Göring, Hermann, Marshal, heads German Air Force flight training, 7 SS 7
 Goerlich principle, definition, (illus.) 18 TT 33, 34
 Goerlich-principle (tapered-bore) guns, German:
 Developments, 26 TT 6-7
 42/28-mm AT (*Pak 41*), 7 TT 3; 9 TT 42; 17 TT 12; (illus.) 19 TT 7-8; 37 TT 4-5; 41 TT 25

- Goerlich-principle (tapered-bore) guns, German—Continued
 75/55-mm AT gun (*Pak 41*), (illus.) 40 TT 5-8
 28/20-mm AT (*Pak 41*), (illus.) 6 SS 8-9, 98; (illus.) 5 TT 13, 14; 17 TT 11-12; 25 TT 38
- Golden Kite, Order of, Japanese, 11 SS 16
- Goliath* glider, German, 7 SS 42; 10 TT 4
- Gotha 242* glider, German, 7 SS 39-41; (illus.) 14 TT 4; 36 TT 47
- Grant tank. *See* General Grant tank.
- Greece:
 German airborne attack at bridge over Corinth Canal, 7 SS 10-11
 German parachute-troop equipment 13 TT 45-50
- Greenwich Civil Time (GCT), time zones in relation to, 4 TT 25
- Grenade dischargers, Japanese. *See* 50-mm grenade dischargers, Japanese; Grenade launchers, Japanese.
- Grenade launchers:
 German:
Mauser rifle, used with, 14 SS 27-28, 29, 30
 Rifle, cup type, 21 TT 23-24; (illus.) 36 TT 34-37
 Rifle, spigot type, (illus.) 36 TT 38-39
 Japanese (*see also* 50-mm grenade dischargers, Japanese):
 Cut-type, for rifle, (illus.) 19 SS 35-36
 6.5-mm rifle Model 38 (1905), 38 TT 39-40
 Spigot-type, for rifles, (illus.) 19 SS 36, 37, 38
- Grenade pistol, German, 21 TT 23; 27 TT 32; (illus.) 40 TT 26-28
- Grenade rifle, AT modified *Pz. B* 39, German, (illus.) 37 TT 32-34
- Grenade throwers. *See* 50-mm grenade dischargers, Japanese; Grenade launchers
- Grenades, discharger, Japanese, I-9 IB 20-23; (illus.) I-10 IB 42-43; 16 SS 116-117, (illus.) 119-121; 19 SS 71, (illus.) 80-85; (illus.) 22 TT 15-16
- Grenades, gas:
 German, I-7 IB 35; 16 SS 21; 20 TT 13
 Japanese, (illus.) 16 SS 107-109, 110-112; (illus.) 21 TT 6
- Grenades, hand (*see also* Bangalore torpedoes; Molotov cocktails)
 British:
 No. 75 Hawkins, 3 MR 30-31; 6 MR 39-40; (illus.) 9 MR 24-26; 35 TT 13
 No. 74 (sticky type), 6 MR 39
 No. 77 (smoke), 2 MR 27; 6 MR 39
 No. 69, 6 MR 39
 No. 36, 6 MR 39
- Finnish incendiary, (illus.) 6 TT 42-43
- German:
 Antipersonnel, (illus.) 36 TT 35, 36; 37 TT 32
 AT, (illus.) I-12 IB 24, 25, 26; I-10 IB 26, 27-28; 14 SS 50-51; 10 TT 41; 23 TT 3-6
 Egg-type, 14 SS 47-50
 Incendiary "T. B." prussic-acid, 14 TT 15
 Smoke, I-5 IB 16; I-12 IB 24, 25; 14 SS 47; 16 SS 21; 6 TT 18; (illus.) 36 TT 13-15
 Special uses, (illus.) I-1 IB 27-30; I-8 IB 21; I-12 IB 26, 27-28; (illus.) 14 SS 43-44, 47, 49-52; 19 TT 14; (illus.) 23 TT 40, 41, 42-43
 Stick, (illus.) I-1 IB 27-31; I-12 IB 27; 14 SS 40-47, 50-52
 Types, 14 SS 40
- Italian, I-3 IB 58; 16 SS 59; 14 TT 15; 34 TT 5-6; 35 TT 25-26
- Japanese:
 Attu, used on, II-2 IB 48
 Booby traps, use in, (illus.) II-3 IB 42; (illus.) II-4 IB 21-25; 19 SS 58
 Incendiary, (illus.) 16 SS 119-121; (illus.) 19 SS 56-57; 14 TT 15; 22 TT 15-17
 Lacratory, (illus.) 16 SS 110-112; 21 TT 16
 Magnetic AP tank, I-1 IB 58; (illus.) II-1 IB 6-8; (illus.) 19 SS 63-67; 5 TT 34; (illus.) 19 TT 6

Grenades, hand—Continued

Japanese—Continued

Model "Kiska," (illus.) II-3 IB 42-44; (illus.) 19 SS 50, 51-53

Model 91 (1931), I-9 IB 22; II-1 IB 9, 11-12; (illus.) 19 SS 45-49, 50, 71, 80, 81, 83-84; 27 TT 30-31; (illus.) 37 TT 25-26

Model 97 (1937), (illus.) II-1 IB 10, 12; (illus.) 19 SS 49-51; (illus.) 5 TT 33, 35; 37 TT 26

Pull-type, (illus.), II-3 IB 39-42; (illus.), II-4 IB 21-25

Screw safety device, II-2 IB 48

Smoke, frangible, 16 SS 118-119; 35 TT 24-25

Solomons, used in, I-4 IB 14

Stick type ("potato masher") HE, (illus.) II-1 IB 13-15; (illus.) 19 SS 53-55; (illus.) 5 TT 33-34, 35

Grenades, pistol, German, (illus.) 14 SS 30-33; 5 TT 34, 36; (illus.) 27 TT 31-34; (illus.) 40 TT 26-28

Grenades, rifle:

German, 14 SS 29-33; 21 TT 25; (illus.) 36 TT 34-39; 37 TT 32

Japanese, (illus.) I-10 IB 50-51; (illus.) 16 SS 117-118; (illus.) 19 SS 35-38; (illus.) 38 TT 39-40

Grenadiers, Panzer, See Infantry, motorized, German.

Grids used in British map systems, (illus.) 4 TT sec. II, 1-9

"Grizzly Bear" (*Brumbear*), German 150-mm SP assault howitzer, (illus.) 41 TT 16, 17

Grizzly I, tank, Canadian, 8 MR 29-30

Ground-air communications. See Air-ground communications.

Ground-panel code, German, means of recognition between aircraft and ground troops, 24 TT 30, 31-33

Gruppen, units of German transport planes or gliders, 7 SS 50, 54; 11 TT 19; 14 TT 3; 24 TT 1-2

Guadalcanal operations (see also Jungle warfare; Solomon Islands; South Pacific):

Guadalcanal operations—Continued

Hand-to-hand fighting along Matakau River, 35 TT 37

Henderson Field, air action at, 22 TT 43-45

Japanese:

Landing party, order of unloading, I-10 IB 62-63

Morale, I-7 IB 27-28; I-11 IB 55-57

Supply, I-9 IB 13-14

Tactics, II-2 IB 62-66; 3 MR 37; 16 TT 22-23; 17 TT 25-27; 19 TT 5-6; 21 TT 18-19; 22 TT 43-44, 47-48; 35 TT 34-39

Natives, forced labor for Japanese, I-8 IB 67-68

United States:

Lessons from, 3 MR 35-38

Propaganda use, 13 MR 45-48

Report by U. S. Marine officer, 22 TT 43-48

Tactics, Japanese opinions on, 22 TT 49-54

Guderian, General Heinz, German, 2 SS 1, 4, 18; 11 TT 49

Gudol powders, German, 31 TT 37

Guerlich-principle guns. See Goerlich-principle guns.

Guerrilla warfare. See Street fighting.

Gun emplacements. See Emplacements.

Gun-howitzers (see also Howitzers):

British:

5.5-in, 6 SS 30-35

25-pounder, (illus.) 6 SS 30-33

German, 105-mm (illus.) I-8 IB 29-33; 9 TT 46; 25 TT 45;

(illus.) 30 TT 9-11, 28-29; (illus.) 31 TT 35-36

Italian, 75-mm, I-3 IB 60; (illus.) 6 SS 21, 22, 110, 111; 6 TT 35;

11 TT 43; 13 TT 34-35; 18 TT 27; (illus.) 25 TT 47

Soviet, 152-mm, 9 TT 6-7

Gun operations rooms, British, 4 MR 7, 8, 9, 10

Gun pits in desert, 6 SS 43-47

Guns. See Aircraft weapons; Anti-aircraft measures; Antitank measures; Assault guns; Bomb throwers; Cannons; Carbines; Coast artillery; Field guns; Gun howitzers; Howitzers; Machine

- cannon; Machine carbine; Machine guns; Mortars; Mountain weapons; Multipurpose guns; Rifles; Rocket weapons; Self-propelled artillery; Submachine guns; Tank guns; *and individual weapons.*
- "Gwen," Japanese bomber, 19 TT 1
- Gyroscopic electrical compass, German, (illus.) 7 TT 29-31
- ### H
- Halazone tablets, 22 TT 34
- Halfaya, Egypt (*see also Egypt*), German defense strong point, 5 SS 12-14, 21-25, 37
- Half-tracks, German (*see also Self-propelled guns*):
- Mount for *schweres Wurfgerät 41*, 8 TT 28-30
 - Mounts for self-propelled guns, (illus.) 25 TT 35-42, 44
 - Used as tractors, 1 TT 18
- Hamilcar glider, British, 10 MR 6
- Hampden bombers, British, in Vaagso raid, 1 SS 61, 64-66, 67
- Han (Japanese squad), employment, I-10 IB 51-55; I-12 IB 55-58
- Hand grenades. *See Grenades, hand.*
- Handley-Page, British plane, 7 SS 4
- Hand sleds, German (*see also Akja (Ackja) sleds*), construction, 18 SS 200-202
- Hand-to-hand fighting, Japanese and Marines on Guadalcanal, 35 TT 36, 37
- "Hangarettes," Japanese, for camouflage of aircraft, 29 TT 4
- "Hap" Japanese Zero fighter, 19 TT 1, 2; 21 TT 32
- Harbor obstacles, German, 15 SS 11-13
- Hardness of armor, definition, 18 TT 34
- Harness, tandem, German, for horse-drawn sleds, (illus.) 18 SS 202, 204, 207, 213-215
- Haslar smoke generator, British, 6 MR 26; 7 MR 26-28
- Hatchets, use by German tank hunters, (illus.) I-12 IB 31
- Hawkins grenade No. 75, British, 3 MR 30-31; 6 MR 39-40; (illus.) 9 MR 24-26; 35 TT 13
- Headlights, blackout, for night driving, German, I-1 IB 40-41, 42
- Health rules (*see also Medicine and surgery*):
- For Far East areas, U. S., II-3 IB 70-85
 - For North Africa, German, I-4 IB 24-27; 30 TT 12-16
 - For North Africa-Middle East, U. S., I-9 IB 65-78
 - For tropical warfare, British, 29 TT 23
 - For winter, German, 18 SS 144-148
 - Japanese, I-11 IB 76
- Heat exhaustion, precautions against, I-9 IB 70-72; II-3 IB 84-85
- Heating devices for aircraft engines, German, I-6 IB 59-61
- Heating facilities, German, for personnel and equipment, 18 SS 53-56, (illus.) 105-114, 179-181
- "Hedgehog" system of defenses, 15 SS 89; 22 TT 29-30; 27 TT 21
- Height finders:
- British, 4 MR 4
 - Japanese, AA, (illus.) 39 TT 30-32
- Heinkel (He) planes, German:*
- Balloon-cable cutters (*Katonase*) on wings of *He-111*, 18 TT 2
 - Catapult for, 2 TT 4-7
 - Description of *He-177*, 6 TT 1-2; 41 TT 1-2
 - Flying limitations of *He-177*, 23 TT 1
- Heliographs, winter use, German, 18 SS 190
- Helmets:
- British, (illus.) I-7 IB 74-76; 2 MR 38-39
 - Japanese, I-1 IB 67; II-2 IB 50
 - United States, (illus.) I-7 IB 74-76; 2 MR 38-39
- Henderson Field, Guadalcanal (*see also Guadalcanal operations; Solomon Islands*), air action, 22 TT 43-45
- Hengist glider (trainer), British, 10 MR 6
- Henschel (Hs) 129* attack bomber, German, (illus.) I-7 IB 51-54
- Hc planes. See Heinkel (He) planes.*
- Hermann Göring Division, in North Africa and Sicily, II-3 IB 8, 22-25; 36 TT 26-32; 40 TT 29-30
- "Hero of the Soviet Union," Soviet decoration, 11 SS 17

- Hessian Carpet, British, (illus.) 7
MR 29-31
- Hispano-Suiza* 20-mm weapons, 28
TT 30, 32
- Hitler Bodyguard, Adolf, 35 TT 51
- Hitler Jugend* (Hitler Youth) organization, German, I-3 IB 1, 3; 3 SS 5-8; 35 TT 52
- Holidays, Japanese, I-3 IB 53-54; 27
TT 37-38
- Hollow-charge ammunition. *See* Ammunition and individual weapons.
- Hollow charge, magnetic AT, 3-kg, German, (illus.) 23 TT 3-6; 36
TT 5
- Hollow demolition charges, German, (illus.) 3 TT 21-23; (illus.) 18
TT 16
- Holtz Bay, Attu. *See under* Attu.
- Holzmine 42* (wooden mine, 1942), German, (illus.) 39 TT 20-23
- Homogeneous armor, 18 TT 35
- "Hornet," 88-mm AT gun, German, (illus.) 38 TT 7
- Horsa glider, British, 10 MR 6
- Horse-drawn sleds, German, 18 SS 203-213
- Horses:
- Antigas protection for, German, 17
TT 18; 25 TT 15
 - Decontamination, German, 16 SS 4
 - Pack harness for, German, (illus.)
18 SS 213-215
 - Respirators, German, care in winter,
18 SS 176-177
 - Winter shelters for, German, (illus.)
18 SS 86, 88
- Hospitals. *See* Medicine and surgery; Medical services
- Hotchkiss-type tank, French, German comment, 35 TT 14
- Hotchkiss-type weapons, Japanese:
- 6.5-mm machine gun, Model 96 (1936). *See* 6.5-mm machine gun, Model 96 (1936), Japanese
 - 13.2-mm machine gun, I-8 IB 75-76; 10 TT 33
 - 25-mm AA gun, pom pom, (illus.)
I-8 IB 74-75; 12 TT 7
- Hoth Groupment, part of German Armored Army, 2 SS 11, 18
- Hotspur glider (trainer), British, 10
MR 6
- Housing, British Commandos, 1 SS
10-11
- Housing in North Africa-Middle East, I-9 IB 77-78
- Howitzers (*see also* Gun-howitzers):
- British:
 - 18-in, Mk I, (illus.) 13 MR 14-16
 - 6 inch, (illus.) 6 SS 35, 46
 - 12-in, 13 MR 16
 - 25-pounder (3.45-in) 4 MR 16; 5 MR 16; 6 MR 18-19
 - German:
 - Ammunition, 18 TT 23-24; 32 TT 34
 - Emplacements in West Wall for, (illus.) 17 SS 126
 - Infantry-howitzer company, I-2
IB 2; 34 TT 25
 - Infantry, use in winter, II-2 IB
11; 18 SS 167
 - 150-mm. *See entries for* 150-mm howitzers.
 - 105-mm. *See entries for* 105-mm howitzers.
 - 75-mm. *See entries for* 75-mm howitzers.
 - 210-mm *Mörser* 18, 6 SS 102; 9
TT 47; 12 TT 14; 18 TT 23-24; (illus.) 32 TT 34
 - Italian:
 - 152-mm (152/13), 6 SS 111; 11
TT 45
 - 149-mm (149/13), Model 14, 6
SS 24, 111; 7 TT 34; 11 TT 45
 - 149-mm (149/12), 6 SS 111; 11
TT 45
 - 100-mm (100/17), 6 SS 24, 111; 7
TT 34; 11 TT 44; 18 TT 27
 - 75-mm (75/13) mountain, 6 SS
110; 11 TT 43
 - 305-mm (305/17), Model 17, 6 SS
112; 11 TT 45
 - 280-mm (280/16), coast-defense,
11 TT 45
 - 210-mm (210/22), 6 SS 112; 11
TT 45; 12 TT 14
 - Japanese:
 - 150-mm (1915), 10 TT 35
 - 105-mm, Model 91 (1931), 10 TT
35
 - 120-mm, Model 38 (1905), 10 TT
35
 - 75-mm infantry, Model 41 (1908),
10 TT 34

Howitzers—Continued

Japanese—Continued

70-mm infantry battalion, Model 92 (1932), (illus.) 19 SS 210-222, 241; 10 TT 34; (illus.) 34 TT 7-8; 37 TT 34-35
240-mm, Model 12, 10 TT 35

United States:

105-mm, compared with German 105-mm gun-howitzer, I-8
IB 29

105-mm self-propelled, M7, "Priest," 2 MR 22-23; 4 MR 26-28; 6 MR 18-19

Hurricane II D plane, British, AT role of, 8 MR 1-4

Hygiene. *See* Health rules; Medicine and surgery.

I

Ice-concrete, German use, (illus.) 18 SS 99-100; 22 TT 24-26

Iceland, description of radio needed, 1 TT 24

Ice, methods of crossing, German, (illus.) 18 SS 46-52; (illus.) 17 TT 18-22

Identification (*see also* Insignia; Uniforms):

German:

Disks, certificates, and tags, I-3
IB 11; 7 SS 27-28; 9 TT 32-34; 19 TT 25-26

Friendly troops when camouflaged, 18 SS 118-119

Paybook (*Soldbuch*), I-3 IB 10; II-4 IB 49-50; 9 TT 32-34; 19 TT 26

Prisoners, 19 TT 25-26

Italian booklets and tags, I-4 IB 63

Japanese:

Badges and disks, I-6 IB 28; I-9
IB 30; I-10 IB 86

Leaders at night, 35 TT 39

Methods, I-2 IB 27-35; I-5 IB 37; I-6 IB 28

Igel (hedgehog) system of defenses, 15 SS 89; 22 TT 29-30; 27 TT 21

Igloo, Eskimo-type, German winter shelter, (illus.) 18 SS 66-75. 76

Igniters (*see also* Exploders; Grenades; Mines):

Igniters—Continued

German:

BZE for AT magnetic charge, (illus.) 23 TT 5-6

Electric for *Shutzmine*, (illus.) 28 TT 22-25

Mine-igniter adapter, (illus.) 35 TT 46

Pressure, for mines, (illus.) 14 SS 52

Pull-igniter used with booby traps, (illus.) I-1 IB 27

Push-igniter used with booby traps, (illus.), I-1 IB 27

PX 32, (illus.) 16 TT 10

Reinhard, (illus.) 16 TT 7-8

Safety-fuze, (illus.) 26 TT 21-23

Tellermine, neutralizing of, 36 TT 23

Weissmann, (illus.) 16 TT 9

Italian, for variable-pressure mine, (illus.) 18 TT 12-14

Soviet, *MUV* type for mines, (illus.) 4 MR 32

Illuminants for signal communication, German, 17 SS 35

Imitation signals, I-10 IB 72

Immunity thickness of armor, definition, 18 TT 35

Incendiary agents (*see also* Bombs; Flame throwers; Grenades; Molotov cocktails; Mortars, chemical; Rocket weapons):

British ammunition, 6 MR 40

German:

Incendiary bottles used by tank hunters, I-12 IB 24-25; (illus.) 23 TT 37-40

Incendiary disks, 14 TT 15-16; 16 TT 6

Incendiary capsules, (illus.) 16 TT 5

Incendiary leaves, 16 TT 6

Independent (commando) companies of Australian and New Zealand Armies, 1 SS 17-24

India (*see also* Health rules, for Far East areas; Jungle warfare):

British army subsistence problems, 3 MR 31-34

Malaria Institute of India, report on mosquito-repellent lotion, 13 TT 36

Security in British Indian Army, 29 TT 32-36

- Indicator grenade for signal pistol, German, (illus.) 40 TT 26, 28
- Indicator zones (searchlights), British, 7 MR 9
- Indo-Pacific area, seafood available, (illus.) 15 TT 50-60
- Infantry (*see also* Airborne troops; Ammunition; Glossaries; Infantry, motorized; *and various weapons*):
- Attack lessons based on Soviet experiences, 10 TT 15-16
- Brazilian, organization and weapons, 13 MR 23-25
- British:
- AA protection, 1 MR 9-10
- Brigade support group, (illus.) 9 MR 33-34
- Close-support artillery, 1 MR 27-32
- El Alamein, (map) 2 MR 49-60; (map) 3 MR 41-60; 14 TT 22-23
- Enemy mortars, methods of locating, 13 MR 22-23
- France, Battle of, lessons, (illus.) 1 MR 27-32
- Indoor war game, (illus.) I-5 IB 81-85
- Middle East Training Depot, 13 TT 25-26
- Motorized infantry battalion, 16 TT 24
- 95-mm gun proposed, 6 MR 38
- Organization, 6 MR 37-38; 9 MR 33-36
- Patrols in Burma, 11 TT 23-24
- Reconnaissance regiment, 10 MR 37-39
- Street fighting, 3 MR 19-25
- Tank-borne, 1 MR 37
- Tank-infantry cooperation, 11 MR 15-16
- Tanks, defense against, I-6 IB 84-85; 3 MR 25
- Trends in combat firing, using Bren gun, I-11 IB 84-86
- Weapons policy, 6 MR 38-40
- Canadian, division reorganization, 8 MR 51-52
- German (*see also Afrika Korps*):
- Advance guard duty, 9 SS 59-67
- Armored, 22 TT 10-13
- Artillery regiments of infantry division, 7 TT 4-5
- Infantry—Continued
- German—Continued
- Assault detachment, 14 TT 26-28; 16 TT 11-13; 27 TT 24
- AT defense, (illus.) 9 SS 77-79; 18 TT 18
- Attack tactics, I-2 IB 2-5; I-5 IB 2-3, 5-6; I-8 IB 45-46; II-1 IB 64-65; II-4 IB 57-60; 8 SS 45-60; 9 SS 23-28, 39-47, 88-105; 14 TT 26-28; 15 TT 19-20; 16 TT 11-15; 18 TT 17; 25 TT 20; 27 TT 23-26; 36 TT 26-32
- Close-quarter fighting and withdrawal in Sicilian campaign, 40 TT 24-25
- Coastal defense, basic principles (*see also* Coastal defenses, German), 37 TT 21-23
- Communication lines in U.S.S.R., defense of, 29 TT 19
- Communications net on a stabilized front, 17 SS 33-34
- Cooperation with other arms, I-11 IB 1-17; II-4 IB 57-63; 8 SS 48, 50-51, 53, 75-76; 9 SS 22-32; 3 TT 7-8; 6 TT 13-15; 18 TT 17-18; 31 TT 11
- Counterattack tactics (Mareth front), I-10 IB 31-33
- Deceptions, I-2 IB 6
- Defense tactics, I-5 IB 4-5, 6; I-8 IB 44-45; II-1 IB 65-66; II-4 IB 60-62; 8 SS 68; 9 SS 28-32, 47-56; 15 TT 21-22; 17 TT 23-24; 18 TT 18; 25 TT 20; 27 TT 20-22; 28 TT 26-29; 29 TT 19; (illus.) 31 TT 20-25; 38 TT 28-29
- Emplacement for light infantry gun, (illus.) 17 SS 116-117
- Equipment of squad, 9 SS 1-3
- Fieldworks, principles of construction, I-7 IB 43-46
- Fire power, I-8 IB 42-46; 9 SS 11-22
- Fla units, 7 TT 7; 13 TT 3-4; 28 TT 4
- Howitzer company, I-2 IB 2
- Jäger regiment, 5 TT 24
- Light division, development and organization, 3 TT 5-7; 5 TT 23-25; 7 TT 4

Infantry—Continued

German—Continued

- March discipline on Eastern Front, 18 TT 18-19
- Meeting engagement, I-5 IB 2, 32; 8 SS 56-58; 15 TT 19
- Mobile troops on Eastern Front, 18 TT 19
- Night fighting, 16 TT 16-17; 18 TT 19; 30 TT 16-17
- Obstacles, 21 TT 42; 39 TT 47, 50
- Offensive combat, 9 SS 35-47
- Organization, I-2 IB 1; 9 SS 1-6; 14 SS xii; 3 TT 5-7; 5 TT 23-25; 7 TT 4-5; 34 TT 24-31
- Outguard duty, 9 SS 68-74
- Outpost fighting, 9 SS 56-59, 105-113
- Parachutists, defense against, II-4 IB 54-56
- Penetration of main line of resistance, 9 SS 95-105
- Permanent fortifications, attacks on, I-6 IB 42-43; 16 TT 14
- Pioneer platoons, 13 TT 26-28
- Pursuit tactics, I-5 IB 3-4; 15 TT 20-21
- Range of weapons, (illus.) 30 TT 28-29
- Reconnaissance, 8 SS 18; 9 SS 74-75; 16 TT 11
- Regiment, armament and organization, 14 SS xii
- Reserve, mobile, defense in Cyrenaica, 5 SS 27-29
- 75-mm assault gun, employment of, 19 TT 18-20
- Sniping, 29 TT 21-22
- Squad in combat, 9 SS 1-118
- Street fighting, 15 TT 22-23; 17 TT 23-24; 25 TT 21
- Strongpoint, construction and development, (illus.) 14 TT 24-25
- Tactics (*see also* Attack tactics; Defense tactics), II-1 IB 64-66; (illus.) 12 TT 27-29; 15 TT 19-23
- Tank-borne, I-10 IB 33-34
- Tank hunting, (illus.) I-12 IB 19-32; 10 TT 50-51; 23 TT 31-47; (illus.) 29 TT 8-9

Infantry—Continued

German—Continued

- Training, I-1 IB 39; 9 SS 19-22, 76-77, 80-118; 11 TT 17-18; 26 TT 46-49
- U. S. S. R., tactics used in, 12 TT 20-27; 18 TT 17-19; 20 TT 21-23; 23 TT 20-21; 25 TT 20-21; 26 TT 27-31
- Village fighting, I-5 IB 5-6
- Weapons used for gas warfare, 16 SS 18-19
- Winter use of infantry weapons, II-2 IB 5-11; 18 SS 164-168
- Wooded areas, fighting in, I-8 IB 1-14; 16 TT 13; 26 TT 27-31; 33 TT 27-30

Italian:

- Chemical weapons, 16 SS 57-58
- Lessons from Allied landing operations, 35 TT 32-34
- Rock-climbing platoons, 24 TT 16
- 70-mm gun, 6 SS 110; 11 TT 43
- 65-mm (65/17) gun, 6 SS 110; 11 TT 43
- Small-scale counterattacks, 14 TT 22
- Weapons most frequently used, I-3 IB 55-58
- Japanese (*see also* Burma; China; Guadalcanal operations; Netherlands Indies; New Guinea; Philippine Islands; Solomon Islands):
 - Approach tactics, I-6 IB 1-3
 - Artillery employment, 37 TT 24
 - Attack tactics, I-7 IB 16, 25-26; 35 TT 36, 37, 38
 - Bayonet charge, 35 TT 36, 37
 - Close combat, I-6, IB 11-12
 - Deceptions, stratagems, and ruses, I-7 IB 26-27; 21 TT 18; 33 TT 25-26
 - Defense tactics, I-7 IB 29-30; 24 TT 16-19; (illus.) 31 TT 25-33; 37 TT 24
 - Equipment, I-9 IB 30; 35 TT 35, 38-39
 - 47-mm AT and infantry gun, Model 1 (1941), (illus.) II-3 IB 44-45; (illus.) 19 SS 206-209, fol. p. 241; 19 TT 5-6

Infantry—Continued**Japanese—Continued**

- Infiltration tactics, I-2 IB 38
- Interception of Allied communications, 35 TT 36
- Jungle warfare, I-2 IB 37-39, 40, 42; I-6 IB 3-9; I-7 IB 13-15; 9 TT 15-18; 13 TT 22-25; 29 TT 20-21
- Mobility, 33 TT 26, 27
- Morale and discipline, 33 TT 25
- Mortar ranging by tracer fire, 27 TT 29
- Noise as a weapon, use of, 25 TT 24-26
- Nomenclature of infantry weapons, 19 SS 4-6
- Organization and armament of regiment, (chart) 19 SS xiv
- Organization, variations in, 35 TT 34-35
- Regimental Smoke Companies, 9 TT 13
- 75-mm mountain and infantry gun, Model 41 (1908), (illus.) 19 SS 222-233, 241
- Snipers. *See* Snipers, Japanese Tactics, basic, (illus.) 33 TT 25-27
- 37-mm AT and infantry gun, Model 94 (1934), (illus.) 19 SS 194-206, 241; 10 TT 34
- 37-mm gun, Model 11 (1922), (illus.) 19 SS 188-194
- Weapons, new, for infantry squad, II-1 IB 16-17
- Mexican training center, 4 MR 36-37
- New Zealand rifle company's methods of penetrating wire obstacles, I-6 IB 92-95
- Soviet:
 - Attack lessons based on experience of, 10 TT 15-16
 - Automatic riflemen, training of, 15 TT 23-25
 - Breakthrough against German defenses, 10 TT 17-18; 28 TT 29-30
 - Organization, 8 MR 55-56
 - Tactics in wooded areas, German views on, 23 TT 21-22
 - Tank-borne (*Desyanti*), 13 MR 8; 3 TT 44-45; 10 TT 18

Infantry—Continued**United States:**

- Air support in jungle, 4 MR 44
- Employment, 30 TT 36-37
- Guadalcanal experiences, 3 MR 35-38; 35 TT 35-38
- Mortar and artillery fire, effective use of, 35 TT 37
- Nicknames, use of, 35 TT 36
- Tanks cooperation in Tunisia with, (illus.) I-11 IB 1-17
- Tunisian campaign, lessons from, 11 MR 30-36
- Infantry Assault School, Advanced, for British commandos, 1 SS 27-29, 31, 33
- Infantry AT projector (PIAT), British, 6 MR 39; (illus.) 7 MR 45-48
- "Infantry Field Fortifications," German manual, photographs and sketches from, 17 SS 101-122
- Infantry, motorized:
 - British, battalion, 16 TT 24
 - German (*Panzergrenadier*):
 - Assault detachment, (illus.) II-1 IB 68-70; 39 TT 27
 - Cooperation with tanks, 4 SS 1-2, 31-33
 - Counterattack tactics on Mareth front, I-10 IB 32-33
 - Defense in Cyrenaica, 5 SS 14-15, 17, 23, 27, 29, 45-49
 - Deployed arrowhead formation, (illus.) 4 SS 57
 - Fuel-consumption rates, 4 SS 61
 - Movement, marches, and transportation, 4 SS 5-6, 15-18, 48-51, 59; 5 SS 48-51; 24 TT 50; 39 TT 28
 - Nature and tasks, 4 SS 1-2
 - Organization, I-9 IB 50-52; 4 SS 55-56; 39 TT 27-28
 - Street fighting in Krutojarka, U. S. S. R., II-2 IB 21-23
 - Supply, 4 SS 52-53
 - Tactical employment, 4 SS 8-44
 - Tobruk operations, 5 SS 45-49
 - Weapons and their performance, 4 SS 3-4
- Infantry weapons. *See* Carbines; Grenades; Grenade dischargers; Grenade launchers; Howitzers (infantry); Infantry (*various guns*); Machine cannons; Ma-

- chine guns; Mines; Mortars; Mountain weapons; Pistols; Rifles; Submachine guns.
- Infiltration tactics, Japanese, I-1 IB 54-57; I-2 IB 38; I-3 IB 38; I-4 IB 2-3; I-5 IB 38; 13 TT 59
- Insignia :
 German, (illus.) I-3 IB 8-11; (illus.) I-8 IB 41-42
 Italian, (illus.) I-4 IB 61-63
- Intelligence. *See* Combat intelligence; Counterintelligence; Engineer intelligence; Prisoners of war; Propaganda; Security.
- Intelligence officers' working rules, 39 TT 39-42
- Interrogation of prisoners. *See* Prisoners of war.
- Iron Cross decorations, German, 11 SS 14
- Iron, German salvage of, 14 TT 50
- Isotta-Fraschini*, 20-mm AA/AT gun, Italian, 28 TT 32
- Italian-German relations, I-2 IB 24-25
- Italian soldier, characteristics, I-4 IB 54-57
- Italy, operations in :
 Messina, 13 MR 11-14
 Salerno assault, (illus.) 13 MR 2-3, 33-38
- Izod number, definition of, 18 TT 35, 36
- Izvestia (News)*, Soviet party newspaper, 11 SS 25-26, 46
- J**
- "Jabos" (daylight fighter-bomber units), German, 26 TT 3-4
- Jäger* regiment, German, 5 TT 24
- Japanese soldier :
 Characteristics and physical features, I-2 IB 27-35; I-5 IB 37, 42-45, 50-51; I-9 IB 1-4; I-10 IB 80-81; I-12 IB 48-53; II-2 IB 33-34, 61; II-3 IB 67; 10 TT 14-15; 13 TT 53-54; 33 TT 25; 40 TT 24
 Daily schedule, I-10 IB 81-82
 Diaries, extracts from, I-5 IB 43-45; I-6 IB 18-26
 Estimate of U. S. troops and tactics, I-5 IB 29-36; I-7 IB 1-4; I-8 IB 57-58
- Japanese soldier—Continued
 Surrender, attitude toward, I-3 IB 29-30, 35-36; I-4 IB 12-13; I-11 IB 55-57
 Treatment of natives in South Pacific, I-8 IB 67-69
 Warfare methods, I-10 IB 77-82
- Jeeps, use to locate minefields, U. S., 37 TT 3-4
- Jet-flame bomb, incendiary, British, 6 MR 23-24
- Ju* aircraft. *See Junkers (Ju)* planes, German.
- Jujitsu, I-7 IB 23
- Jungles (*see also* Jungle warfare), self-preservation in, I-4 IB 13; II-1 IB 74-92; 16 TT 44-48; 19 TT 49-54; 21 TT 28-31; 29 TT 23; 34 TT 40-42
- Jungle warfare (*see also* Burma; Guadalcanal operations; India; Jungles) :
 Australian operations at Milne Bay, 6 MR 45-56
 British :
 Communications, 7 MR 23-24; 11 MR 23
 Engineer operations, 38 TT 25-28
 Equipment, individual, II-1 IB 84-85
 Jungle traps, (illus.) 13 MR 18-20
 Malaya, lessons from, 13 TT 22-25
 Supply of troops by air, 12 MR 26-28
 Tactics, I-4 IB 16-17; 6 MR 34-36; 7 MR 19-24; 11 MR 21-26
 Tank employment, II-1 IB 93-96
- Japanese :
 Clearing units, I-10 IB 85
 Combat tactics, I-6 IB 4-5
 Deployment tactics, I-6 IB 3-4
 Equipment in Philippines, I-2 IB 40-41
 Infiltration tactics, I-1 IB 54-57; I-2 IB 38; I-4 IB 2-3
 Instruction, I-3 IB 41-43
 Kokoda Trail in New Guinea, 23 TT 22-23
 Maintaining direction, I-7 IB 14, 15

- Jungle warfare—Continued**
Japanese—Continued
 Malayan campaign, 13 TT 22-25; 15 TT 25-30; 24 TT 19-20
 Marching through jungle, I-6 IB 6-7
 Milne Bay operations, 6 MR 45-56
 Mobility, I-3 IB 42
 Mortars, use of, 9 TT 17-18
 Night attacks, I-6 IB 7-9; I-11 IB 33, 60-61
 Offensive tactics, I-9 IB 4-8; 15 TT 26-27
 Operational directive, 38 TT 29-32
 Reconnaissance, I-4 IB 2; II-2 IB 53-54; 26 TT 32
 Road blocks, I-4 IB 15-17
 Shock troops, 9 TT 16
 Sniping. *See* Snipers, Japanese
 Tactics, I-1 IB 54-57; I-2 IB 37-39; I-3 IB 41-42; I-4 IB 1-12; I-5 IB 38-39, 41; I-6 IB 1-7; I-7 IB 13-16; I-9 IB 4-14; I-10 IB 73-76; II-1 IB 30-33; II-2 IB 53-55; 3 MR 37; 6 MR 47-49; 26 TT 32, 36; 29 TT 20-21
 .25-cal light machine gun, use of, I-2 IB 38, 40, 42
 Malayan Campaign, 13 TT 22-25; 15 TT 25-30
 Observation, importance of, II-1 IB 90
 Psychological factors, 13 TT 23-24
 United States:
 Air support of ground units, 4 MR 44
 Communications, 3 MR 36
 Field-artillery employment, 3 MR 38
 New Guinea, experiences in, I-11 IB 59-63
 Solomon Islands, experiences in, I-5 IB 37-41; 3 MR 35-38
 Training, 3 MR 36
- Junkers (Ju) planes, German:**
Ju 88, I-2 IB 12; (illus.) I-4 IB 39-41; I-10 IB 25, 26; 3 TT 2; 4 TT 1; 23 TT 2
Ju 87, I-2 IB 12; I-10 IB 25, 26, 27; 32 TT 2
Ju 86, I-3 IB 27-28; 9 TT 1
- Junkers (Ju) planes, German—Con.**
Ju 52, 7 SS 19, 46-50; (illus.) 31 TT 1-2
Ju 90, 7 SS 47-50
Ju 188, 39 TT 1-2
Ju 288, 3 TT 2; 4 TT 1
- K**
- Katyusha** ("Little Katherine") mortar, Soviet, 4 MR 52; 9 TT 7
Kawasaki Model 97 heavy bomber, Japanese, 6 TT 4
 Kerrison No. 3 predictor (director), British, 4 MR 4; 9 MR 15
 Kharkov, U. S. S. R., German tactics at, (illus.) 12 TT 27-29
 Kiev, U. S. S. R., operations, 1941, (maps) 7 TT 40-49; (map) 11 TT 48-60; (map) 16 TT 50-57
 Kiska. *See* Aleutian Islands.
 "Kiska" Model hand grenade, Japanese, (illus.) II-3 IB 42-44; (illus.) 19 SS 50, 51-53
 Kitchen, field, mounted on sled, German, (illus.) 18 SS 206, 210
 Kleist, Ewald von, Field Marshal, command of German armored army, 2 SS 9-12, 15, 17-18; 11 TT 49, 60
 Klementi Voroshilov (KV) tanks, Soviet, (illus.) 8 MR 24-27; (illus.) 13 MR 5-7; 5 TT 26-29
 "Knee mortar." *See* 50-mm grenade dischargers, Japanese.
 Knife-rest tank obstacles. *See* Chevaux-de-frise.
 Knives, Finnish "Puukko", (illus.) 6 TT 41
 Koepang, Timor Island (*see also* Netherlands Indies), Japanese airborne operations, 7 SS 16-17, 72
 Kraznaya-Zvezda (Red Star), Soviet army paper, 11 SS 25-26, 46
 Kremenchug area, U. S. S. R. (*see also* Union of Soviet Socialist Republics), German operation in 1941, (map) 7 TT 40-49
 Kriegskademie, German General Staff School, 8 SS III-IV
 Kursk, U. S. S. R., Soviet artillery counterpreparation in Orel-Kursk sector, 36 TT 10-11

- Kutonase (Kutenase)*, cable cutter on plane wing, German, 5 MR 3; (illus.) 18 TT 1-2
- L**
- Labels on ammunition:
 German, (illus.) 14 SS 162-171
 Japanese, (illus.) 19 SS 234-238
- Laborers, Japanese treatment of, I-8 IB 67-69; I-11 IB 57; II-2 IB 61
- Labor Service, German, I-2 IB 10; 3 SS 8-9
- Lacrimatory gases. *See* Gas.
- Lancaster heavy bomber, British, 13 MR 1-2
- Lancaster II heavy bomber, Canadian, 13 MR 2
- Land-air communication. *See* Air-ground communication.
- Landing craft:
 British, types for commandos, 1 SS 41-43
 German:
 Siebel ferries, 15 SS 7-11
 Steel invasion barges, 1 TT 10
 Tank, (illus.) 11 TT 26
 Japanese, I-6 IB 28; I-10 IB 56-64; (illus.) 13 TT 17-20
- Landing fields (*see also* Airdromes), definition of, 7 SS 1
- Landing operations. *See* Amphibious operations.
- Launchers, grenade. *See* Grenade launchers.
- Lavochkin-5* fighter plane, Soviet, tactics against German *FW-190*, 37 TT 2-3
- Laying mines. *See* Minefields; Mines.
- Leadership:
 German, principles of, I-8 IB 1-3; 3 SS 17, 19-20, 26-39; 9 SS 9-11; 37 TT 36-37
 Japanese, I-6 IB 9-11
 United States, Japanese estimate of, I-5 IB 32; 22 TT 50
- Lean-tos, improvised winter shelters, German, (illus.) 18 SS 83-84, 87
- Leaves, incendiary, German, 16 TT 6
- Leeches, precautions against, II-3 IB 82-83
- Lee tanks. *See* General Lee tanks.
- Leibstandarte*, Adolf Hitler Body-guard, recruits for, 35 TT 51
- "Lenin Corners," 11 SS 26
- Leningrad, U. S. S. R., Soviet breakthrough at, 10 TT 17
- Lensatic compass, German, 18 SS 21, 22
- Leopard*, Fighting French light cruiser in occupation of Réunion Island, 9 MR 57-59
- Level bombers, German, evasive tactics, 16 TT 1
- Libya (*see also* North Africa):
 Armored-force tactics, German, I-6 IB 44-51
- Bardia:
 German coastal defenses at, I-8 IB 19-20
 Naval bombardment of, 6 SS 71-72
- Bengasi, British naval bombardment of, 6 SS 71-72
- Blenheim bomber crews, British, lost in desert, story of, 28 TT 1-2
- Casualties of tank personnel, British, 13 TT 36
- Cyrenaica:
 British construction of advanced landing fields, 19 TT 13-14
 British notes on campaign in, 18 TT 20
 Concealment of trenches, 19 TT 22
 German defensive tactics in, 5 SS 1-60
 New Zealand Division operations, lessons from, 34 TT 45-52
- Effect of rain on desert operations, 13 TT 39
- 88-mm AA gun, German, used as AT weapon, 1 TT 29-31
- Egyptian-Libyan campaign (*see also* Cyrenaica), 14 TT 49
- Gasoline and ammunition supply, British, 37 TT 35-36
- Gazala-Bir Hacheim line, German defenses, 5 SS 9, 11-12, 40, (map) 44; 12 TT 32-33
- Health rules, German, for soldiers in, I-4 IB 24-27
- Maps, 5 SS 1, 20, 44; 6 SS x
- Military coordination, German, 3 TT 7-8
- Minefields, German, 1 TT 4; 8 TT 37
- Rations, German, 18 TT 29

- Libya—Continued
 Relations with natives, German, I-4 IB 27-28
 Suggestions for drivers in, German, I-4 IB 28-31
 Tank requirements, 1 TT 25-27
 Tank tactics, German, I-1 IB 4-10
 Tobruk:
 AA defense of, 11 TT 4-5
 AA troop performance, British, 3 MR 14
 Defense, German, 5 SS 45-49
 Italian lessons from Allied landings, 35 TT 32-33
 Naval bombardment, British, 6 SS 71-72
 Tripolitania, German delaying tactics, I-11 IB 51-53
 Warning devices, German, against approach of personnel, 25 TT 17
- Libyan Omar, Libya, German defensive position, 5 SS 39, 40, 41, 42
- Lice, diseases carried by, I-4 IB 25; I-9 IB 78; II-3 IB 75-76
- Life preserver, trousers used as, (illus.) I-6 IB 89-91
- Life raft:
 German single-seater inflatable dinghy, (illus.) 9 TT 2-3
 United States, survivor's experiences with, in South Pacific, II-4 IB 80-89
- Light aid detachments (LAD's), British, 2 MR 21-22; 11 MR 48
- Light division, German, development and organization, 3 TT 5-7; 5 TT 23-25; 7 TT 4
- Lights:
 German:
 Blackout headlamps for vehicles, 1 TT 21-22; (illus.) 9 TT 35, 37, 38
 Interval-judging tail light and stop light, 1 TT 21; (illus.) 9 TT 35, 36, 37, 38
 Night-driving, I-1 IB 40-42
 Signal flares, I-7 IB 42; 24 TT 30
 Japanese use during landing operations, I-10 IB 63
- Lincolvisier 21*, AA sight, German, (illus.) 10 SS 25, 26, 27; (illus.) 2 TT 8-11
- Liquid air in shells, German, 1 TT 5-6
- Liquid-air, plastic-wood bombs, German, (illus.) 25 TT 26
- List, Wilhelm, Field Marshal, command in German armored army, 2 SS 15; 18
- "Little Katherine" (*Katyusha*) mortar, Soviet, 4 MR 52; 9 TT 7
- Livens gas projector, German, 16 SS 22-23
- Locomotives, German, (illus.) 24 TT 34-40; (illus.) 31 TT 41-42
- Lofoten Islands, British commando raid on, 1 SS 3
- London, effectiveness of AA defenses, 5 MR 11-12
- Loophole positions, German, 21 TT 37-39
- Lorenz blind-flying system, German, 15 TT 5-6
- Loreto* Battalion, Italian Air Force, 28 TT 3-4
- Losantin tablets, I-4 IB 52-53; I-7 IB 33; 16 SS 43; 17 TT 16; 29 TT 16
- Lovat, Maj. Lord, lectures at Commando School, I-4 IB 69-78; I-7 IB 65-73
- Low-level fighter-bomber raids, German, 26 TT 3-4
- Lubricants, German:
 Aircraft, 6 TT 2; 30 TT 21
 Analysis of captured oils, 30 TT 21
 Motorized equipment, I-4 IB 28-30; 12 TT 41; 21 TT 27; 30 TT 21
 Signal equipment in winter, 18 SS 181, 183, 189, 190, 191
 Tank *Pz. Kw. III*, 21 TT 27
 Weapons in winter, 18 SS 155-156
- Lufwaffe*. See Air forces, German.
- Luger pistol, 9-mm, German, (illus.) 14 SS 3-10, 171, 173, 182, 183; 9 TT 41
- Lung-destroying smoke and projector, German, 24 TT 8
- Lung irritants. See Gas, German.

M

- Macchi* fighter planes, Italian:
 205, (illus.) 30 TT 1-2
 202 22 TT 1
- Machine cannon, 20-mm AA/AT, Model 98 (1938), Japanese (see also Machine guns), (illus.) 19 SS 177-187, fol. 241; (illus.) 38 TT 2-6

Machine carbines:

Finnish 9-mm *Suomi*, (illus.) 6 TT 40-41

Italian 9-mm *Beretta*, Model 38, I-3 IB 57-58

Machine guns (see also Aircraft weapons; Emplacements; Fortifications; Machine cannon; Sub-machine guns):

Brazilian, *Madsen* 7-mm, 13 MR 24-25

British Bren gun, .303-in cal, I-11 IB 84-86; 3 MR 21, 22

German:

AA role, I-3 IB 20; 35 TT 3, 4, 6

Care in winter, II-2 IB 7-9; 18 SS 159-160

Cyrenaica, use in defense of, 5 SS 13-19, 22-23, 36

Emplacements, (illus.) 15 SS 77-79, 81; (illus.) 17 SS 16-17, 18, 20, 80, 103-105, 110-113; 18 SS 95-96

Fire control in defense of positions, 9 SS 51, 54, 55-56; 17 SS 18

Parachute troops, use against, II-4 IB 55-56

Pulk (sled for heavy machine gun), (illus.) II-2 IB 8

7.92-mm, *M. G. 42*. See 7.92-mm machine gun, (*M. G. 42*), German.

7.92-mm, *M. G. 34*. See 7.92-mm machine gun, (*M. G. 34*), German.

"Snow board" (base for light machine gun), (illus.) II-2 IB 7

Snow plates for mounts, (illus.) 18 SS 165-166

Tactical employment, (illus.) II-4 IB 41-53; (illus.) 9 SS 1-118

20-mm AA/AT, 9 TT 41

Winter, firing in, 18 SS 165-166

Italian:

8-mm, Model 38, *Breda*, I-3 IB 57; (illus.) 26 TT 40, 42-43

8-mm, Model 35, *Fiat*, I-3 IB 57; 11 TT 41; 23 TT 27

8-mm, Model 37, *Breda*, I-3 IB 57; 11 TT 42; (illus.) 23 TT 25-27

Machine guns—Continued

Italian—Continued

7.35-mm, Model 38, *Breda*, I-3 IB 57; 7 TT 33; 11 TT 41

6.5-mm, Model 14, *Fiat*, 11 TT 41

6.5-mm, Model 30, *Breda*, I-3 IB 56-57; 11 TT 41

12.7-mm, *Breda*, 11 TT 42

20-mm AA/AT, Model 35, *Breda*, 7 TT 33; 11 TT 42

Japanese:

Employment in night defense, I-3 IB 50-51

.50-cal AA, 12 TT 7

Firing from landing barges, I-10 IB 60

Organization, II-2 IB 67-71; 16 TT 41

7.7-mm heavy, Model 92 (1932), (illus.) 19 SS 115-127, 237, 238; 8 TT 39, 40; 10 TT 33

7.7-mm light, Model 99 (1939), (illus.) II-1 IB 16-17, 18-20; (illus.) 19 SS 106-115, 237, 238, fol. 241; (illus.) 35 TT 44-46

6.5-mm heavy, Model 3 (1914), 8 TT 39, 40; 10 TT 33

6.5-mm light, Model 11 (1922), *Nambu*, (illus.) 19 SS 2, 86-96, 235-236, 238; (illus.) 3 TT 19-20; 8 TT 39, 40; 10 TT 33

6.5-mm light, Model 96 (1936), II-1 IB 18, 20; (illus.) 19 SS 2, 96-106, 110, 235-236, 238; 8 TT 39-40; 10 TT 33

Tactical employment, I-3 IB 50-51; I-6 IB 12-13; I-10 IB 60; II-2 IB 38, 67-71

13-mm twin heavy, Model 93 (1933), (illus.) 19 SS 127-134, fol. 241

13.2-mm AA, *Hotchkiss*, I-8 IB 75-76; 10 TT 33

Tracer cross-fire to indicate targets, 24 TT 22

12.7-mm heavy, *Arisaka 90*, 8 TT 39, 40

.25-cal light, I-1 IB 58; I-2 IB 38, 40, 42

Machine pistols. See Submachine guns.

Madagascar, British operations, 4 MR 40-43

- Madsen* weapons:
 7-mm machine gun, Brazilian, 13 MR 24-25
 20-mm, 28 TT 32
 Magnetic AP hand grenade (bomb).
See Grenades, hand, Japanese, magnetic.
 Magnetic AT hollow charge, 3-kg. German, (illus.) 23 TT 3-6; 36 TT 5
 Maginot Line, 17 SS 45; 16 TT 14; 21 TT 43-44
 Mail:
 Axis, captured, combat intelligence value of, 10 MR 54
 Provisions for, in foreign armies, (illus.) 11 SS 30-33
 "Main defensive belt," German, 39 TT 45-50
 Main line of resistance:
 Enemy, German squad exercise in penetration of, 9 SS 95-105
 German definition, II-1 IB 65; 5 SS 4
 Maintaining direction. *See* Orientation.
 Maintenance and repair (*see also individual weapons*):
 Armored-force vehicles in field, 2 TT 21
 British:
 Automotive, I-2 IB 79; 11 MR 47-48
 Self-propelled artillery, 2 MR 21-22
 Tanks, 4 MR 37-39
 Training, I-6 IB 81
 German:
 AA gun barrels, testing in combat areas, 34 TT 35-36
 Armored-division units, I-4 IB 33; I-6 IB 63-64; I-8 IB 34-39; I-11 IB 47; 4 TT 8, 10-15; 10 TT 24-32; 11 TT 37-40; 12 TT 37; 37 TT 30-31; 38 TT 35
 Automotive, 4 TT 14-15; 12 TT 40; 15 TT 39
 Communication lines, 17 SS 37; 18 SS 179-191
 Road services in winter, (illus.) 18 SS 34-36, 37-46
 Tank, I-4 IB 33; I-8 IB 34-39; I-11 IB 47; 4 TT 8, 10-14; 10 TT 24-32; 12 TT 37; 38 TT 35
 Maintenance and repair—Con.
 German—Continued
 Weapons in winter (*see also individual weapons*), 18 SS 154-163
 United States, of weapons and vehicles in combat, 30 TT 41
 Makin Island, Japanese defenses on, 1-9 IB 11; (illus.) 13 TT 56-59
 Malaria:
 Prevalence, II-1 IB 71; 19 TT 51; (map) 20 TT, facing 62
 Prevention, I-10 IB 84; II-3 IB 72-73; 13 TT 36; 20 TT 23-26; 33 TT 30; 36 TT 32-33
 Treatment, Atabrine, 26 TT 39-40
 Malaya:
 Aerial bombings, Japanese, 34 TT 2-4
 Demolition procedure, British, 1 MR 25-27
 Lessons from campaign, 1 MR 25-27; 13 TT 22-25; 15 TT 25-30; 24 TT 19-20
 Obstacles, Japanese use of, 1-4 IB 15-16
 Singapore, Japanese bombing, 1 TT 1
 Malta, operations in, 1 MR 1-6; 2 MR 3-4; 3 MR 8; 6 TT 5-6
 Mandalay, Burma, Japanese offensive tactics, 9 TT 19-22
 Maneuvers:
 British field artillery regiment, 6 MR 19-23
 German, purpose of, 3 SS 53-54
 Manila (*see also* Philippine Islands), Japanese comment on U. S. resistance, II-1 IB 27-25
 Mannlicher-Carcano, 6.5-mm rifle, Model 91, Italian, I-3 IB 56; 11 TT 41
 Map-reading device for night use, British, (illus.) II-2 IB 25, 26
 Maps:
 Attu, 27 TT 40
 British:
 Aerial photography, (illus.) 4 TT sec. II, 6-9
 Reference systems, 13 SS 190-197; (illus.) 4 TT, sec. II, 1-6
 Captured, combat intelligence value of, 10 MR 58-59
 Caucasus, 6 MR 59
 Corregidor Island, 12 MR 44

Maps—Continued

- Crete, 8 TT 52, 53
 Egyptian-Libyan frontier, 5 SS 20
 El Alamein area, 2 MR 50; 3 MR 49; 17 TT 44, 53
 France, Channel coast, 28 TT 37, 43
 German:
 Air-raid warning zones, 21 TT 5
 Fluorescent, 4 TT 2
 Fortification systems, western and eastern Europe, 17 SS facing 142
 West Wall, 17 SS 55, 58-61, facing 142
 Lancashire, England, 4 TT sec. II, facing 11
 Libyan theater, 5 SS facing 1, 44; 6 SS x
 Malaria, world distribution of, 20 TT, fol. 60
 Manila Bay, 12 MR 40
 Milne Bay area, New Guinea, 6 MR 44
 Salerno area, Italy, 13 MR 34
 Schistosomiasis, world distribution of, 18 TT, facing 46
 Sicily, 11 MR 58
 Spitsbergen, Norway, and vicinity, 1 SS 98, 104
 Union of Soviet Socialist Republics:
 Don-Stalingrad area, 4 MR 46
 Kiev, 7 TT 42, 49; 11 TT 48
 Narew River crossing, 27 TT 48
 Sevastopol, 5 TT, facing 46
 Vaagso, Norway, 1 SS 58, 63
 Map symbols for obstacles, German, 1-6 IB 65
 Marches (*see also* Movement of troops; Transportation):
 German:
 AA protection for troop columns, 8 SS 35-37; 10 SS 65-66
 Advance guard for security, 9 SS 59-62
 Armored infantry battalion, 24 TT 50
 Day, 8 SS 38-39
 Foot bandages for marching, (illus.) 11 TT 30-31
 Formations, (illus.) 8 SS 34-35, 39-40
 High mountains, I-11 IB 19-20
 Infantry approach, I-8 IB 6-7; II-1 IB 64

Marches—Continued

- German—Continued
 March tables, 4 SS 59; 18 SS 26
 Motorized troops, 4 SS 15-18, 59; 24 TT 51-53; 39 TT 28
 Night, 8 SS 37-38; 18 SS 24
 Orientation in snow-covered terrain, 18 SS 20-27
 Outposts, 8 SS 43
 Rates, 8 SS 41-43; 18 SS 18; 26 TT 28
 Road discipline, II-2 IB 16-17
 Tank battalion, 24 TT 49
 Training, 3 SS 40-41
 Winter, I-11 IB 23-24; 18 SS 1, 2, 3-4, 16-20, 133-134
 Wooded country, conditions in, I-8 IB 5-6; 18 SS 18, 25; 26 TT 28
 Japanese:
 Approach by night, I-3 IB 46-47; I-10 IB, 75
 Jungle, I-6 IB 6-7; I-7 IB 13-15; II-1 IB 30; II-2 IB 54-55
 Road-movement abilities of units, (illus.) I-11 IB 73
 Soviet, use of camouflage in summer, 23 TT 16-17
 United States, road discipline of AA units, 6 MR 5-6
 March tables, German, 4 SS 59; 18 SS 26
 Mareth front, Tunisia (*see also* North Africa; Tunisia), German tactics, I-10 IB 31; 27 TT 26-27
 Marines:
 Japanese. *See* Naval landing parties.
 United States:
 Guadalcanal, experiences on, 3 MR 35-38
 Japanese estimate of tactics, 22 TT 49-54
 Marking minefields. *See* Minefields.
 Marking roads in winter, German, (illus.) 18 SS 28-29, 39
 Markings (*see also individual weapons*):
 Aircraft, German, 24 TT 1-2
 Chemical munitions, Japanese, 39 TT 16
 Motor-maintenance vehicles, German 12 TT 40
 Weapons. Japanese systems, 19 SS 4-6

- Marksmanship training, German, 3 SS 46
 Marshy areas, tactics in, German, 11 TT 49-50, 51; 33 TT 28-30
 Massacre Bay, Attu (*see also* Aleutian Islands; Attu), Japanese forces at, 27 TT 38-41
 Matilda, Mark II tank, British, 6 SS 94-95; 3 TT 9-10
 Mauser weapons:
 7-mm rifle, Brazillian, 13 MR 24
 7.92-mm carbine or rifle, German, (illus.) 14 SS 21-23, 182-183
 6.5-mm rifle, Japanese. *See* 6.5-mm rifle, Model 38 (1905), Japanese.
 20-mm aircraft machine gun, German, (illus.) 28 TT 30, 31, 32
 20-mm, German. 28 TT 31, 32
 Mechanized forces. *See* Armored forces.
 Medals. *See* Awards and decorations.
 Medicine, Battle of, 7 MR 13-15
 Medicine and surgery (*see also* First aid; Health rules):
 Ambulance sleds, German, 18 SS 208; 14 TT 37
 Amphetamine (benzedrine), 2 MR 39-43; 3 MR 26-28; 11 TT 29-30
 Animal-carried diseases, I-4 IB 26; II-3 IB 80-83; 18 SS 146; 30 TT 15
 Antilice clothing, German, 36 TT 33
 Benzedrine (amphetamine), 2 MR 39-43; 3 MR 26-28; 11 TT 29-30
 Blister gas, German treatment for, I-4 IB 52-53; 5 TT 19
 Burma campaign notes, 6 TT 31-32
 Burns (*see also* Losantin), causes and treatment of, 14 TT 35-37
 Casualties among British tank personnel in North Africa, 13 TT 36-38
 Climatic testing laboratory, German, 38 TT 35-36
 Convalescent camps, German, 18 SS 15
 Dengue fever, II-3 IB 73-74
 Fears of enemy weapons, British and U. S. studies of, 9 MR 36-39; 12 MR 19-22
 Medicine and surgery—Continued
 Feet. *See* Feet, care and protection of.
 Filariasis (elephantiasis), II-3 IB 74
 Food precautions, I-4 IB 25; I-9 IB 72-75; 30 TT 14
 Head wounds, helmet protection from, (illus.) I-7 IB 74-76; 2 MR 38-39
 Insect carriers of disease (*see also* Malaria), I-4 IB 25; I-9 IB 77-78; II-3 IB 70-80; 18 SS 144-146; 30 TT 14
 Jaundice among U. S. troops, 1 TT 20
 Losantin, German remedy for burns, I-4 IB 52-53; I-7 IB 33; 16 SS 43; 17 TT 16; 29 TT 16
 Malaria. *See* Malaria.
 Medical services:
 British Eighth Army, 2 MR 49, 52; 34 TT 31-32
 German, 18 SS 15; 33 TT 30-32; 35 TT 40-43; 38 TT 35
 Japanese, I-4 IB 13; I-6 IB 29; I-10 IB 63; 36 TT 32-33
 Methedrine (pervitin), 7 SS 30; 5 TT 32; 11 TT 29
 Mountain warfare, problems in, 11 MR 44-45
 Myiasis (fly boils), II-3 IB 79
 Orderlies, Japanese, 36 TT 32
 Parachute units, German, medical equipment, 7 SS 30; 4 TT 19-20
 Pervitin (methedrine), 7 SS 30; 5 TT 32; 11 TT 29
 Plague, II-3 IB 76
 Prickly heat, I-9 IB 26; 30 TT 15
 Rabies, II-3 IB 80
 Schistosomiasis, 18 TT 23, (map) facing 46
 Snake bite, precautions and treatment, I-4 IB 26; II-1 IB 80-81; II-3 IB 80-82; 19 TT 24-25
 Spectroscope, German use for wound diagnosis, 38 TT 36
 Stimulants. *See* Stimulants.
 Sting-ray wound, treatment of, 33 TT 37-38
 Sunburn, sunstroke, and heat exhaustion, II-3 IB 84-85
 Surgical units, mobile, in Middle East, British, 34 TT 31-33

- Medicine and surgery—Continued**
 Typhus, II-3 IB 75, 76, 78; 3 TT 15
 Venereal diseases, II-3 IB 83; 11 SS 49-51; 30 TT 12
 Wounded, evacuation of. *See* Evacuation of wounded.
 Wounds, British treatment of, 15 TT 33-37
 Yellow fever, II-3 IB 74
Meeting engagements (see also Tactics):
 German, I-5 IB 2, 32; 8 SS 56-58; 15 TT 19
 Japanese, I-10 IB 73-74
Meiji marking system for weapons, Japanese, 19 SS 4-5
 Merchant ships, AA contingent of, British, I MR 7
Mersburg glider, German; 7 SS 41-42; 10 TT 4; 14 TT 5; 21 TT 1; 36 TT 47
 Merton method of gridded oblique photography, British, (illus.) 4 TT, sec. II, 6-9
 Message-tube in air-ground communication, Japanese, I-7 IB 18-19, 20
 Messenger dogs:
 British, I-5 IB 68-69
 German, I-2 IB 23; 8 SS 24; 17 SS 35
Messerschmitt (Me) planes, German:
 Flying limitations, 23 TT 1-2
 410, 34 TT 1
 109 F bomber, 3 TT 2; 23 TT 1
 109 G fighter, I-10 IB 24-28; 23 TT 1, 2-3
 323 transport, (illus.) 21 TT 1-2
 210 fighter-dive-bomber, (illus.) 14 TT 1-3
 Messina operations, 13 MR 11-14
 Meteorological transmitter, automatic, German, 16 TT 37-38
 Methane (natural gas), German gasoline substitute, 3 TT 24
 Methedrine (pervitin), 7 SS 30; 5 TT 32; 11 TT 29
 Metric scales, table of British equivalents, 4 TT, sec. II, 10-11
 Middle East. *See* Africa; Egypt; El Alamein operations; Libya; North Africa; Sicily; Tunisia.
 Military abbreviations. *See* Abbreviations.
 Military administration, Japanese:
 Conquered areas, 20 TT 37-46
 Treatment of natives in southwest Pacific, I-8 IB 67-69
 Military Commissars, Soviet, 11 SS 53, 57-58
 Military decorations. *See* Awards and decorations.
 Military discipline. *See* Discipline.
 Military intelligence. *See* Combat intelligence; Counterintelligence; Engineer intelligence; Prisoners of war; Propaganda; Security.
 Military police, British, cooperation with civilian agencies, 14 TT 39
 Military terminology. *See* Terminology.
 Military training. *See* Training.
 Millimeter measurements with inch equivalents, 29 TT 30-31; 14 SS, back cover; 19 SS, back cover
 Milne Bay area, New Guinea. *See* New Guinea.
 Minefield clearance. (*See also* Minefields; Mines):
 Allied (*see also* British; United States), 5 TT 22; (illus.) 33 TT 20-24
 British (*see also* Allied):
 Commando training, 1 SS 33
 Cordtex, use to detonate mines, 18 TT 11; 1 SS 33
 Detection methods, 2 MR 30-33, 34-36; 5 MR 23, 25; 7 MR 39-40; 8 MR 42; 9 MR 32-33; 10 MR 29-31; 18 TT 11
 Eighth Army, 2 MR 30-37; 5 MR 23-25; 7 MR 38-41; 10 MR 29-30; 13 TT 8-9
 Fowler Roller, 3 MR 17
 Neutralizing Tellermine igniters, 36 TT 23
 Night operations, 2 MR 34-35
 "Scorpion" (mine destroyer), 3 MR 17; 6 MR 33-34; 7 MR 40; 8 MR 41; (illus.) 12 MR 15-16
 "Snake" (mine destroyer), (illus.) 3 MR 17-18
 Training for, 2 MR 30-37
 German:
 Clearing paths through minefields, methods of, I-2 IB 16; 6 SS 59; 13 TT 9

Minefield clearance—Continued

- German—Continued
 Destroyer net for tank mines, 2 TT 12
 Detection methods, 14 TT 19; 17 TT 22; 24 TT 14; 39 TT 16-19; 41 TT 22-24
 Japanese, doctrine of mine-detection, 10 TT 10
 Soviet detectors, (illus.) 6 TT 24-26
 United States (*see also* Allied), 30 TT 11-12; 37 TT 3-4
 Minefields (*see also* Minefield clearance; Mines):
 Axis (*see also* German, Italian, Japanese):
 Antipersonnel, laying out (illus.) 4 TT 6, 7
 Antitank, in Africa, 6 TT 23
 Egyptian operations, use in, 13 TT 8-9; (illus.) 19 TT 10-13
 Mining roads, (illus.) 38 TT 20-23
 Tunisia, I-12 IB 1-6; 10 MR 29
 British:
 Camouflage, 7 MR 37
 Marking, 18 TT 11
 North Africa, 1 MR 12-13; 7 MR 37; 8 MR 44-45; 18 TT 10-12
 Training in crossing, I-6 IB 84
 German:
 Antipersonnel, I-5 IB 11-12; (illus.) 15 SS 34-36
 Antipersonnel-antitank, I-1 IB 34; 1 TT 4; 23 TT 13
 Booby traps used with, I-1 IB 32-33; I-5 IB 11; I-10 IB 5-6, 10-13; 6 TT 23; 15 TT 18
 Camouflage, 32 TT 23-24
 Coastal defense, (illus.) 15 SS 24-40
 Desert, 5 SS 16-17, 48, 59; I-5 IB 9-14
 Landing fields, mining of, (illus.) I-11 IB 48-51
 Laying, methods of, I-1 IB 35; II-1 IB 71; 27 TT 15-18; 36 TT 20; 41 TT 18, 20, 21
 Marking, I-5 IB 10-13; 15 SS 37-39; 8 TT 37; 41 TT 18
 Patterns, I-5 IB 9-10, 12-13; (illus.) 5 SS 59; 15 SS 26-33

Minefields—Continued

- German—Continued
 Roads, mining of, I-1 IB 35; I-10 IB 2-4, 13; I-12 IB 4; (illus.) 15 SS 32-33; 26 TT 23-24; (illus.) 38 TT 20-23; 41 TT 18
 Selection of locations, 15 SS 25
 Italian in North Africa, 16 TT 7
 Japanese, pattern for laying anti-vehicle Model 93 mine, II-1 IB 2-4
 Marking lanes through, 16 TT 38-39
 Mine-locating instruments. *See* Mine detectors.
 Mines (*see also* Booby traps; Igniters; Minefield clearance; Minefields):
 Axis (*see also* German, Italian, Japanese), British Eighth Army experiences with, 10 MR 27-31, 32; 13 TT 8-9
 British:
 Antipersonnel, (illus.) 9 MR 28-32
 AT, (illus.) 9 MR 26-28
 Hawkins (No. 75), used as grenade, (illus.) 3 MR 31; 9 MR 24-26
 Shrapnel, (illus.) 9 MR 28-32
 Standard types, (illus.) 9 MR 24-32
 Dutch antipersonnel, use by Japanese, II-1 IB 5-6
 Finnish antitank, 6 TT 43-44
 French:
 Antitank, (illus.) 5 TT 20-22; 22 TT 27
 German use for road obstruction, 26 TT 24
 German (*see also* S-mines; Teller-mines):
 Antipersonnel, I-1 IB 34; I-5 IB 11-12; (illus.) I-10 IB 7-8, 9; (illus.) 14 SS 52; (illus.) 31 TT 18-19; (illus.) 41 TT 19-22
 Antitank, I-10 IB 1-5, 13; 17 SS 135; 10 TT 49; 12 TT 23, 24; 20 TT 15-19; 25 TT 17-18; 35 TT 31
 Camouflage, 32 TT 23-24
 Dummy, 26 TT 24
 Gas, 16 SS 23

Mines—Continued

- German—Continued
 Improvised, (illus.) 33 TT 24; (illus.) 36 TT 20; (illus.) 39 TT 24
 Plastic, improvised, (illus.) 39 TT 24
 Psychological effect of, I-1 IB 35
 Ski, improvised, (illus.) 36 TT 20
 Sliding, used by tank hunters, (illus.) I-12 IB 28; (illus.) 23 TT 43-44
 Stick-grenade-cluster, (illus.) 14 SS 52
 Tactical employment, I-1 IB 35; I-10 IB 12-13; I-12 IB 15-18; (illus.) 5 SS 59; 10 TT 49; 26 TT 18; 39 TT 47, 49, 50
 Tunisian campaign, use in, I-12 IB 1-6; 10 MR 29
 Wooden-box, I-5 IB 8; (illus.) I-10 IB 7-9; 10 MR 29; (illus.) 39 TT 20-23
 Hungarian, 22 TT 55; 38 TT 21
 Italian:
 Antipersonnel, I-5 IB 8; I-10 IB 7; (illus.) I-12 IB 44-45; (illus.) 25 TT 18-19; (illus.) 35 TT 25-26
 AT, (illus.) I-12 IB 42-43
 Roads, used in mining of, 38 TT 21, 22
 Variable pressure, (illus.) 18 TT 12-15; 22 TT 55
 Japanese:
 Antipersonnel (Dutch), II-1 IB 5-6
 Antivehicle, Model 93, "tape measure," (illus.) II-1 IB 2-5; (illus.) 19 SS 61-63; 37 TT 25
 AT, I-1 IB 58; II-4 IB 25-26; (illus.) 35 TT 26-28
 Doctrine, II-1 IB 1-2; 10 TT 10-11
 Gas, 16 SS 123
 Magnetic, AP, I-1 IB 58; (illus.) II-1 IB 6-8; (illus.) 19 SS 63-67; 5 TT 34; (illus.) 19 TT 6
 Types, I-8 IB 61
 Norwegian, German adaptation of, (illus.) 39 TT 20-23

Mines—Continued

- Soviet:
 Antipersonnel, (illus.) 4 MR 32-33
 AT contact, (illus.) 4 MR 33-35
 Igniter, (illus.) 4 MR 32
 Wooden, improvised, 4 MR 31-35
 Mining, underground, operations in warfare, 29 TT 39-55
 Mite-carried diseases, I-4 IB 25; I-9 IB 78; II-3 IB 78; 30 TT 14
 Mitsubishi planes, Japanese:
 Fighter, "Zero," 5 TT 1-4; 6 TT 2-3, 8 TT 4-5
 Light bomber, Model 98, 6 TT 3
 Medium bomber, Model 97, 25 TT 2, 4-5
 Twin-engine bomber, Model 96, 6 TT 3-4
 Molotov cocktails:
 German, 10 TT 41, 50, 51; 23 TT 40
 Japanese, 16 SS 122-123
 Montgomery, B. L. General (*see also* Eighth Army), 3 MR 43; 9 MR 49-57
 Mopping-up tactics, Japanese, I-8 IB 52
 Morale (*see also* Morale building):
 Axis forces (*see also* German, Japanese), 13 MR 14
 British:
 Commandos, 1 SS 11; 1 TT 16-17
 Effect of enemy weapons on, 9 MR 36-39
 Eighth Army, 10 MR 25-26
 Importance, 9 MR 51
 German, II-1 IB 70; II-3 IB 1-8; II-4 IB 64-65; 5 SS 60; 18 SS 4-5, 12
 Japanese:
 Armed forces, I-5 IB 42-45; I-6 IB 18-26; I-7 IB 27-28; I-8 IB 55-57; I-9 IB 27-29; II-3 IB 66-68; 16 TT 39-40
 Army-Navy relations, II-3 IB 69
 United States, Japanese comment on, II-1 IB 27-28
 Morale building (*see also* Morale), foreign armies, I-3 IB 4; 11 SS 1-59; 18 SS 4-5, 13-15
 Moroccan soldier, characteristics, I-5 IB 62-65; I-12 IB 77
 Morse code, Japanese *Kana* code signal equivalents, 12 TT 51-59

- Mörser 18*, 210-mm howitzer, German, 9 TT 47; 12 TT 14; 18 TT 23-24; (illus.) 32 TT 34
- Mortars (*see also* Bomb throwers):
 Australian, 3-in, 6 MR 53-54
 Brazilian, *Brandt* 81-mm, 13 MR 25
- British:
 Policy regarding, 6 MR 39
 3-in, 12 MR 16-18
- Finnish 120-mm *Tampella*, 39 TT 11
- French, 120-mm *Brandt*, 39 TT 11
- German:
 Captured 120-mm mortars used, 39 TT 11
 Chemical, firing in winter, 18 SS 173-174
 8-mm heavy, Model 34, (illus.) 14 SS 102-112, 180, 181, 184; 9 TT 45; (illus.) 30 TT 28-29
 50-mm light, I-5 IB 21-27; (illus.) 14 SS 95-101, 179, 180; 18 SS 166-167; 9 TT 43; (illus.) 30 TT 23-29
 Foxholes, (illus.) 17 SS 108-109
 150-mm chemical. *See* 150-mm chemical mortar or rocket projector, six-barreled, German.
 105-mm (100-mm) smoke/HE. *See* 105-mm mortar chemical
 120-mm, 16 SS 18; 14 TT 45-46
 120-mm heavy-mortar battalions, 40 TT 12-13
 Positions, (illus.) 17 SS 106-107, 114-115; 18 SS 95
 Smoke mortar *d*, I-5 IB 18
 "Thor," heavy, (illus.) 10 TT 6, 8
 380-mm spigot, bomb for, 35 TT 47
 280/320-mm smoke, 16 SS 17
 200-mm spigot, 16 SS 17; (illus.) 16 TT 32-34; 21 TT 24; (illus.) 33 TT 32-34
 210-mm chemical, 16 SS 16-17
 Winter use of light mortar, II-2 IB 9-10
- Italian:
 81-mm, Model 35, I-3 IB 58; I-5 IB 55-58; 6 SS 111; 16 SS 56-57; 7 TT 33; 11 TT 44; 24 TT 26
- Mortars—Continued
- Italian—Continued
 45-mm, *British*, Model 35, I-3 IB 58; 6 SS 110; 11 TT 43; (illus.) 21 TT 19-22
 210-mm (210/8), 6 SS 111; 11 TT 45
- Japanese:
 Barrage, 70-mm, (illus.) II-2 IB 44-48; (illus.) 19 SS 146-150
 81-mm infantry, Model 99 (1939), (illus.) 16 SS 97, 98; (illus.) 19 SS 152-160, fol. 241; 10 TT 35; 40 TT 27; (illus.) 41 TT 30-31
 81-mm, Model 97 (1937), (illus.) 19 SS 150-152; 40 TT 27
 50-mm, Model 98 (1938), (illus.) 19 SS 135-142
 4-in, I-3 IB 31; 7 TT 20; 9 TT 17-18
 Knee. *See* 50-mm grenade dischargers, Japanese.
 90-mm, Model 94 (1934). *See* 90-mm mortar, Model 94 (1934), Japanese.
 100-mm chemical, 16 SS 97
 Ranging by tracer fire, I-1 IB 58; 27 TT 29
 70-mm, Model 11 (1922), (illus.) 19 SS 142-146
 72-mm, 10 TT 34
 Tactical employment, I-1 IB 58; II-1 IB 32; 9 TT 17-18
- Smoke. *See* Smoke.
- Soviet:
Katyusha ("little Katherine"), 4 MR 52; 9 TT 7
 120-mm, 39 TT 11
- Stokes-Brandt. *See* Stokes-Brandt mortars.
- United States:
 81-mm, compared with Italian and Japanese 81-mm, I-5 IB 55; (illus.) 19 SS 150-152
 60-mm, compared with German 50-mm, (illus.) I-5 IB 21-27
- Moschetto* carbines. *See* Carbines, Italian.
- Moscow, U. S. S. R. (*see also* Union of Soviet Socialist Republics), defenses before, (illus.) 26 TT 24-26

- Mosquito-carried diseases (*see also* Malaria), I-4 IB 25; I-9 IB 78; II-3 IB 70-75; 30 TT 14
- Mosquito planes, British, (illus.) 11 MR 1-3
- Mosquito-repellent lotion, 13 TT 36
- Motion pictures. *See* Morale-building.
- Motorboats, British, transport of troops, 1 SS 122-23
- Motorcycles, German, I-2 IB 24; 8 SS 13, 17
- Motorcycle tractor, German, 13 TT 50; (illus.) 19 TT 31-40
- Motpulk*, German formation, I-1 IB 48-51
- Motorized forces. *See* Armored forces; Infantry, motorized.
- Motorized infantry. *See* Infantry, motorized.
- Motor transport in French Equatorial Africa, 14 TT 42-45
- Motti* tactics, Finnish, 6 TT 39
- Mountain warfare (*see also* Winter warfare):
- Argentine, mountain - artillery training, 1 TT 5
 - British, training, 11 MR 39-46; 1 SS 45-52
 - German:
 - Artillery regiment of mountain division, 7 TT 4
 - Motorized infantry, 4 SS 44-45
 - Tactics, I-11 IB 18-26; 31 TT 45-51
 - Uniform of mountain troops, I-3 IB 6, 8
 - Underground mining operations, (illus.) 29 TT 39, 42-44, 47, 49, 51
 - United States, training, 11 MR 33
- Mountain weapons:
- German:
 - 105-mm howitzer, 13 TT 43
 - 75-mm gun, 6 SS 100; 9 TT 44, 45; 31 TT 47; 38 TT 9-10
 - 75-mm howitzer, infantry and mountain, 9 TT 44; (illus.) 30 TT 28-29; 31 TT 47
 - 20-mm dual-purpose gun, Model 38, 13 TT 5-6
 - Italian:
 - 100-mm (100/17) howitzer, Models 16 and 34, 11 TT 44; 18 TT 27
- Mountain weapons—Continued
- Italian—Continued
 - 75-mm (75/13) howitzer, 16 SS 110; 11 TT 43
 - Japanese:
 - Operation from landing barges, I-10 IB 61
 - 75-mm gun, Model 94 (1934), II-1 IB 31-32; 10 TT 34; 37 TT 24; 38 TT 8
 - 75-mm (infantry) gun, Model 41 (1908), (illus.) 19 SS 222-233, fol. 241
- Mounts. *See individual weapons.*
- Movement of troops. *See* Marches; Transportation.
- Mozhaisk, U. S. S. R., winter fighting, 12 TT 20-27
- Multipurpose guns:
 - German 88-mm. *See* 88-mm multipurpose gun, German.
 - Italian 90-mm, 6 SS 111; 11 TT 44; 12 TT 8
- Mussolini, Benito, I-4 IB 56-58
- ## N
- Nambu* weapons, Japanese:
 - 8-mm pistol, (illus.) 19 SS 7-14, 238
 - 6.5-mm machine gun, light, Model 11 (1922), 10 TT 33
- Narew River, U. S. S. R., German crossing, (illus.) 27 TT 45-51
- "Nate", Japanese fighter plane, 19 TT 2, 3; 21 TT 32
- National characteristics. *See various nationalities.*
- National festivals, Japanese, 27 TT 37-38
- National Socialist Party, Germany. *See* Nazi Party
- Natives and foreigners in conquered areas, Japanese treatment, I-8 IB 67-69; 20 TT 42-44
- Naval AA:
 - German, 10 SS 13; 9 TT 4
 - Japanese, 8 TT 19-22
- Naval landing parties, Japanese, I-6 IB 9-13; I-9 IB 24-26; 13 TT 14-22
- Naval operations:
 - British:
 - Bombardment of Bardia, Tobruk, and Bengasi, 6 SS 71-72

- Naval operations—Continued
 British—Continued
 Fire support for landings, 5 MR 39, 46-47, 50-51
 Spitsbergen, 1 SS 101-116
 Vaagso raid, 1 SS 62, 75-80, 83
 Guadalcanal, Japanese-U. S. engagement off, 22 TT 44-45
 Naval patrols for coastal defense, German, 15 SS 5-6
 Naval pontoon piers, U. S., 37 TT 20
 Naval smoke candle, 10-kg, Japanese, (illus.) I-10 IB 47-50
 Navy-Army relations, Japanese, II-3 IB 69
 Nazi Party:
 Indoctrination methods, I-3 IB 1-3; 3 SS 4-5, 9
 Military-training program, 3 SS 3-12
Waffen-SS, (illus.) 35 TT 51-54, 41 TT 35-37
 Nerve gas, German, 1 TT 7
 Netherlands, German airborne invasion of, 7 SS 8-10, 52
 Netherlands Indies, (*see also* South Pacific) Japanese tactics in, I-2 IB 43-45; 7 SS 16-17; 2 TT 15-17; 8 TT 22-27; 9 TT 22-27
 Nets:
 Camouflage. *See* Camouflage and concealment.
 German:
 Destroyer net for tank mine, 2 TT 12
 Harbor obstacles, 15 SS 12
 Minefields, use in laying, (illus.) 4 TT 6-7
 New Guinea (*see also* Jungle warfare; South Pacific):
 Australian operations:
 Pack transport, 12 MR 28-31
 Tanks, employment of, 6 MR 14-17
 Japanese operations:
 Bombing method, 1 TT 1
 Conduct of soldiers, I-10 IB 80-81
 Deceptions, I-9 IB 12; 21 TT 18; 24 TT 18-19
 Installations at Buna, 40 TT 23-24
 Landings, (illus.) I-10 IB 51-55, 61-62
- New Guinea—Continued
 Japanese operations—Continued
 Reverses, Japanese explanation of, I-8 IB 70-71
 Tactics, 6 MR 47-49, 56; I-7 IB 30; I-9 IB 4, 5, 7, 8, 10-11, 12; I-10 IB 51-55, 73-76; I-11 IB 75; I-12 IB 54-60; II-2 IB 62-66; 1 TT 1; 17 TT 25-27; 21 TT 18; 22 TT 28-29; 23 TT 22-23; 24 TT 18-19; (illus.) 26 TT 34-38; 38 TT 29-32
 Milne Bay:
 Japanese tactics, I-5 IB 39-40; I-10 IB 73-76; 17 TT 25-27; 22 TT 28-29; 24 TT 18-19; (illus.) 26 TT 34-38
 Terrain at, I-10 IB 73
 New Zealand AA methods, I-10 IB 87-91
 U. S. sergeant's experiences, I-11 IB 59-63
 Night operations:
 Allied, aids to movement, 16 TT 38-39
 British:
 Attack, 12 MR 32-33
 Occupation of a German position, 16 TT 16-17
 Portable device for map reading, II-2 IB 25, 26
 Recognition, means of, 1 SS 134-135
 Training, I-6 IB 83
 Eyes, use of, I-6 IB 66-75
 German:
 Approach systems for German aircraft, 15 TT 5-6
 Dive-bombing attacks on ports, I-10 IB 25-26
 Equipment for night driving, I-1 IB 40-42; 1 TT 21-22; 4 TT 2; (illus.) 9 TT 35-38
 Fire from tanks, 27 TT 11-12
 Infantry tactics, 18 TT 19; 30 TT 16-17
 Maps for night driving, 4 TT 2
 Marches, 8 SS 37-38
 Motorized infantry, 4 SS 42
 Tactics in Tunisia, 38 TT 33
 Japanese:
 Approach, I-3 IB 46-47; I-10 IB 75

- Night operations—Continued
- Japanese—Continued
- Attack, I-3 IB 47-49; I-4 IB 10-11; I-6 IB 7-9; I-9 IB 7-8; I-10 IB 75-76; I-12 IB 59; II-1 IB 33; II-2 IB 57; 16 TT 23
- Bombings, II-4 IB 9-10
- Communication methods, II-1 IB 33
- Fighter planes in airfield defense, II-4 IB 11-12
- Identification of leaders, 35 TT 39
- Jungle fighting, I-3 IB 32; I-7 IB 15; I-11 IB 60, 61
- Light tanks, use of, I-10 IB 76
- Machine guns in defense, I-3 IB 50-51
- Milne Bay operations, I-10 IB 75-76; 26 TT 36-37
- Noises during, I-5 IB 38
- Objectives, I-3 IB 44-45
- Offensive tactics, I-9 IB 7-8
- Pursuit, I-3 IB 50
- Reconnaissance, I-3 IB 45, 46
- Retirement, I-3 IB 51; I-10 IB 76
- Solomon Islands, I-3 IB 38; 16 TT 23; 17 TT 25; 21 TT 19
- Soviet:
- Cavalry combat, I-2 IB 69-72; 8 TT 32-34
- Tanks, 15 TT 31-32
- United States, Japanese estimate of, I-5 IB 34
- 9-mm machine carbines. *See* Machine carbines.
- 9-mm pistols. *See* Pistols.
- 9-mm submachine guns. *See* Sub-machine guns.
- 90th Light Division, German. *See* Afrika Korps.
- 9.2-in gun, British, 1 MR 20; 13 MR 16
- 95-mm infantry gun, British, 6 MR 38
- 90-mm gun, French, 4 TT 3
- 90-mm mortar, Model 94 (1934), Japanese, 16 SS 92, 94-96; (illus.) 19 SS 160-169, fol. 241; 10 TT 35; (illus.) 22 TT 17; (illus.) 41 TT 33-34
- 90-mm multipurpose gun, Italian, 6 SS 111; 11 TT 44; 12 TT 8
- 90-mm (90/53) AA/AT self-propelled guns, *Semovente*, Italian, 25 TT 48; (illus.) 26 TT 11-12
- Nitrogen-mustard gases, German, 16 SS 7, 9; 12 TT 18-19
- Noncommissioned officers, British training, I-6 IB 80-81
- North Africa (*see also* Desert warfare; Egypt; El Alamein operations; Libya; Minefield clearance, British; Minefields, British; Tunisia):
- Allied AA operations, 7 MR 3-8
- British operations:
- AA, 2 MR 13-14; 4 MR 11; 5 MR 13-14; 7 MR 3-8; 8 MR 5-12
- Aircraft recognition, 8 MR 17-18
- Airfield construction, 8 MR 43
- Air-force AT activities, 8 MR 1-4
- Air OPs, 11 MR 26-30
- Area smoke screening, 6 MR 24-31; 7 MR 25-29
- Armored-force lessons, 2 MR 15-18
- AT, I-5, IB 78-80; 1 MR 12-14; 2 MR 4-8; 8 MR 1-4
- Balloon defenses, 6 MR 7-10; 8 MR 11
- Camouflage, 7 MR 31-38
- Combat experiences with Germans, I-12 IB 75-79
- Communication needs, 8 MR 43
- Engineers, lessons, 8 MR 41-45
- Factors responsible for success of, 14 TT 50
- Field-artillery notes, 13 MR 17
- Road-movement organization, 8 MR 47-50
- Signal security, 19 TT 43-45
- Smoke screening, 6 MR 24-31; 7 MR 25-29
- German operations:
- Battalion defense areas, (illus.) 31 TT 20-25
- Camouflage practices, 40 TT 18
- Field order (translation), 36 TT 26-32
- Health rules, I-4 IB 24-27; 30 TT 12-16
- Maintenance problems, 4 TT 12-15
- Patrols, 22 TT 28
- Static defense around Bardia, I-8 IB 19-20

North Africa—Continued

German operations—Continued

Tactics, I-4 IB 32-34; I-6 IB 44-51; I-8 IB 15, 21; I-10 IB 14-18; 16 TT 14-15; 20 TT 19-20; 22 TT 28; 27 TT 26-27; 29 TT 22; 31 TT 20-25

Wire communications, 15 TT 42-46

Operations, 1940-42, (map) 9 TT 51-60

United States operations:

AA, 9 MR 9-16

Counterintelligence and intelligence, 12 MR 22-26

Health rules, I-9 IB 65-78

Norway:

Airborne attack, German, 7 SS 8
German *Waffen-SS* organization, 35 TT 54

Lofoten Islands, British commando raid on, 1 SS 3

Screening of fjords, German, 16 SS 152-153; 24 TT 10

Spitsbergen, British commando raid on (map) 1 SS 98-116

Vaagso, British commando raid on, 1 SS 57-97

Nutrition. See Food; Health rules; Rations.

O

Observation posts (*see also* Field artillery; OP vehicles; Reconnaissance):

British, air, in North Africa, 10 MR 22; 11 MR 26-30

Japanese, I-3 IB 31; II-2 IB 37

Observers, artillery. See Field artillery; Patrols; Reconnaissance.

Obstacles (*see also* Antitank obstacles; Barbed-wire obstacles; Minefields; Mines):

German:

Antipersonnel, (illus.) 17 SS 139-141

Coastal-defense, 15 SS 11-49

Landing-field, I-11 IB 48-51; (illus.) 11 TT 36; 12 TT 40; 13 TT 40; 14 TT 41

Map signs for, I-6 IB 65

Winter, 18 SS 100-104; (illus.) 36 TT 16-19

Obstacles—Continued

Japanese:

Doctrine, 10 TT 9-11

Electrified, I-4 IB 18-19; 10 TT 9-10

Road blocks, I-4 IB 15-17; (illus.) 7 TT 19-20

New Zealand troop methods of penetrating wire, I-6 IB 92-95

Occupation troops, regulations for, Japanese, 20 TT 37-46

Oertikon guns, 20-mm, (illus.) II-1 IB 21-24; (illus.) 28 TT 30, 31, 32

Offensive tactics. See Tactics.

Officers:

Australian engineer-training course, 6 MR 31-32

Brazilian field exercises for officer candidates, 11 MR 36-38

British:

Relations with enlisted men, 11 SS 5-6

Selection, 11 SS 5-6

Training, I-6 IB 79-81

German:

Armored, 2 SS 19-20

Procurement and training, 3 SS 13-18, 47-51

Relations with enlisted personnel, 3 SS 23-25; 11 SS 2-3

Standards, 3 SS 19-25

Italian, relations with enlisted personnel, 11 SS 3

Japanese:

Parachute-troop officers' standards, 7 SS 68

Relations with enlisted personnel, (illus.) 11 SS 3, 4

Selection and promotion, 11 SS 7-8

Mexican infantry training center, 4 MR 36-37

Soviet, 11 SS 4-5, 9

Oil. See Lubricants.

Oil bombs, German, 16 SS 27, 30

Omar Nuovo, Libya, German defensive position, 5 SS 39-45

150-cm (60-inch) searchlight, (illus.) 10 SS 52-53; 11 TT 7

150-mm AA guns, German, 10 SS 19, 43-45, 35 TT 6

- 150-mm chemical mortar or rocket projector, six-barreled, German, I-7 IB 34-35; (illus.) II-3 IB 9-15; (illus.) 16 SS 10-14; 9 TT 47; (illus.) 10 TT 23-24; (illus.) 17 TT 39-41; 18 TT 25-26. (illus.) 27 TT 29-30
- 150-mm field gun, German, 6 SS 101; 9 TT 47
- 150-mm field guns, Japanese, 10 TT 35
- 150-mm gun, self-propelled, German, 8 TT 28
- 150-mm howitzers, German:
- Assault, self-propelled, *Brumbear*, German, (illus.) 41 TT 16-17
- Infantry, 6 SS 10; (illus.) 14 SS 149-160; 8 TT 28; 9 TT 46, 47; 13 TT 6-7; (illus.) 22 TT 13-15, 35; 25 TT 44, 45; 30 TT 28-29
- Medium, 6 SS 102; 9 TT 47; 18 TT 23-24; (illus.) 30 TT 28-29; (illus.) 32 TT 34-36; (illus.) 36 TT 12; 39 TT 51
- Medium on French *tracteur blindé 38L*, (illus.) 12 TT 15-16; (illus.) 25 TT 46
- 150-mm howitzer (1915), Japanese, 10 TT 35
- 152-mm gun-howitzer, Soviet, 9 TT 6-7
- 152-mm (152/45) gun, Italian, 6 SS 111; 11 TT 45
- 152-mm (152/13) howitzer, Italian, 6 SS 111; 11 TT 45
- 105-mm AA gun, German, 10 SS 19, 43-45
- 105-mm field guns:
- German 6SS 101; 9 TT 46; 12 TT 12-13; 13 TT 43; 17 TT 15; 25 TT 45; (illus.) 30 TT 28-29
- Italian:
- 105/40, 6 SS 111; 11 TT 45
- 105/32, 6 SS 111; 11 TT 45
- 105/28, (illus.) 6 SS 24-25, 111; 11 TT 45
- 105/27, 7 TT 34
- Japanese, 10 TT 35
- 105-mm gun battery, German, radio communication, 26 TT 43-44
- 105-mm gun-howitzer, German, I-8 IB 29-33; 9 TT 46; 25 TT 45; (illus.) 30 TT 9-11, 28-29; (illus.) 31 TT 35-36
- 105-mm howitzers:
- German:
- Airborne, recoilless (illus.) 35 TT 20-23
- Light, (illus.) 14SS 153, 154, 155; (illus.) 18 SS 209; (illus.) 9 TT 7-11
- Mountain, 13 TT 43
- Self-propelled assault, 36 TT 11, 13
- Japanese, Model 91 (1931), 10 TT 35
- U. S.:
- Compared with German 105-mm gun-howitzer, I-8 IB 29
- Self-propelled, M7, "Priest," 2 MR 22-23; 4 MR 26-28; 6 MR 18-19
- 105-mm mortar, chemical, German, I-5 IB 17; 16 SS 10; 18 SS 162-163; 9 TT 46; 18 TT 25-26; (illus.) 24 TT 21, 22, 23, 24; (illus.) 29 TT 24-25
- 149-mm guns, Italian:
- 149/40, 6 SS 111; 11 TT 45
- 149/35, 6 SS 111; 11 TT 45
- 149-mm howitzers, Italian:
- 149/13, Model 14, 6 SS 24, 111; 7 TT 34; 11 TT 45
- 149/12, 6 SS 111; 11 TT 45
- 104th Motorized Infantry Regiment, German, 5 SS 11, 14, 17, 21, 22, 38, 39, 46, 49, 50-55
- 100-mm mortars, chemical:
- German. *See* 105-mm chemical mortar, German.
- Japanese, 16 SS 97
- 100-mm (100/17) howitzer, Italian, 6 SS 24, 111; 7 TT 34; 11 TT 44; 18 TT 27
- 100-pound bomb, white phosphorus, British, 2 MR 26
- 172-mm gun, long-range, German, 22 TT 35
- 160-mm gas projector, Japanese, 16 SS 97-98, 99
- 128-mm AA gun, German, 26 TT 4
- 128-mm gun, self-propelled, German, 13 TT 44; 25 TT 45; (illus.) 39 TT 12-13
- 120-mm howitzer Model 38 (1905), Japanese, 10 TT 35
- 120-mm mortars:
- Finnish, *Tampella*, 39 TT 11
- French, *Brandt*, 39 TT 11

- 120-mm mortars—Continued
 German:
 Battalions, 40 TT 12-13
 Description, 16 SS 18; 14 TT 45-46
 Soviet, 39 TT 11
 127-mm AA gun, German, 10 SS 19, 45
 102-mm (102/35) AA and coast-defense gun, Italian, 6 SS 26, 111; 7 TT 34-35; 11 TT 44
 1-kg bomb, combination incendiary and antipersonnel, Japanese, 16 SS 126-127
 1-kg bomb, incendiary, explosive-nose, German, (illus.) 16 SS 27, 28
 1000-kg, gas bomb, German, 16 SS 26; 36 TT 48
 Opel-Blitz trucks, used in North Africa by Germans, 20 TT 27-28
 OPs (*see also* Air OPs; Field Artillery; OP vehicles; Reconnaissance); Japanese, I-3 IB 31; II-2 IB 37
 Optical instruments (*see also* Sights; Telescopes), German:
 Care and use in winter, 18 SS 174-175
 Director for searchlights, 10 SS 53-54
 OP vehicles:
 British armored, 1 MR 19-20
 German, light armored, (illus.) 11 TT 27-28
 Orbit beacons (searchlights), British, 7 MR 9-10
 Order of battle, battalion sector on stabilized front, German, 17 SS 25-27
 Orders:
 German:
 Air reconnaissance, 8 TT 12-13
 Arnim, Col. Gen. Jürgen von, issued by, II-2 IB 12-15, 17-18; 34 TT 4
 Combat, issued in North Africa, I-9 IB 36-42
 Communication, 8 SS 21-22
 Evacuation of Hermann Göring Division from Sicily, 40 TT 29-30
 Field, 8 SS 30-33, 77-86; 36 TT 26-32
 Orders—Continued
 German—Continued
 Infantry, 9 SS 85-87
 Panzer, 7 TT 24-28; 25 TT 21-24
 Smoke employment, 32 TT 50
 Ordnance. *See* Ammunition; Bombs; Equipment; Maintenance and repair; Tanks; Vehicles; and individual weapons and equipment.
 Orel-Kursk sector, U. S. S. R., Soviet artillery counter-preparation, 36 TT 10-11
 Organisation Todt, German, I-2 IB 10; 15 SS 51; 17 SS 48; 24 TT 41; 30 TT 25-27, 30-32
 Orientation:
 British:
 Airborne operations, 11 MR 62
 In desert, I-2 IB 78-79; I-4 IB 77-78
 German:
 In snow-covered terrain, 18 SS 20-27
 In wooded terrain, I-8 IB 5
 Japanese, in jungle, I-7 IB 14
 Methods, I-4 IB 69-78
 Orientation (personnel training) in foreign armies, 11 SS 22-28
 "Oscar," Japanese fighter plane, 19 TT 2-3; 21 TT 32
 Ostend shelters, German, (illus.) 15 SS 58-59
 Outguard, infantry squad duty, German, (illus.) 9 SS 68-74
 Outpost fighting, German, 9 SS 56-59
- P**
- Packs:
 British commando, 1 SS 51
 Japanese, standard, II-2 IB 49
 Pack saddle for horses, (illus.) German, 18 SS 213-215
 Pak. *See* Antitank measures, German.
 Palembang, Sumatra (*see also* Netherlands Indies), Japanese attacks, I-2 IB 45; 9 TT 22-27
 Palm, sago, source of food in southwest-Pacific area, (illus.) 16 TT 44-48

- Panels, ground:
 German, I-7 IB 39-40; 7 SS 56-57, 82; 8 SS 24; 18 SS 118-119; 24 TT 27, 30-33
 Japanese, I-7 IB 18, 19-20
Panje (horse-drawn sled), German, 18 SS 203
Panjis (bamboo-spike jungle traps), British, (illus.) 13 MR 18-20
 Panoramic artillery sight, Japanese, (illus.) 19 SS 213-214
 Pantelleria:
 British operations, 12 MR 13-14
 Japanese comments on defenses of, II-4 IB 20
 Panther tank (*Pz. Kw. V*), German, (illus.) 37 TT 5-8; 40 TT 8-10
Panzer Army, Fifth, German, tank tactics, I-11 IB 53-54
Panzergrenadiere. See Infantry motorized, German.
Panzergrenadier personnel carriers, German, (illus.) I-9 IB 50, 51
 Parachute-bomb ammunition, Japanese, (illus.) 19 SS 148-149
 "Parachute" bomber, *Dornier (Do) 217E*, German, 10 TT 1-2
 Parachute cartridge for wind measurements, German, 10 TT 23
 Parachute grenade for signal pistol, German, 40 TT 28
 Parachute incendiary bombs, Japanese, 4 TT 23
 Parachutes (see also Parachute troops):
 German, I-1 IB 17, 18; 7 SS 28, 32, 99-104; 5 TT 25; 13 TT 46
 History, 7 SS 2-5
 Italian, 7 SS 58; 18 TT 7
 Japanese, I-1 IB 74; 7 SS 71
 Parachute signal flare, Italian, (illus.) 18 TT 29-31
 Parachute torpedo bomb, circling, Italian, (illus.) 11 TT 1-2
 Parachute troops (see also Airborne troops; Antiparachutist tactics; Parachutes):
 Allied, German defenses against, II-3 IB 16-21
 British, airborne division, 10 MR 4
 Definition, 7 SS 1
 Dropping zone, 7 SS 80
 German:
 Antigas clothing, 16 SS 41-42
 British defense against, 8 TT 1-4
 Parachute troops—Continued
 German—Continued
 Containers and equipment dropped by parachute, 7 SS 30-32, 103-104; 13 TT 46-48
 Equipment, I-9 IB 48; 7 SS 25-32, 103-104; 4 TT 19-20; 5 TT 25-26; 13 TT 45-50; 24 TT 20
 5th Parachute Regiment, 7 SS 83-98
 History, 7 SS 18-19
 Jumping, 7 SS 24, 43-44; I-1 IB 16-17; I-9 IB 46-47
 105-mm mortars used by, (illus.) 24 TT 20-23
 Operations in World War II, 7 SS 8-14, 61; 8 TT 1-4, 57-59
 Organization, I-1 IB 18-19; 7 SS 19, 20, 21, 22; 8 TT 37; 11 TT 18-20; 24 TT 21
 Rations, 7 SS 29-30; 13 TT 46-49
 Rifle, 7.92-mm. (illus.) 38 TT 36-39
 Tactics, I-1 IB 14-20; I-9 IB 46-48; 8 TT 1-4; 11 TT 21-22
 Training, I-1 IB 13-14; 7 SS 19-25, 83-90, 95; 11 TT 19-21
 Transportation, 7 SS 53-55
 Uniforms, (illus.) I-3 IB 6-7; 7 SS 25-27; 13 TT 45
 Weapons, 7 SS 28-29; 13 TT 45-46, 47-48; 24 TT 20
 Italian, 7 SS 14, 58-64; 8 TT 38; 18 TT 7
 Japanese, I-2 IB 43-45; II-4 IB 6; 7 SS 14-17, 65-74; 9 TT 22-23; 14 TT 23-24, 47-48
 Tactics (see also under German), 7 SS 75-82
 Vulnerability, 7 SS 79-80
 Paratroopers' rifle, 7.92-mm, German, (illus.) 38 TT 36-39
 Passwords, Japanese, 26 TT 31-32
 Pathfinder Force, RAF, British, 12 MR 1-3
 Patrol car, German, railroad "Armored Zepp," (illus.) II-1 IB 68-70
 Patrol dogs, British, I-5 IB 69-70
 Patrols (see also Reconnaissance):
 British, I-3 IB 33; I-12 IB 77-78; II-1 IB 52
 Finnish, 6 TT 41-42

Patrols—Continued

German, I-3 IB 12-16; I-9 IB 31-35; II-1 IB 52-53; 22 TT 28; 38 TT 33-34; 39 TT 26-27

Japanese:

British comment on tactics, II-1 IB 31

Burma, 27 TT 28

Guadalcanal, II-2 IB 63-64

Infiltration tactics, I-1 IB 54-55

Milne Bay area, I-10 IB 74-75; 26 TT 36

Ruses, I-10 IB 70

Moroccan Goums, I-12 IB 77

Soviet ski, 16 TT 17-22

Patton, Gen. G. S., Jr., combat notes based on experiences in Tunisia, 30 TT 35-42

Pay:

German army scale, I-3 IB 4-5; 20 TT 32-34

Italian army scale, I-4 IB 58, 60

Japanese army, annual base, 16 TT 17

Paybooks:

German *Soldbuch*, I-3 IB 10; I-4 IB 49-50; 9 TT 32-34; 19 TT 26

Italian, I-4 IB 63-64

Penalties in foreign armies, 11 SS 11-13

Pensions, British, 11 SS 20

Permanent fortifications. *See* Fortifications.

"Perry" fighter plane, Japanese, 19 TT 2; 21 TT 32

Personnel (*see also* Discipline; Identification; Morale building; Officers; Prisoners of war; Training; *and nationalities*):

German:

Air, transferred to submarine duty, 10 TT 2-3

Waffen-SS, Elite Guard of Nazi Party, 35 TT 51-54; 41 TT 36-37

Japanese:

Expenditure of, 16 TT 40-41

Instruction on handling, I-6 IB 9-11

Parachute-troop selection, 7 SS 67-68

Pilots, training and ability, 15 TT 1-2

Personnel—Continued

Soviet:

Educational status, 8 MR 59

Ski-patrol requirements, 16 TT 18

United States, Japanese estimate, I-6 IB 17

Personnel obstacles. *See* Obstacles.

Pervitin (methedrine), 7 SS 30; 5 TT 32; 11 TT 29

Petaling, British definition in relation to armor, 18 TT 35

"Pete," Japanese Zero fighter, 19 TT 1

Philippine Islands:

Corregidor, siege of (maps) 12 MR 37-52

Japanese tactics, I-1 IB 59; I-2 IB 37-41; I-5 IB 39-40; 6 TT 26-29

U. S. resistance, Japanese comments on, II-1 IB 27-29

Phosphorus bombs:

German, (illus.) 16 SS 27, 29; 6 TT 22; 14 TT 13; 15 TT 10-11

Japanese, 12 TT 17-18; 29 TT 2

Photographs, captured, combat intelligence value of, 10 MR 54; 13 MR 58

Photography, aerial. *See* Aerial photographs.

Physical characteristics:

Chinese, (illus.) I-2 IB 29-31

Japanese, (illus.) I-2 IB 29-31, 32, 33, 34-35

Physical training:

British AA units, I-9 IB 79-83

German, 3 SS 40-41, 48

Japanese, I-5 IB 45-46

PIAT (infantry AT projector), British, 6 MR 39; (illus.) 7 MR 45-48

Pigeons. *See* Communications.

Pillboxes (*see also* Fortifications):

German:

"Armored Crab," portable, (illus.) 40 TT 20-23

Camouflage, 38 TT 23-24

Coastal defenses, (illus.) 15 SS 79, 80, 82, 84

Concrete, in West Wall, (illus.) 17 SS 76-79, 141

German methods of attacking, I-6 IB 42-43; I-12 IB 33-36

Japanese methods of attacking, I-12 IB 55-60

- Pillboxes—Continued
Soviet, concrete, (illus.) 3 TT 33-35
- Pilots, Japanese, training and ability, 15 TT 1-2
- Pioneer platoon of German infantry regiment, 13 TT 26-28
- Pistols (*see also* Signal pistols; Sub-machine guns):
British, interchangeability of ammunition, 22 TT 35
German:
Ammunition, interchangeability, 22 TT 35
Care in winter, II-2 IB 6; 18 SS 157-158
Infantry weapon, (illus.) 30 TT 28
9-mm *Luger*, (illus.) 14 SS 3-10, 171, 173, 182, 183; 9 TT 41
9-mm *Walther*, (illus.) 14 SS 10-15, 171, 173, 182, 183; 9 TT 41; 21 TT 25
Italian:
Ammunition, interchangeability, 22 TT 35
9-mm Model 1910 *Glisenti*, I-3 IB 55; 11 TT 42
9-mm, Model 34, *Beretta*, I-3 IB 55; 11 TT 42
10.35-mm revolver, Model 89, *Bodeo*, I-3 IB 55; 11 TT 42
Japanese:
8-mm, Model 14 (1925), 10 TT 33; (illus.) 19 SS 14-20, 238, fol. 241
8-mm, Model 94 (1934), 19 SS 21-25, 238
8-mm, *Nambu*, (illus.) 19 SS 7-14, 238
9-mm revolver, Model 26 (1893), 10 TT 33
Pivoted-ring AA sights, German, 41 TT 4-6
Plastic improvised mine, German, (illus.) 39 TT 24
Plastic-wood liquid-air bombs, German, (illus.) 25 TT 26
Ploesti oil wells, Rumania, camouflage, 32 TT 25-26
Plows, snow, (illus.) German, 18 SS 34-36
Plugging definition in relation to armor, 18 TT 36
Plywood winter shelters, German, (illus.) 18 SS 75, 76-79
Poland:
German airborne attack, 7 SS 8
German currencies, 37 TT 40
German defenses along border, 17 SS 45-46
Waffen-SS role in German invasion, 41 TT 36
Pole charge, antibunker (Beesley thrust-type), British, (illus.) 13 MR 20-21
Pom-pom Hotchkiss-type AA gun, 25-mm, Japanese, (illus.) I-8 IB 74-75
Pontoon piers, naval, U. S., 37 TT 20
Ports, British, AA defense of, 9 MR 3-8
"Potato-masher" grenade. *See* Grenades, hand.
Powder, flashless:
Artillery weapons, advantages of use in, 6 SS 37
Gudol, German, 31 TT 37
Japanese, 27 TT 39
"Pram" mine detector:
British, 10 MR 30
German, (illus.) 41 TT 22-24
Pravda (Truth), Soviet government newspaper, 11 SS 25-26, 46; 27 TT 2-3
Predictors, AA. *See* Antiaircraft measures.
Pressure balloon, Mark VI, British, 5 MR 1, 2, 3, 4, 8, 9; 6 MR 7, 8, 9
"Priest," 105-mm self-propelled howitzer, M7, U. S., 2 MR 22-23; 4 MR 26-28; 6 MR 18-19
Primacord (instantaneous fuze) for destroying mines, (illus.) 33 TT 22-23
Primosole, Battle of, Sicily, 40 TT 24-25
Prisoner of War Directorate, British, 3 MR 28-30
Prisoners of war (*see also* Combat intelligence; Counterintelligence; Engineer intelligence; Propaganda; Security):
Allied (*see also* British):
German interrogation practices, I-4 IB 34, 44-47; I-10 IB 28-30; 12 TT 33-35; 17 TT 37-38; 24 TT 15-16

- Prisoners of war—Continued
- Allied—Continued
 - German treatment in North Africa, II-1 IB 67-68
 - German use for propaganda, 26 TT 44
 - Italian interrogation practices, 12 TT 33-35
 - Japanese treatment at Singapore, II-2 IB 60
 - Axis (*see also* German; Japanese),
 - British handling of, I-1 IB 43-45; I-4 IB 48-50; 3 MR 28-30; 10 MR 52-53; 9 TT 31-35; 14 TT 39-40
 - British (*see also* Allied):
 - German interrogation of, I-7 IB 47-50
 - Italian attitude toward, I-4 IB 42-43
 - Japanese treatment of, I-4 IB 20-21
 - German (*see also* Axis):
 - Deceptions used by, 31 TT 42
 - Identification, 19 TT 25-26
 - Instructions in case of capture, I-1 IB 43-47; I-4 IB 43-44; I-12 IB 38-40; 11 TT 35
 - Ruse to aid escape, I-12 IB 40
 - Vaagso raid, captured by British in, 1 SS 75, 94-95
 - Japanese (*see also* Axis):
 - Attitude and reaction of, I-4 IB 12-13; I-9 IB 27-29; I-11 IB 55-58; 13 MR 41-43, 50; 10 TT 21-22
 - Information from, regarding Japanese organization, equipment, supplies, etc., I-6 IB 27-29; I-9 IB 29-30
 - Rumanian, taken by Red Army, 4 MR 58
 - Propaganda (*see also* Combat intelligence; Counterintelligence; Engineer intelligence; Prisoners of war; Security):
 - Army propaganda units, 30 TT 22-25
 - British, in Tunisian campaign, 10 MR 60
 - German, I-1 IB 48-51; I-3 IB 1-3; 11 SS 22-24; 26 TT 44
 - Italian, for Italian troops, I-4 IB 54-57; 11 SS 25
 - Japanese, for Japanese troops, 11 SS 24
 - Propaganda—Continued
 - Soviet, for Red troops, 11 SS 25-26
 - United States, directed to Japanese on Guadalcanal, I-11 IB 55-56, 57; 13 MR 45-48
 - Propaganda Companies (*Propagandakompanien*), German, 11 SS 52-53
 - "Provisions bombs" for parachute troops, German, 7 SS 31-32
 - Prussic-acid "T. B." hand grenade, German, 14 TT 15
 - P-38F fighter plane, U. S., compared with German *Focke-Wulf 190*, 11 TT 3
 - Pulk* (Lapp sled), (illus.) II-2 IB 8
 - Pull-igniter for booby traps, German, (illus.) I-1 IB 27
 - Pull-type hand grenades. *See* Grenades, hand; Booby traps.
 - Pursuit tactics:
 - German, I-5 IB 3-4; 8 SS 58-60; 15 TT 20-21
 - Japanese, I-2 IB 42; I-3 IB 50; II-2 IB 55; 14 TT 57
 - United States, I-5 IB 34-35
 - Push-igniter for booby traps, German; (illus.) I-1 IB 27
 - Puukko*, Finnish knife, (illus.) 6 TT 41
 - Pyrotechnic signals. *See* Communications, German.
 - Pz. Kw. (Mark) V* (Panther) tank, German, (illus.) 37 TT 5-8; 40 TT 8-10
 - Pz. Kw. (Mark) IV* tank, German:
 - Armament, (illus.) 20 TT 10-12; 27 TT 10-11
 - Armor, (illus.) II-1 IB 57; 3 TT 13; 8 TT 46-47; 25 TT 13-14; 27 TT 9; (illus.) 29 TT 12; (illus.) 40 TT 11
 - Characteristics and nomenclature, I-2 IB 24; 4 TT 15, 17; 18 TT 6
 - Compared with *Pz. Kw. VI*, 20 TT 9
 - Crew and communications, I-4 IB 35-38; 12 TT 30-31; 27 TT 11
 - Description, (illus.) I-1 IB 4, 5; (illus.) 27 TT 9-11
 - Model E, 25 TT 13-14
 - Model F, 25 TT 14
 - Model G, 25 TT 14-15
 - Tactics, I-1 IB 8-10; (illus.) I-11 IB 42, 44-47; 6 SS 54-59; 26 TT 12-14

- Pz. Kw. (Mark) IV* tank, German—
Continued
Vulnerability, 3 TT 13; 8 TT 47;
16 TT 31; (illus.) 22 TT 9
- Pz. Kw. (Mark) I* tank, German, 4
TT 16; 18 TT 6
- Pz. Kw. (Mark) VI* (Tiger) tank,
German:
Armament, (illus.) I-10 IB 19, 21;
34 TT 16-17
Armor, (illus.) I-10 IB 20, 22;
(illus.) II-1 IB 58; (illus.)
20 TT 7-8; 24 TT 7; (illus.) 29
TT 13; 34 TT 14-16
British attack against, 30 TT 7-8
Compared with *Pz. Kw. IV*, 20 TT
9
Description, (illus.) I-10 IB 19-
23; 18 TT 6; (illus.) 29 TT
7-9; (illus.) 24 TT 6-8;
(illus.) 34 TT 13-20; 41 TT
15
Smoke generator on, II-2 IB 31
Submersible, equipped as, II-1 IB
60, 61; 30 TT 9; 34 TT 18-19
Suspension system, (illus.) I-10 IB
21; (illus.) 24 TT 6
Tunisian campaign, use in, 38 TT
34
Vulnerability, II-2 IB 3; 34 TT 14,
16; 41 TT 15
- Pz. Kw. (Mark) III* tank, German:
Ammunition carried, 22 TT 13
Armament, (illus.) I-1 IB 4, 6, 7;
4 TT 15; (illus.) 20 TT 10, 11
Armor, (illus.) II-1 IB 56; (illus.)
3 TT 11-13; 4 TT 15; 8
TT 46-47; 10 TT 19-20;
(illus.) 14 TT 30-32; 25 TT
12-13; (illus.) 29 TT 11;
(illus.) 40 TT 11
Basic designs, 10 TT 19-20
British No. 75 Hawkins grenade
used against, 35 TT 13
Characteristics and nomenclature,
I-1 IB 4, 7; I-2 IB 24; 3 TT
12; 4 TT 17
Improvised protection, 13 TT 33-
34; 14 TT 33
Lubricating oils, 21 TT 27
Model *L* (*Tp*) mounting 50-mm
gun, (illus.) 33 TT 9-10
Mount for 75-mm assault gun,
(illus.) 7 TT 8-10
Mount for short barreled 75-mm
gun, (illus.) 21 TT 11-12
- Pz. Kw. (Mark) III* tank, German—
Continued
Photographs of, 32 TT 8-10
Rubber from, analysis of sample,
33 TT 8-9
Smoke generator on, II-2 IB 31
Submersible, equipped as, II-1 IB
59-60, 61; 30 TT 8-9
Tactics, I-1 IB 8-10; 6 SS 55-56
Vulnerability, 8 TT 46-47; 16 TT
30; (illus.) 22 TT 8
- Pz. Kw. (Mark) II* tank, German:
Armor, (illus.) 29 TT 10
Characteristics and nomenclature,
I-2 IB 24; 4 TT 16
Compared with Japanese light
tank, 31 TT 12-13
Flame-throwing, use for, I-9 IB
62-63
Gyroscopic compasses, (illus.) 7
TT 29-31
Mount for 150-mm self-propelled
gun, 8 TT 28; 13 TT 6-7; 22
TT 13-15
New model, 18 TT 6; 26 TT 12
Reconnaissance duties in light-
tank patrols, I-9 IB 31-35
Vulnerability, (illus.) 22 TT 7
- Pz. Kw. II (F)* flame-throwing tank,
German, (illus.) 39 TT 9-11

Q

Quartermaster. *See* Clothing;
Equipment; Fuel; Lubricants;
Maintenance and repair; Ra-
tions; Salvage; Supply; Uni-
forms.

Quarters:
German, (illus.) 17 SS 69, 72, 84-
86; (illus.) 18 SS 66-93
Soviet camouflage in summer, 23
TT 17

Quiberville, France, British com-
mando operations, (map, illus.)
28 TT 37-53

R

Rabies, II-3 IB 80
Racial origins, Japanese, I-2 IB 27-
28
Radar, British:
AA in North Africa, with, 4 MR 11
Airborne, 11 MR 48-50

- Radar, British—Continued**
 Air-defense warning sets, 2 MR 9-10
 Equipment, 2 MR 9-10; 4 MR 5
 Mortar location by, 13 MR 22
 Range finding, 12 MR 8-9
 Searchlights, use with, 5 MR 12
- Radio communications (see also Communications):**
 Airborne troops, use by, 7 MR 49, 51-52; 7 SS 55-58, 82
- British:**
 Airborne division, 7 MR 49, 51-52
 Armored units, I-2, IB 73-74; 6 SS 49-50
 Artillery net on desert, (illus.) 6 SS 61
 Codes, use of, I-3 IB 61-62
 Deception, 6 MR 42
 Equipment, 3 MR 34-35; 4 MR 43; 7 MR 51-52
 Relative merits of wire and, 13 MR 31
 Signal security in North Africa, 19 TT 43-45
 Tank control, 1 TT 27-28
 Tunisia, 13 MR 32
 Desert, 6 SS 47-50, 61
- German:**
 Airborne operations, used in, 7 SS 55-58, 82
 Detection devices, 10 SS 50-51, 102; 10 TT 5
 Emergency transmitter *NS-4*, (illus.) 39 TT 37-39
 "Fritz," portable transmitter-receiver, 26 TT 43
 Intelligence, 17 SS 37
 Locator equipment, 4 TT 24
 105-mm gun battery, 26 TT 43-44
 "Radiosonde," automatic meteorological transmitter, 16 TT 37-38
 Use of, 8 SS 23; 6 TT 36; 30 TT 22
 Walkie-talkie, 6 TT 36
 Winter protection of equipment, (illus.) 18 SS 180, 188-189
- Italian, security factors, I-3 IB 61-62; 2 TT 27-29**
- Japanese:**
 Direction-finders, I-4 IB 12
 Model P3A, I TT 23-24
 Submarine detection by radio, 1 TT 24
- Radio communications—Continued**
 United States:
 AA use, 9 MR 14-15
 Equipment, 7 MR 51; 1 TT 24
- Radio interception, Axis, 6 SS 50; 6 TT 36**
- RAF. See Air forces, British.**
- Rafts, life:**
 German single-seater inflatable dinghy, (illus.) 9 TT 2-3
 United States aviators', II-4 IB 80-89
- Raiding-demolition detachments, Japanese, organization and personnel, II-4 IB 13-16**
- Raiding parties, British. See Commandos.**
- Railheads, location and control of, British, 9 MR 43**
- Railroad patrol car, "Armored Zepp," German, (illus.) II-1 IB 68-70**
- Railroad-track block, German, 15 SS 33**
- Rails, German use as AT obstacles, II-1 IB 50; 35 TT 9**
- Rails, movable, new-type, German, 24 TT 41**
- Railway guns:**
 German:
 AA, 10 SS 10, 70-72; 5 TT 7-8; (illus.) 17 TT 5-11; 18 TT 3
 Heavy artillery, (illus.) 10 TT 6-8
 Italian, 381-mm (381/40), 6 SS 112; 11 TT 45
 Japanese, 240-mm, 10 TT 35
- Railways:**
 British, balloon defense of, (illus.) 5 MR 9-11; 6 MR 9
- German:**
 AA protection, 10 SS 10, 70-72; (illus.) 17 TT 5-11; 18 TT 3
 Locomotive, class "52," (illus.) 24 TT 34-40; (illus.) 31 TT 41-42
 Rails, movable, new type, 24 TT 41
 Rolling stock, 31 TT 41-42
 Troop transportation, winter, 18 SS 53-56
- Rain, effect on desert operations, 13 TT 39**
- Ram II tank, Canadian, characteristics, 1 MR 17n**
- Range. See individual weapons.**

- Range-finder, AA, 1-meter-base, German, 10 SS 25-28
- Ranging. *See* Field artillery.
- Rations:
- British:
 - Army Catering Corps, 1 MR 39-43
 - Self-heating soup, 19 TT 42
 - Supply problems in India, 3 MR 32-34
 - Canadian, field, 5 MR 30-32
 - German:
 - Concentrated food, 20 TT 30
 - Libya, supply in, 18 TT 29
 - Parachute-troop, 7 SS 29-30; 13 TT 46, 49
 - Water on desert, 5 TT 36
 - Winter, 18 SS 137-143
 - Japanese, I-1 IB 77-79; I-6 IB 29; I-9 IB 13-14; 7 SS 70; 7 TT 37-38; 14 TT 47-48
 - United States, in desert, 15 TT 40
- Rattan as building material in south Pacific, (illus.) 33 TT 16-19
- Rattan vine, drinking water from, (illus.) 34 TT 40-42
- Ravenstein, Johann von, Maj. Gen., defense plans, I-10 IB 12-13; 5 SS 35, 38
- Rearguard action:
- German:
 - AT units in Africa, 22 TT 10
 - British Eighth Army front, 29 TT 22
 - Delaying tactics in Tripolitania, I-11 IB 51-53
- Recognition signals. *See* Air-ground communications.
- Recoilless guns:
- British, Burney (3.5-in.), 2 MR 45; 6 MR 41-42
 - German:
 - 105-mm airborne howitzer, (illus.) 35 TT 20-23
 - 75-mm, (illus.) 26 TT 15-18
- Recoil liquids, German, for weapons in winter, 18 SS 156-157; 30 TT 21
- Reconnaissance (*See also* Patrols; Sentries):
- British:
 - Aircraft, in Tunisia, 10 MR 21-22
 - Armored OP vehicle, 1 MR 19-20
 - Armored reconnaissance regiment, 7 MR 12-13
- Reconnaissance—Continued
- British—Continued
 - Artillery, on desert, 6 SS 39-43
 - Code, 13 SS 107-108
 - Commando, 1 SS 121-122
 - Jungle, II-1 IB 90
 - Regiment, infantry, weapons of (*see also* Infantry), 10 MR 37
 - Road movements, 8 MR 47-48
 - Scouting instructions, I-7 IB 65-67; 18 TT 21-22
 - Scouts and observers, 18 TT 21-22
 - Desert, 6 SS 39-43
 - German:
 - Aerial, 17 SS 22-23; 8 TT 7-15
 - Artillery observation in winter, 18 SS 173
 - Artillery, on desert, 6 SS 39-43
 - Battalions, 8 SS 16-18
 - Battle, 8 SS 18-19
 - Counterreconnaissance, II-1 IB 54
 - Defensive, 5 SS 3, 14, 60
 - Duties of light-tank patrol, I-9 IB 32-35
 - Engineer, II-4 IB 64
 - Fortified zones, 17 SS 22-23
 - Infantry, 8 SS 18; 9 SS 74-75; 16 TT 11; 27 TT 23-25
 - Land methods, II-1 IB 51-54
 - Listening sentries, II-1 IB 52
 - Motorized units, I-3 IB 14-15; 4 SS 12-14; 8 SS 16-17
 - Mountain troops, I-11 IB 21; 31 TT 48-51
 - Observation from fortifications, 17 SS 22
 - OP vehicle, armored, (illus.) 11 TT 27-28
 - Organization, units of infantry division, 34 TT 27
 - Partly motorized units, I-3 IB 15
 - Principles, 8 SS 14-15
 - Protection against, 8 SS 7-9
 - Rifle company of reconnaissance battalion 24 TT 4-6
 - Signal intelligence platoon, 17 SS 38-39
 - Strength of units, I-3 IB 16
 - Tactical, 8 SS 15-16
 - Tank regiment, 24 TT 45-47
 - Tasks of units, I-3 IB 12-13
 - Winter, I-11 IB 25; 18 SS 16

- Reconnaissance—Continued
 German—Continued
 Wooded terrain, in, I-8 IB 3-5;
 26 TT 28
 Indian, air, combat intelligence
 value of, 7 MR 43
 Japanese:
 Jungle, I-4 IB 2; II-2 IB 53-54;
 26 TT 32
 Methods, 26 TT 32
 Night operations, I-3 IB 45, 46
 Scouting and patrolling on Gua-
 dalcaanal, II-2 IB 63-64
 Soviet, snipers' activity, 40 TT 34
 Underground mining, 29 TT 48-49,
 50-52
 United States:
 Armored, 30 TT 39-40
 Scouting and patrolling in Tuni-
 sia, 11 MR 33-34
 Reconnaissance planes. *See* Air-
 craft and individual planes.
 Recreation. *See* Morale-building.
 Red Army (*see also* Union of Soviet
 Socialist Republics and subhead
 Soviet throughout), brief view
 of, 8 MR 55-59
 Red Star, Soviet newspaper, on Soviet
 tank tactics, (illus.) 41 TT 8-13
 Reflectors, German, to aid recogni-
 tion of stranded flyers, (illus.)
 II-1 IB 72-73
 Refugees, European, fields-secu-
 rity problems with, 1 MR 49-50
 Reggiane 2001 fighter plane, Italian,
 22 TT 1-2
 Reichenau, Walter von, Field Mar-
 sbal, command of German Sixth
 Army in Kiev operations, 11 TT
 49-60
 Reich Labor Service, I-2 IB 10; 3 SS
 8-9
 Reinhard igniter, German, (illus.) 16
 TT 7-8
 Remote control for AT guns, Brit-
 ish, 8 TT 23-24
 Repairs. *See* Maintenance and re-
 pair.
 Rescue buoy for flyers, German,
 (illus.) 12 TT 2-4
 Rescue of wounded. *See* Evacuation
 of wounded.
 Reserve forces, German:
 AA battalion, 10 SS 7
 Reserve forces, German—Continued
 Relief for defense of permanent
 fortification, 17 SS 8-9
 Squad employment, 9 SS 113-118
 Respirators, horse, German, 18 SS
 176-177
 Retirement. *See* Retreat; With-
 drawal.
 Retreat (*see also* Withdrawal):
 German tactics, II-3 IB 1-8; 8 SS
 72; 27 TT 22
 Japanese tactics, I-3 IB 51; 14 TT
 57
 United States, Japanese estimate,
 I-5 IB 35
 Réunion Island, Fighting French,
 occupation of, 9 MR 57-59
 Revelli 6.5-mm automatic rifle, Ital-
 ian, I-3 IB 56; 11 TT 41
 Revetments for AA-gun emplace-
 ments, Japanese, (illus.) 31 TT
 5, 8
 Revolvers. *See* Pistols.
 Rifle-grenade dischargers and
 launchers. *See* Grenade launch-
 ers.
 Rifle grenades. *See* Grenades,
 rifle.
 Rifles (*see also* Carbines):
 Brazilian, 13 MR 24
 German:
 Company organization, (illus.)
 9 SS 48
 Organization and formations of
 the squad, 9 SS 1-8
 Parachute units, 7 SS 20
 7.92-mm AT, (illus.) 14 SS 34-
 40, 179, 183; 18 SS 160; (il-
 lus.) 5 TT 10-11; 9 TT 40;
 (illus.) 30 TT 28-29; (il-
 lus.) 37 TT 32-34
 7.92-mm, 9 TT 40; (illus.) 30
 TT 28
 7.92-mm *Mauzer*, (illus.) 14 SS
 21-33, 182-183; 9 TT 40
 7.92-mm paratrooper's (illus.) 38
 TT 36-39
 7.92-mm semiautomatic, 24 TT
 26; (illus.) 27 TT 35-36
 Tactical employment, 9 SS 1-118
 Training, 3 SS 89-106; 26 TT
 47-48
 Use against parachutists, II-4
 IB 55
 Winter care and use, II-2 IB 6;
 18 SS 157, 160, 164.

- Rifles—Continued
- Italian:
- 7.35-mm, Model 38, I-3 IB 56; 11 TT 41
 - 6.5-mm automatic *Revelli*, I-3 IB 56; 11 TT 41
 - 6.5-mm Model 91, *Mannlicher-Carcano*, I-3 IB 56; 11 TT 41
 - 20-mm AT, *Solothurn*, I-3 IB 58; (illus.) 5 TT 18; 7 TT 35; 11 TT 42
- Japanese:
- 5-mm, I-4 IB 14
 - Positions on Attu, (illus.) I-11 IB, 65, 66, 67
 - 7.7-mm, Model 99 (1939), (illus.) I-7 IB 5-12; II-1 IB 16-18; (illus.) 19 SS 2-3, 39-44, 106, 237-238, fol. 241
 - 7.7-mm, Model 99 (1939), long, (illus.) 19 SS 240, 241
 - 6.5-mm, Model 91 (1931), (illus.) 19 SS 239-240
 - 6.5-mm, Model 38 (1905), (illus.) I-5 IB 53-54; 10 TT 33; (illus.) 19 SS 2, 25-38, 234, 235, 236, 238, fol. 241; (illus.) 38 TT 39-40
 - 13-mm AT, *Arisaka* (1939), 10 TT 33
 - .25-cal types, I-1 IB 66-67
 - 20-mm AT, Model 97 (1937), II-2 IB 68, 69; (illus.) 19 SS 170-177, fol. 241
- New Zealand, rifle company methods of penetrating wire obstacles, I-6 IB 92-95
- Soviet:
- AT, I-3 IB 81-82; I-5 IB 75-77
 - Training, 15 TT 23-25
- United States, .30-cal M1903 compared with Japanese 7.7-mm, I-7, IB 5, 8-12
- River crossing German attacks on, 4 SS 41-42; 7 TT 40-49
- Rivet, explosive, German, 41 TT 25
- Road blocks (*see also* Antitank obstacles; Minefields):
- British methods of dealing with, I-4 IB 16-17; I-12 IB 72-74
 - Japanese, I-3 IB 31-32; I-4 IB 15-17; (illus.) 7 TT 19-20
- Road-decontamination battalion, German, 16 SS 3, 4
- Roads:
- British, balloon defenses of, 5 MR 11; 6 MR 9
 - German:
 - Camouflage in snow, 18 SS 123-126
 - Ski trails, (illus.) 18 SS 31-32
 - Winter construction and maintenance, (illus.) 18 SS 3-4, 8, 10, 11, 28-52, 123-126
 - Mining by Germans, I-1 IB 35; I-10 IB 2-4, 13; I-12 IB 4; (illus.) 15 SS 32-33; 26 TT 23-24; (illus.) 38 TT 20-23; 41 TT 18
 - Road trains, German, motor-vehicle, 17 TT 42
 - Rock-climbing platoons, Italian, 24 TT 16
 - Rocket bomb, German, 13 TT 40-41
 - Rocket projectiles. *See* Bomb throwers; Mortars; Rocket weapons.
 - Rockets, signal, German, I-12 IB 24, 26; 8 SS 23
 - Rocket weapons (*see also* Bomb throwers; Mortars):
 - British:
 - AA projectors, 4 MR 5, 7
 - PIAT (infantry AT projector), 6 MR 39; (illus.) 7 MR 45-48
 - Spigot guns, 8 MR 45-47
 - 3-in AA projectors, 4 MR 5
 - 2-in UP (unrotating projectile), 3 MR 3, 5, 6, 7, 8
 - German:
 - 150-mm. *See* 150-mm chemical mortar or rocket projector, six-barreled (*Nb.W. 41*).
 - 280/320-mm smoke (*Nb.W. 41*), 16 SS 17
 - 210-mm chemical (*Nb.W. 42*), 16 SS 16-17
 - Soviet *Kat'yusha* ("little Katherine"), 4 MR 52; 9 TT 7
- Rommel, Erwin, Field Marshal:
- Biographical sketch, I-2 IB 92
 - Command of *Afrika Korps*, 5 SS 1, 2, 9, 38-43; 6 SS 11-13; 32 TT 33-34
 - Instruction to soldiers in case of capture, I-4 IB 43-44
 - Methods of armored attack by small units, (illus.) 17 TT 28-31

Rommel, Erwin, Field Marshal—
Continued
Order on road discipline, II-2 IB 16-17
Retreat orders, 27 TT 22
Rope barrage, German, 19 TT 4
Royal Air Force. *See* Air forces, British.
Royal Canadian Army Service Corps (RCASC), 8 MR 51-52
Royal Corps of Signals. *See* Communications, British.
Royal Electrical and Mechanical Engineers, Canadian, 8 MR 51, 52
Royal Engineers. *See* Engineers, British.
Rubber:
Analysis of samples from German tank, 33 TT 8-9
Use in Japanese equipment, 38 TT 40-41
"Rufe," zero fighter, Japanese, 19 TT 1, 2; 20 TT 1, 2; 21 TT 32
Rugsundo Island, British commando raid, 1 SS 64-66, 75, 76, 78, 80
Rumania, concealment of Ploesti oil wells, 32 TT 25-26
Rundstedt, Gerd von, Field Marshal, command in German armored army, 2 SS 12, 15, 17; 11 TT 49, 60
Runners, snow, German use, (illus.) 18 SS 208, 209, 210-212
Runways, protection in winter, I-6 IB 52-53
Ruses (*see also* Camouflage and concealment; Deceptions; Fifth column):
British, 6 MR 42; 18 TT 20
German:
Artillery methods, 33 TT 9, 11
Defensive, used in North Africa, I-8 IB 21
Dummy installations, 15 SS 48; 17 SS 101; 18 SS 126; 15 TT 5; (illus.) 17 TT 1-3, 34; 26 TT 24; 32 TT 25-26; 38 TT 23; 40 TT 19
Fake gases, 13 TT 8
Infantry, I-2 IB 6
Prisoners', I-12 IB 40; 31 TT 42
Smoke, use of, 32 TT 55-56
Speaking English, II-2 IB 30-31
Tank, II-1 IB 66-67; 2 TT 19; 12 TT 33; 16 TT 29; 28 TT 13

Ruses—Continued
German—Continued
Tunisia, various methods used in, 38 TT 34
Japanese, I-1 IB 59-62; I-3 IB 37; I-4 IB 7-9, 20-21; I-5 IB 39; I-7 IB 26-27; I-9 IB 12; I-10 IB 69-72; II-1 IB 31; II-2 IB 65; 16 TT 1-2; 20 TT 2; 21 TT 18; 24 TT 18-19; 33 TT 25-26
Soviet, dummy positions, 23 TT 19
Russia, *See* Union of Soviet Socialist Republics.

S

Sabotage, German, I-3 IB 25
Saddles, pack, German, (illus.) 18 SS 213-215
SA German Storm Troopers, 3 SS 10-12
Sago palm, source of food in South Pacific area, (illus.) 16 TT 44-48
Salerno, Italy, assault, (illus.) 13 MR 23, 33-38
Salvage:
British, of enemy munitions, 18 TT 27-28
German:
Ammunition, 7 TT 32-33
Captured aircraft, 16 TT 2-4
Captured matériel in North Africa, 9 TT 48; 18 TT 28
Salvatore, parachute, Italian, 7 SS 58
Sarana Bay, Attu (*see also* Aleutian Islands; Attu), Japanese forces, 27 TT 38
Savoia-Marchetti planes, Italian:
SM 82 (Canguru) transport, (illus.) 35 TT 1-2
SM 79 torpedo bomber, (illus.) I-5 IB 59-61
Schistosomiasis, 18 TT 23; (map) 18 TT, facing 46
Schlieffen, Alfred von, German military strategist, 2 SS 6; 18 SS vii
Schutzmine, electric igniter for, German, (illus.) 28 TT 22-25 (illus.) 15 TT 50-60
Schwerpunkt, point of main effort, German, 15 TT 20-21; 18 TT 17; 27 TT 21, 22, 23
Scissors-bridge, mobile, British, (illus.) 15 TT 14-17

- "Scorpion" (mine destroyer),
British, 3 MR 17; 6 MR 33-34;
7 MR 40; 8 MR 41; (illus.) 12
MR 15-16
- Scotti 20-mm AA gun, Italian, I-3 IB
59
- Scouting. See Reconnaissance.
- "Screaming" rockets (air-raid warn-
ing), British, 6 MR 10
- Sd. Kfz. (*Sonder Kraftfahrzeug*)
(special motor vehicle). See
Armored cars, German; Con-
tamination vehicles, German;
Decontamination vehicles, Ger-
man; Gas-detection vehicles,
German; Half-tracks, German;
Motorcycle tractors, German;
Tanks, German.
- Seafood in the Indo-Pacific area,
(illus.) 15 TT 50-60
- Searchlights:
British:
AA employment, 2 MR 1; (illus.)
10 MR 7-10; 12 MR 3-6
Amphibious operations, defense
of, 3 MR 6
Camouflage, 12 MR 6
Deployment, 4 MR 7; (illus.)
10 MR 7-8
Enemy attack on, 12 MR 6-7
Field-artillery employment, 12
MR 6
Fighter-searchlight team, opera-
tion of, 5 MR 12; 7 MR 9-12
Friendly aircraft, aiding, 6 MR
12
German raid on England, use
against, 12 MR 10
Malta, employment at, 1 MR 5
North Africa, employment in, 8
MR 10-11, 15, 16-17
Overseas base port, defense of,
9 MR 6
Radar used with, 5 MR 12
Regiment, organization, 4 MR 3
Spread (wide) beams, 12 MR 7
German:
AA employment, 10 SS 95-98
Communications between sec-
tions, 10 SS 54-55, 56
Dazzle tactics, I-3 IB 17-19; 10
SS 98; 6 TT 6-7
Equipment, (illus.) 10 SS 51-56,
95-96; 11 TT 6-7
Generators, 10 SS 54, 55
- Searchlights—Continued
German—Continued
150-cm, (illus.) 10 SS 52-53; 11
TT 7
Optical director, 10 SS 53-54
Organization, 10 SS 7-9
Ring-trumpet sound locator, 10
SS 51-52
60-cm, 10 SS 55; 11 TT 6
Smoke screens, use with, 38 TT
16
Tactics, I-3 IB 17-19; 10 SS 72-
73, 96-98; 6 TT 6-7; 27 TT
4-5; 28 TT 8; 38 TT 16; 41
TT 48-49
Task force in field, use by, 10
SS 72-73
- Secret weapons:
German:
"Motpulk" formation, I-1 IB 48-
51
Propaganda reports, I-1 IB 48-
51
Soviet *Katyusha* ("little Kather-
ine"), mortar, 9 TT 7
- Security (see also Combat intelli-
gence; Counterintelligence; En-
gineer intelligence; Prisoners of
war; Propaganda):
Australian, maneuvers, 7 MR 55-59
British:
Amphibious operations, 5 MR
53-55
Belgium, field security activities
in, 1 MR 47-51
Civilians, control of, 14 TT 38-39
Control of PWs, 14 TT 39-40
Dunkirk, field security activities
in withdrawal to, 1 MR 51-
58
Embarkation, I-10 IB 92-93
Enemy documents and equip-
ment, preservation of, I-7
IB 61-64
Indian Army, 29 TT 32-36
Principles of, 39 TT 39-42
Signal, 19 TT 43-45
Tunisian campaign, 10 MR 59-60
- German:
Armored division, measures, 12
TT 32-33
Field instructions, I-5 IB 28
Soldiers' letters, regulations, II-
4 IB 64-65

Security—Continued

Italian:

Radio communications, 2 TT 27-29

Withdrawal, measures for concealing, 12 TT 35-36

Japanese:

Battle plans, measures for concealing, I-6 IB 16-17; I-10 IB 80

Civilians, measures affecting, I-12 IB 69-70

Classified matter, handling of, I-12 IB 67

Documents and equipment, concealment of, I-10 IB 86

Documents on security, extracts from, I-8 IB 58-59

Foreigners, measures affecting, I-12 IB 70

Inspections and censorship, I-12 IB 68-69

Military personnel, measures affecting, I-12 IB 67-68

Supervision, I-12 IB 65-66

Violations, I-12 IB 70-71

Soviet, for supply system, 3 TT 37-39

United States:

Japanese estimate of, I-5 IB 35

Safeguarding military information, II-4 IB 67-72

Souvenir hunters, problem of, II-2 IB 72-74

Violations and penalties, II-4 IB 72-74

Self-propelled artillery (*see also* Field artillery):

British:

Beach-assault use, 6 MR 18-19

Communications, 1 MR 17; 2 MR 21

El Alamein, performance at, 2 MR 22-23; 4 MR 26-28

40-mm Bofors AA gun. *See* 40-mm Bofors AA gun, self-propelled, British.

Maintenance and repair, 2 MR 21-22

Organization, 2 MR 20-22

Radio control, 1 MR 17

Tactical employment, 1 MR 15-17; 2 MR 22; 4 MR 26-28; 6 MR 18-19

25-pounder with mount, 6 MR 18-19

Self-propelled artillery—Continued

Canadian:

Beach-assault use, 6 MR 18-19

3.7-in AA gun with mount, 6 MR 18-19

25-pounder with mount, 1 MR 17-19; 6 MR 18-19

German:

Bomb thrower (*s. W. G. 40*), (illus.) 8 TT 28-30; 12 TT 12; 14 TT 15

88-mm "Ferdinand" gun. *See* 88-mm self-propelled gun, "Ferdinand," German.

88-mm gun. *See* 88-mm multi-purpose guns, German.

50-mm AA/AT gun. *See* 50-mm AA/AT gun German.

50-mm AT gun. *See* 50-mm AT gun German.

47-mm AT gun, (*Pak Sfl.*), 5 TT 12; 9 TT 42; 17 TT 13; 25 TT 39-40

New self propelled guns, 18 TT 4

150-mm gun, 8 TT 28

150-mm howitzer, assault, *Brumbar*, (illus.) 41 TT 16-17

150-mm howitzers, infantry. *See* 150-mm howitzers, infantry, German.

150-mm howitzer, medium. *See* 150-mm howitzer, medium.

150-mm infantry gun, 13 TT 6-7; (illus.) 22 TT 13-15

105-mm gun. *See* 105-mm gun.

105-mm gun-howitzer. *See* 105-mm gun-howitzer.

105-mm howitzer 42, assault, 36 TT 11, 13

128-mm armored gun, 13 TT 44; (illus.) 39 TT 12, 13

75-mm assault guns. *See* 75-mm assault guns.

75-mm AT gun. *See* 75-mm AT gun, German.

75-mm gun mounted on 3-ton half track, 25 TT 44

75-mm tank guns on *Pz.Kw.IV* chassis, I-11 IB 32, 33

76.2-mm gun, Soviet. *See* 76.2-mm gun, Soviet.

37-mm AA/AT guns, (illus.) 25 TT 36-38

37-mm AT gun. *See* 37-mm AT gun.

- Self-propelled artillery—Continued
 German—Continued
 28-mm AT gun, Model 41. *See*
 28/20-mm AT tapered-bore
 guns.
 20-mm AA/AT guns. *See* 20-mm
 AA/AT guns.
 Italian:
 New guns, 18 TT 4-5
 90-mm (90/53) AA/AT gun,
 Scmovente, 25 TT 48; (il-
 lus.) 26 TT 11-12
 75-mm (75/18) gun, 6 SS 21, 22;
 31 TT 34-35
 75-mm (75/18) gun-howitzer,
 Models 34 and 35, (illus.) 6
 SS 21; 6 TT 35; 11 TT 43; 18
 TT 27; (illus.) 25 TT 47
 75-mm (75/27) gun, truck-
 mounted, 25 TT 47-48
 Japanese, 25 TT 48-49
 Soviet, extent of use, 13 MR 9
 United States:
 Beach assault use, 6 MR 18-19
 El Alamein, use by British at, 4
 MR 26-28
 105-mm howitzer, M7, "Priest",
 2 MR 22-23; 4 MR 26-28; 6
 MR 18-19
 Self-propelled smoke candle, type 94,
 Japanese, (illus.) I-10 IB 50, 55
 Semiautomatic pistols. *See* Pistols.
 Semiautomatic rifles. *See* Rifles.
 Semimobile AA gun (3-in), British,
 4 MR 4
Scmovente self-propelled guns, Ital-
 ian:
 90-mm (90/53) AA/AT, 25 TT 48;
 (illus.) 26 TT 11-12
 75-mm (75/18), 13 TT 34-35
 Sentries (*see also* Reconnaissance):
 German, gas, 16 SS 5
 Japanese, South Pacific operations,
 II-4 IB 27-30
 Sentry dogs, British, I-5 IB 70
 Sentry system, German company I-9
 IB 40-41
 Serafimovich, U. S. S. R., Soviet re-
 covery of, 4 MR 50-51
 Service centers on Eastern front,
 German, 18 SS 15
SE-200 flying boat, French, 5 TT 4
 Sevastopol, U. S. S. R., operations,
 1942, 5 TT 39-45
 7-mm machine gun, *Madsen*, Bra-
 zilian, 13 MR 24-25
 7.92-mm carbine, German, 9 TT 40
 7.92-mm machine guns, German:
 AA role, 35 TT 3-4
 M. G. 42, I-9 IB 60-61; (illus.)
 II-4 IB 39-41; (illus.) 14 SS
 83-92; (illus.) 20 TT 28-29;
 21 TT 25; (illus.) 31 TT 37-
 40; (illus.) 32 TT 37, 38, 39, 40
 M. G. 34, I-9 IB 60-61; (illus.)
 II-4 IB 32-38; 10 SS 17, 20;
 14 SS 53-83, 182-183; 18 SS
 159; 9 TT 40; 20 TT 28; 21
 TT 25; (illus.) 30 TT 28-29;
 31 TT 38-40; (illus.) 32 TT 36,
 37, 38, 39, 40
 M. G. 34/41, (illus.) 32 TT 37,
 38, 39, 40
 M. G. 34 (modified), (illus.) 32 TT
 36, 38, 39, 40
 M. G. 34S, (illus.) 32 TT 37, 38, 39,
 40
 7.92-mm rifles, German:
 AT, (illus.) 14 SS 34-40, 179, 183;
 18 SS 160; (illus.) 5 TT 10-11;
 9 TT 40; (illus.) 30 TT 28-
 39; (illus.) 37 TT 32-34
 Mauser, (illus.) 14 SS 21-33, 182-
 183
 Paratroopers' (*F. G. 42*), (illus.)
 38 TT 36-39
 Semiautomatic, 24 TT 26; (illus.)
 27 TT 35-36
 7.7-mm machine guns:
 Italian, light, 11 TT 41
 Japanese:
 Heavy, Model 92 (1932), (illus.)
 19 SS 115-127, 237, 238; 8
 TT 39, 40; 10 TT 33
 Light, Model 99 (1939), (illus.)
 II-1 IB 16-17, 18-20;
 (illus.) 19 SS 106-115, 237,
 238, fol. 241; (illus.) 35 TT
 44-46
 7.7-mm rifles, Japanese. *See under*
 Rifles, Japanese.
 7.7-mm tank machine gun, Model
 97 (1937), on ground mount,
 Japanese, (illus.) 19 SS 240,
 241
 17-pounder AT gun. *See* Antitank
 (AT).
 7th Airborne Division, German, or-
 ganization of, 7 SS 18-19
 7.35-mm carbine, Model 38, *Mos-*
chetto, Italian, I-3 IB 56; 11 TT
 41

- 7.35-mm machine gun, light Model 38, *Breda*, Italian, I-3 IB 57; 11 TT 41
- 7.35-mm rifle, Model 38, Italian, I-3, IE 56; 11 TT 41
- .78-in naval AA gun, Japanese, 8 TT 19
- 75/55-mm AT gun, German, (illus.) 40 TT 5-8
- 75-mm AA guns:
 German, 6 SS 100; 10 TT 19, 36
 Italian:
 75/50, 6 SS 111; 11 TT 44
 75/49 AA/AT, *Skoda*, (illus.) 34 TT 33-35
 75/46 *Ansaldo* mobile, 6 SS 24-25; 7 TT 34; 11 TT 34
 75/27, truck-mounted, 25 TT 48
 Japanese, (illus.) I-8 IB 72-74; 10 TT 34; 12 TT 6-7
- 75-mm assault guns, German I-11 IB 32-37; 6 SS 18-20, 21, 101; (illus.) 7 TT 8-9; 9 TT 44; 12 TT 11; 16 TT 30-31; 19 TT 15-22; (illus.) 25 TT 42-44
- 75-mm AT guns:
 German, I-9 IB 54-55; (illus.) I-11 IB 38-41; 18 TT 4; 22 TT 6; (illus.) 25 TT 9-12; (illus.) 40 TT 5-8
 Italian, 75/49 AA/AT *Skoda*, (illus.) 34 TT 33-35
- 75-mm field guns:
 French, German AT use of, 34 TT 6-7
 German:
 L/41, 13 TT 43
 Light, 9 TT 45; 18 TT 27
 On 3-ton half-track, 25 TT 44
 Recoilless, (illus.) 26 TT 15-18
 Italian:
 75/34, 6 SS 23, 111; 11 TT 44
 75/27, Models 06, 11, and 12, I-3 IB 59; 6 SS 22-23; 7 TT 33-34, 35; 25 TT 47-48
 Japanese, 10 TT 34
- 75-mm gun-howitzers, Italian:
 75/18, self-propelled, (illus.) 6 SS 21, 22, 110; 6 TT 35; 11 TT 34-35, 43; 13 TT 34-35; 18 TT 27; (illus.) 25 TT 47
 75/27, 6 SS 22-23, 111; 7 TT 33-34, 35; 11 TT 43; 25 TT 47-48; (illus.) 26 TT 40, 41
- 75-mm howitzers:
 German, 6 SS 100
 Italian, 75/13, mountain, 6 SS 110; 11 TT 43
- 75-mm infantry gun (1934), Italian, 11 TT 43
- 75-mm infantry howitzer, Model 41 (1908), Japanese, 10 TT 34
- 75-mm light gun, German, 17 TT 15
- 75-mm mountain and infantry howitzer, German, 6 SS 100; (illus.) 14 SS 136-149; 9 TT 44; 18 TT 27; (illus.) 39 TT 28-29; 31 TT 47
- 75-mm mountain guns:
 German, 6 SS 100; 9 TT 44, 45; 31 TT 47; 38 TT 9-10
 Japanese, II-1 IB 31-32; (illus.) 19 SS 222-233, fol. 241; 10 TT 34; 37 TT 24; 38 TT 8
- 75-mm tank guns (*see also* 75-mm assault guns), German, I-9 IB 56-58; I-11 IB 32, 33; 6 SS 100; 3 TT 10; 4 TT 15; 9 TT 44; 12 TT 11; 18 TT 27; 19 TT 27; (illus.) 20 TT 10, 12; (illus.) 21 TT 11, 12
- 70-kg HE bomb, German, 20 TT 26
- 70-mm barrage mortar, Japanese, (illus.) II-2 IB 44-48; (illus.) 19 SS 146-150
- 70-mm infantry battalion howitzer, Model 92, Japanese, (illus.) 19 SS 210-222, 241; 10 TT 34; (illus.) 34 TT 7-8; 37 TT 34-35
- 70-mm infantry gun, Italian, 6 SS 110; 11 TT 43
- 70-mm mortar, Model 11 (1922), Japanese, (illus.) 19 SS 142-146.
- 77-mm (77/28) field gun, Italian, 6 SS 111; 11 TT 44
- 76-mm AT gun, Soviet, I-5 IB 74
- 76-mm (76/40) AA/AT gun, Italian, 6 SS 26; 7 TT 35
- 76-mm (76/40) AA gun, Italian, 6 SS 111; 11 TT 44
- 76th Division, Soviet. *See* 51st Guard Division.
- 76.2-mm field gun, Soviet, German AT adaptation, (illus.) 6 SS 20, 21, 102; 8 TT 24-26; 17 TT 13; (illus.) 21 TT 6-7; (illus.) 25 TT 41-42; (illus.) 29 TT 7-8
- 72-mm mortar, Japanese, 10 TT 34

- 72-ton tank, French, 35 TT 14
 Shaving-stick booby trap, German, (illus.) I-1 IB 27, 28, 30; 14 SS 50
 Shells (*see also* Ammunition: Bombs; Smoke; and *individual weapons*):
 Anticoncrete, German, 18 TT 23-24; (illus.) 32 TT 34-36
 Fragmentation, Italian, (illus.) 26 TT 40, 41
 Shelter halves:
 German, 13 TT 46
 Japanese, II-2 IB 49
 Shelters (*see also* Billets; Fortifications; Tents):
 German:
 Antigas, 17 TT 15-16
 Frozen ground, snow, and ice, erection in, (illus.) 22 TT 20-22, 24
 Horse and vehicle, (illus.) 18 SS 86-87, 88, 89, 90
 Ice-concrete, (illus.) 18 SS 99-100
 Lean-tos, (illus.) 18 SS 83-86
 Permanent billets, (illus.) 18 SS 87-93
 Plywood, (illus.) 18 SS 75-79
 Snow, (illus.) 22 TT 21; (illus.) 18 SS 60-75
 Tents, (illus.) 18 SS 79-83
 Jungle, II-I IB 89
 Sherman tank. *See* General Sherman tank, M 4, United States.
 Ship abbreviations, 4 TT 25
 Ships:
 British:
 Balloon defense of, 5 MR 8
 Commandos, types used by, 1 SS 41-43
 Merchant, AA contingent of, 1 MR 7
 Japanese:
 Cooperation with aircraft in amphibious operations, I-8 IB 53-54
 Ruse, 16 TT 1-2
 Shock troops:
 German:
 Africa Korps parachute troops, 24 TT 20
 Airborne, 7 SS 78
 Shock troops—Continued
 Japanese, in Burma, I-3 IB 30; 9 TT 16
 Shot. *See* Ammunition; Shells; and *individual weapons*.
 Shovels, Japanese, II-2 IB 50
 Showa marking system for weapons, Japanese, 19 SS 5
 Shrapnel ammunition. *See* Ammunition and *individual weapons*.
 Shrapnel bombs. *See* Bombs.
 Shrapnel mines. *See* Mines (anti-personnel).
 Sicily:
 British assault on, (illus.) 11 MR 53-64
 Engineer lessons from, 37 TT 20-21
 Evacuation order for Hermann Göring Division, 40 TT 29-30
 Field notes on operations, 33 TT 34
 German operations:
 Artillery defensive positions, weaknesses, II-3 IB 22-25
 Camouflage methods, 38 TT 23-25
 Primosole Battle, close-quarter fighting, 40 TT 24-25
 Retreat, II-3 IB 1-8
 Maps, 11 MR 9
 United States operations
 AA, 11 MR 7-10
 Airborne, 11 MR 56-57, 60-61
 Counterintelligence, 13 MR 25-29
 Sidi Omar, Libya, German defenses, 5 SS 8, 14, 39
 Siebel ferries, landing craft, German, 15 SS 7-11
 Siemens field exploder, 1941 model, German, 24 TT 12
 Sighting telescope, coaxial, TZF 5b, German, (illus.) 8 TT 41-46
 Sights (*see also individual weapons*):
 German:
 AA pivoted ring (*Schwebekreisvisier* 30 and 38), 41 TT 4-6
 Care and use in winter, 18 SS 174-175
 Flakvisier (AA), 10 SS 23-25
 Granatvisier for grenade launchers, 21 TT 23; (illus.) 36 TT 36-37

- Sights—Continued**
German—Continued
Linealvisier 21, 10 SS 25, 26, 27
Rundblickfernrohr 16, 14 SS 141-142, 147
Japanese:
 Artillery, (illus.) 19 SS 213-214
 Machine-gun, (illus.) 19 SS 120, 121, 122, 123
 Mortar, (illus.) 19 SS 153, 154
 Signal Corps. *See* Communications.
 Signal gun, German, 8 SS 24
 Signal pistols, German:
Kumpfpistole, 7 SS 28, 29; 21 TT 23; 27 TT 32; (illus.) 40 TT 26-28
Leuchtpistole, (illus.) 7 SS 28-29; 22 TT 38-40; (illus.) 27 TT 31-34
 Modified, 40 TT 28-29
Notsignalbehälter (emergency signal container and pistol), (illus.) 22 TT 38-40
 Parachute cartridge for wind measurement used with Very pistol, 10 TT 23
 Signal rockets, use by tank hunters, German, I-12 IB 24, 26
 Signals. *See* Communications.
 Sikorsky, Igor, builder of Soviet transport planes, 1914-17, 7 SS 4
 "Silent soldier." *See* S-mines, German.
 Singapore. *See* Malaya.
 Six-barreled 150-mm chemical mortar or rocket projector, German. *See* 150-mm chemical mortar or rocket projector, six-barreled.
 6.5-mm ball ammunition, Japanese, II-2 IB 59
 6.5-mm carbines:
 Italian, Model 91, *Moschetto*, I-3 IB 56; 11 TT 41
 Japanese, (illus.) 19 SS 26-27, 28, 234-236, 238; 10 TT 33
 6.5-mm machine guns:
 Italian, I-3 IB 56-57; 11 TT 41
Japanese:
 Heavy, Model 3 (1914), 8 TT 39, 40; 10 TT 33
 Light, Model 11 (1922), (illus.) 19 SS 2, 86-96, 235-236, 238; (illus.) 3 TT 19-20; 8 TT 39, 40; 10 TT 33
- 6.5-mm machine guns—Continued**
Japanese—Continued
 Light, Model 96 (1936), II-1 IB 18, 20; (illus.) 19 SS 2, 96-106, 110, 235-236, 238; 8 TT 39-40; 10 TT 33
 6.5-mm rifles:
 Italian, I-3 IB 56; 11 TT 41
 Japanese, (illus.) I-5 IB 53-54; 10 TT 33; (illus.) 19 SS 2, 25-38, 234, 235, 236, 238, 239-240, fol. 241; (illus.) 38 TT 39-40
 Six-gun heavy AA batteries, German, 16 TT 4
 6-in gun, British, AA role of, 1 MR 20
 6-in howitzer, British, 6 SS 35
 6-pounder AT gun, British. *See* 57-mm (6-pounder) AT gun, British.
 Sixth Army, German, in Kiev operations, 11 TT 49-60
 65-mm (65/17) infantry gun, Italian, 6 SS 110; 11 TT 43
 Skirmish lines, squad formation, German, 9 SS 6-8
 Ski runners, AT gun mounted on, German, (illus.) 18 SS 208, 211
 Skis and accessories:
 German, on aircraft, (illus.) I-6 IB 53-57; (illus.) 18 SS 193-197
 Japanese, "Glacier skis" used on Attu, II-2 IB 50
 Ski trails, construction of, (illus.) 18 SS 31-32
 Ski troops:
 Finnish, 6 TT 40-42
 German:
 Equipment, (illus.) 18 SS 193-197
 Evacuation of wounded, (illus.) 18 SS 150, 151-152
 Operations, 12 TT 20, 21
 Soviet, operations, 3 TT 50-52; 12 TT 20-21, 27; 16 TT 17-22
Skoda weapons:
 German:
 75-mm long-barreled, 4 TT 15
 305-mm coast-defense gun, *L/50*, 12 TT 13-14
 Italian:
 75-mm (75/49) AA/AT gun, (illus.) 34 TT 33-35
 Sled runners, German, (illus.) 18 SS 209, 210-212

Sleds:

German:

Akja, Finnish. *See Akja (Ackja)* sleds.

Types, II-2 IB 8; (illus.) 18 SS 197-210

Soviet, propeller-driven, (illus.) 12 TT 37-39

Slicks, aluminum, as navigation aid, Japanese, 17 TT 3-4

Sliding trough for hauling heavy loads in snow, German, (illus.) 18 SS 211, 212-213

Slovakian treaty line, German defenses along, 17 SS 46

Small arms (*see also* Antiaircraft (AA) measures; Antitank (AT) measures; Bayonets; Carbines; Grenade dischargers; Grenade launchers; Grenades; Machine cannon; Machine guns; Pistols; Revolvers; Rifles; Submachine guns):

British:

AA role, I-4 IB 79-81, 83; 1 MR 9; 9 TT 3-4; 13 TT 26

Ammunition, interchangeability of, 4 TT 21-22

Weapons policy, 6 MR 40

German:

AA role, I-4 IB 81-82; II-2 IB 20; 9 TT 3-4; 13 TT 26; 14 TT 8; 30 TT 6

Ammunition, 14 SS 182-183; 4 TT 21-22

Infantry weapons and equipment, 4 SS 3-4; 9 SS 1-3

Labels for ammunition, 14 SS 165-171

Weapon developments, 21 TT 25

Italian, interchangeability of ammunition, 4 TT 21-22

Japanese, ammunition, 19 SS 234-238; 4 TT 22

Soviet, AA fire, I-4 IB 82-83

S-mines, German:

Booby traps, use as, 28 TT 25

Combined with Tellermines, 23 TT 13

Description, 7 MR 39; 5 SS 16

Effect, 10 MR 28

Road obstruction, use for, 26 TT 24; (illus.) 38 TT 21, 22, 23

Schutzmine, electric igniter, (illus.) 28 TT 22-25

Sperrmine, 1 TT 4

Smoke (*see also* Chemical warfare):

British:

Aircraft, laying by, 11 MR 5-7

Amphibious operations, use with, 2 MR 24-28; 4 MR 29-30; 5 MR 58-60

Apparatus Smoke Discharge (SAD) No. 2, 6 MR 25-26

Area smoke screening, 6 MR 24-31; 7 MR 25-29

Armored-force use, 2 MR 15; 5 MR 19-20

Bombs, 2 MR 26

Chlorosulfonic-acid (CSA) apparatus, 2 MR 25

Dieppe raid, use in, 2 MR 27-28; 4 MR 29-30; 5 MR 58-60

Floats, 2 MR 25-26

Generators, 2 MR 25-27; 6 MR 26; 7 MR 26, 27, 28

German reaction to, I-10 IB 34

Grenades, 2 MR 27; 6 MR 39

Methods of laying, 2 MR 24-28; 4 MR 29; 9 MR 1-3; 11 MR 3-7

Methods of producing, 5 MR 19

Mortars, 2 MR 26-27

North Africa, use in, 6 MR 24-31

Purposes of smoke screens, 11 MR 4

Requirements for laying, 9 MR 1-2

Shells, 2 MR 25; 16 TT 23

Smoke-curtain installation (SCI), 2 MR 25; 11 MR 4-5

Tanks, use by, 2 MR 15; 11 MR 20

Desert use of, 6 SS 87-90

French, generators, use by Germans, 16 SS 21

German:

Acid smoke float, 23 TT 7

Aerial spray apparatus, 16 SS 23-25; 11 TT 11; 32 TT 50; 40 TT 14

Air-force use, 40 TT 14-17

Ammunition, 16 SS 17; 11 TT 10

Area smoke screening, 16 SS 149-154; 6 TT 20-21; 24 TT 8-11; 38 TT 14-17

Attack under smoke screen, 18 TT 39-46

Bombs, 18 TT 25; (illus.) 29 TT 27-29; 40 TT 16

Candle projectors, 16 SS 20-21

Smoke—Continued

German—Continued

- Candles, I-5 IB 16-17; 16 SS 19; 6 TT 18; 11 TT 11; 32 TT 49; 40 TT 17
- Codes and signals, 25 TT 28, 30
- Direction indicators for attacking units under smoke screen, 18 TT 45-46
- Employment, (illus.) 11 TT 9-16; (illus.) 32 TT 45-59
- Equipment and use, I-5 IB 15-20; 6 TT 16-21
- Generators, I-5 IB 17; II-2 IB 31; 16 SS 21, 150-152; 1 TT 7; 6 TT 20; 24 TT 9; 40 TT 17
- Generator vehicle, (illus.) 23 TT 11, 12
- Grenades, I-5 IB 16; I-12 IB 24, 25; 14 SS 47; 16 SS 21; 6 TT 18; (illus.) 36 TT 13-15; 40 TT 27-28
- Irritant (blue cross, blue band), I-7 IB 31; II-3 IB 90-91; 16 SS 8; 37 TT 11
- Lung-destroying smoke and projector, 24 TT 8
- Mortars, (*see also* 150-mm chemical mortar or rocket projector, six-barreled, I-5 IB 17-18; I-7 IB 35; 16 SS 18; 9 TT 46; 18 TT 25-26; 24 TT 24; (illus.) 29 TT 24-25)
- Shells for 81-mm mortar, (illus.) 14 SS 181, 184
- Signals, I-7 IB 39; I-2 IB 16-17; 24 TT 27, 28; 25 TT 28, 30
- Tanks, use against, I-7 IB 58-60; I-12 IB 24, 25
- Toxic smoke against landing operations, 9 TT 12
- Troops, I-5 IB 15; I-7 IB 32; II-3 IB 14-15; 16 SS 1-3; 6 TT 16-18; 7 TT 7; 11 TT 9-10; 14 TT 27; 32 TT 45-46
- Winter care and use of agents, 18 SS 178
- Italian:
- Aerial-spray apparatus, 16 SS 62
- Area screening, 16 SS 155-156
- Candles, 16 SS 58-59
- Codes and signals, 25 TT 28, 30
- Generators, 16 SS 60
- Grenades, 16 SS 59
- Light tank with trailer, 16 SS 61

Smoke—Continued

Italian—Continued

- Shells, 16 SS 57
- Trucks, 16 SS 60-61, 80
- 2-kg smoke pot, (illus.) 38 TT 17-20

Japanese:

- Amphibious operations, use in, II-3 IB 54-56
- Bombs, 36 TT 53
- Candles, (illus.) I-10 IB 40-41, 43-50; (illus.) 16 SS 103-107, 109-116; (illus.) 7 TT 10-15; 35 TT 25
- Equipment and use, (illus.) I-10 IB 39-55; 27 TT 14-15
- Grenades, (illus.) I-10 IB 42-43, 50-51; 16 SS 116-119; 35 TT 24-25
- Infantry regimental smoke companies, 9 TT 13
- Organization of troops, 16 SS 85, 86; 27 TT 12
- Screen operations, (illus.) I-10 IB 51-55; 16 SS 156
- Shells used by artillery, 16 SS 102
- Tactics, 27 TT 13-15
- Temporary smoke battalions, 9 TT 13
- Weapons used against tanks, I-7 IB 58-60

- Libyan operation, 6 SS 87-90
- United States, HC smoke pot M1, (illus.) 38 TT 19, 20
- Snake bite, I-4 IB 26; II-1 IB 80-81; II-3 IB 80-82; 19 TT 24-25
- "Snake," mine destroyer, British, (illus.) 3 MR 17-18

Snipers:

- British, I-6 IB 81; 1 MR 32-37
- German, 29 TT 21-22; 38 TT 24-25
- Japanese, I-1 IB 55-56; I-2 IB 38; I-3 IB 36-37; I-4 IB 3-5; I-9 IB 11, 12; I-11 IB 59-60; II-1 IB 33; II-2 IB 37, 65; 16 TT 42; 21 TT 18; 26 TT 37; 35 TT 38-39
- Soviet, 40 TT 35-38

- Snow (*see also* Camouflage; Evacuation of wounded; Marches; Orientation; Roads and Trails; *entries under* Ski; Winter positions; Winter warfare):
- AT walls, German, (illus.) 18 SS 100-101; (illus.) 36 TT 19-20.

- Snow—Continued
- Base plates for light machine gun in snow, German, (illus.) II-2 IB 7; (illus.) 18 SS 165-166
 - Combat in, German, I-11 IB 23-26
 - Duration and nature in U. S. S. R., 18 SS 2
 - Fences, German, (illus.) 18 SS 41-44
 - House, German winter shelter, (illus.) 18 SS 65-66
 - Minefields in, German, (illus.) 36 TT 20
 - Plows, German, (illus.) 18 SS 34-36
 - Protection against. *See* Bivouacs; Clothing; Heating facilities; Shelters.
 - Roller, German, (illus.) 18 SS 36
 - Shelters in, (illus.) 22 TT 21; (illus.) 18 SS 60-75
 - Snowshoes, German, 18 SS 197
 - Trenches in, (illus.) 18 SS 97; (illus.) 22 TT 22
 - Tunnels in, (illus.) 22 TT 22-23
 - Wire obstacles in, German, (illus.) 18 SS 101-103; (illus.) 36 TT 16-19
- Snowmobile, specifications of, Canadian, (illus.) 2 MR 43-45
- Snow vehicles. *See* Drags; Runners; Sleds; Sliding trough.
- Soap-cake booby trap, German, II-2 IB 32; 40 TT 20
- Societies, Italian, Fascist, I-4 IB 57
- Soldbuch*, German paybook, I-3 IB 10; I-4 IB 49-50; 9 TT 32-34; 19 TT 26
- Soldiers, characteristics of. *See* nationality of soldier.
- Solomon Islands. (*see also* Guadalcanal operations; South Pacific):
- Japanese tactics, I-3 IB 35-40; I-4 IB 1-13; I-5 IB 37-41; 10 TT 12-15; 19 TT 5-6
 - Japanese weapons, I-4 IB 14
 - Native headhunters and cannibals, II-1 IB 83-84
 - United States landings, 22 TT 46-47
- Solothurn* 20-mm weapons, I-3 IB 58; (illus.) 5 TT 18; 7 TT 35; 11 TT 42; 28 TT 30, 32
- Sound-locator apparatus, AA, German. I-3 IB 18-19; 10 SS 51-52
- Sound ranging, 9 MR 18-24; 6 SS 71; 17 SS 33; 18 SS 173; 33 TT 11
- South Pacific (*See also* Guadalcanal operations; Jungle warfare; New Guinea; Philippine Islands; Solomon Islands):
- Building with native materials, 33 TT 16-19
 - Drinking water from rattan vine, (illus.) 34 TT 40-42
 - Experiences of U. S. survivor of plane crash at sea, II-4 IB 79-89
- Japanese:
- Air tactics, II-4 IB 7-12
 - Deceptions, I-5 IB 39
 - Explanation of reverses in New Guinea, I-8 IB 70-71
 - Defense, I-9 IB 8-11; II-4 IB 17-18
 - Special naval landing party operations, 13 TT 13-22
 - Tactics, I-5 IB 37-41
 - Treatment of natives, I-8 IB 67-69
 - Troops in conquered areas, regulations governing, 20 TT 37-46
 - Use of task forces, 13 TT 10-13
 - Warfare as seen by U. S. observers, I-9 IB 1-14
- Seafood available in Indo-Pacific area, (illus.) 15 TT 50-60
- United States, air support of ground units, 4 MR 44
- Spaced armor, British, 18 TT 36; 39 TT 32-33
- Spades, entrenching, Japanese, I-1 IB 67-68
- Spare-parts trucks, German, 37 TT 30-31
- Spa* trucks, Italian, in North Africa, 20 TT 27-28
- Spearhead tactics in Kiev operations, German, 11 TT 50-60
- Spectroscope used for wound diagnosis, German, 38 TT 36
- Sperrmine*, "S"-mines, in Libyan minefields, German, 1 TT 4
- Sperry predictor, British, 4 MR 4
- Spigot guns, British, 8 MR 45-47
- Spigot mortars. *See* Mortars, German.
- Spigot-type grenade launchers, Japanese, for rifles, (illus.) 19 SS 36, 37, 38

- Spigot-type rifle-grenade discharger, German, (illus.) 36 TT 38-39
- Spike bombs, German, (illus.) 37 TT 27, 28
- Spikes, metal, "crowsfeet", German, (illus.) 11 TT 36; 12 TT 40; 13 TT 40; 14 TT 41
- Spitfire IX, British fighter plane, compared with *Focke-Wulf 190*, 11 TT 3
- Spitsbergen, British commando raid, (map) 1 SS 98-115
- Spotlight apparatus, British, for training in AT shooting, (illus.) 27 TT 6-7
- Spray apparatus for gas and smoke. *See* Gas; Smoke.
- Squad, infantry, German:
 Combat tactics, 9 SS 1-118
 Defense, 9 SS 47-56
 Exercises, 9 SS 80-118
 Leader, 9 SS 9-11, 49-56, 80-81
 Offensive, 9 SS 32-47
 Organization and formations, 9 SS 1-8
- Squad, rifle, German, combat training of, 3 SS 89-106
- SS (Nazi Party Elite Guard), 3 SS 10; (illus.) 35 TT 51-54; 41 TT 35-37
- SS-Panzergrenadier-Regiment Norge*, German Waffen-SS of Norway, 35 TT 54
- Stabilized front, German (*see also* Defensive positions; Fortifications; West Wall), 17 SS VII-X, 1-141
- Staff duties, German, 8 SS 2
- Staff, German Technical General, task and mission, 3 TT 26-30
- Staff School, German General, tactical doctrines from, 8 SS 1-86
- Stalingrad, U. S. S. R., operations, 4 MR 46-60; 26 TT 54, 59
- Standard AA director, German, 6 TT 8; 14 TT 7
- "Star raids," bombing tactics, German, 39 TT 5
- Static AA guns, German, 10 SS 86-87
- Steel AT obstacles. *See* Chevaux-de-frise.
- Stendel Parachute-Jumping School, German, 7 SS 20, 84, 86
- Stereoscopic fire director, German, (illus.) 10 SS 46-49
- Stevens pack parachute, 7 SS 2
- Stick bomb. *See* Bombs.
- Stick grenades. *See* Grenades, hand.
- Sticky grenade, Japanese tank protection against, 25 TT 15
- Stiffkey stick, British, 4 MR 11; 6 MR 6-7; 9 MR 15; (illus.) 11 MR 12-14; 12 MR 9
- Stimulants:
 Benzedrine (amphetamine), 2 MR 39-43; 3 MR 26-28; 4 TT 19; 11 TT 29-30
 Methedrine (Pervitin), 7 SS 30; 5 TT 32; 11 TT 29
- Sting ray (stingaree), 33 TT 35-38
- Stokes-Brandt* mortars:
 Characteristics, 16 SS 10n
 Italian. *See* 81-mm mortar, Model 35, Italian.
 Japanese, 81-mm, Model 99 (1939), (illus.) 19 SS 152-160, fol. 241; 10 TT 35; 40 TT 27; (illus.) 41 TT 30-31
- Storage batteries, German, protection in winter, 18 SS 182
- Storage of ammunition during rainy seasons, 40 TT 13-14
- Storage, winter, German:
 Aircraft and equipment, I-6 IB 57-58
 Ammunition, 18 SS 168-170
 Food, (illus.) 18 SS 142-143
- Stormovik* (*Sturmovik*) attack planes, Soviet, (illus.) 10 MR 1-3; 27 TT 2-3
- Storm Troopers, German, work of, 3 SS 10-12
- Stosstruppen*, assault detachments, German, 14 TT 26-28; 16 TT 11-13; 27 TT 24
- Stoves, field, German, (illus.) 18 SS 108-110
- Strafing, German aerial, of ground troops, I-8 IB 22, 25
- Stranded flyers, reflectors to aid recognition, German, (illus.) II-1 IB 72-73
- Streams, crossing of, (illus.) 14 TT 29
- Street fighting:
 British:
 Commando instructions, 17 TT 24-25
 Lecture by Maj. Lord Lovatton, I-7 IB 70-71
 Tactics, 3 MR 19-25; 36 TT 23-26

- Street fighting—Continued
- German:
- Attack, 15 TT 22; 17 TT 23; 26 TT 57, 59
 - Defense, 15 TT 23; 17 TT 23-24; 26 TT 53, 54-55
 - Motorized infantry regiment, 4 SS 42-44
 - Panzergranadier*, II-2 IB 21-23
 - Stalingrad operations, 26 TT 54, 59
 - Tanks, 14 TT 34
 - Town and street fighting in U. S. S. R., 25 TT 21; 26 TT 53-59
 - Village fighting, basic tactics, 15 TT 22-23
- Soviet:
- Attack methods, 26 TT 55-57
 - Defense, 3 TT 39-40; 26 TT 54, 57-59
- Stretchers:
- British float for ferrying wounded, (illus.) I-11 IB 81-83
 - German adaptation of Finnish *akja* sled, (illus.) 18 SS 150, 151-152; (illus.) 39 TT 28-30
- Strongpoints, German. *See under* Defensive positions.
- Stuart tank. *See* General Stuart tank, M3, U. S.
- "Stuka." *Junkers (Ju)* 87 dive-bomber, German, I-2 IB 12
- Sturmovik (Stormovik)* attack plane, Soviet, (illus.) 10 MR 1-3; 27 TT 2-3
- Stützpunkte* (strongpoints), German. *See* Defensive positions, German.
- Submachine guns:
- Australian, 9-mm Austen, characteristics of, (illus.) 1 MR 38-40
 - German (machine pistols):
 - Care in winter, 18 SS 158-159
 - 9-mm, (illus.), 14 SS 15-21, 171, 173, 182, 183; 9 TT 40
 - Italian, 9-mm, Model 38, *Beretta*, 11 TT 42
 - United States, Thompson, use by Australians at Milne Bay, 6 MR 54
- Submarine detection by radio equipment, 1 TT 24
- Submarine duty, air personnel transferred to, German, 10 TT 2-3
- Submerged bridge construction, Soviet, 29 TT 17-18
- Submersible tanks. *See* Amphibious tanks.
- Subsistence problems. *See* Food; Health rules; Jungles; Rations; Water.
- Substratosphere planes, German, I-3 IB 27-28; 9 TT 1
- Subterranean mining, (illus.) 29 TT 39-55
- Sulfanilamide, treatment of burns in British Middle East force, 14 TT 36
- Summer camouflage methods, Soviet, 23 TT 13-19
- Sun compasses, 1-4 IB 75-76
- Sunstroke, precautions against. *See* Health rules.
- Suomi*, 9-mm machine carbine, Finnish, (illus.) 6 TT 40-41
- Supply (*see also* Food; Rations; Water; and various arms and services):
- British:
- Airborne troops, 1 MR 41-42
 - Air supply in jungle operations, 12 MR 26-28
 - Desert, methods in, 6 SS 91
 - Gasoline and ammunition, in Libya, 7 TT 35-36
 - Problems, 19 TT 41-43
 - Procedure in field, (illus.) 9 MR 39-46
 - System, (illus.) 9 MR 45
- German:
- Combat in high mountains, supplies for, I-11 IB 20
 - Company trains, 34 TT 30-31
 - Desert warfare, I-2 IB 18
 - Motorized infantry regiment, 4 SS 52-53
 - Supply trains, 34 TT 30
 - Supply troops of infantry division, 34 TT 29
 - 21st Armored Division, 16 TT 34
- Italian, transport by air, 7 SS 59
- Japanese:
- Attu, forces on, 27 TT 38-41
 - Guadalcanal, during operations on, I-9 IB 13-14
 - Parachute, dropping by, I-1 IB 74
 - Parachute forces, I-2 IB 44-45
 - Soviet, security measures for, 3 TT 37-39

Support company, British, (illus.) 9 MR 35-36
 Surgical units, British, mobile, in Middle East, 34 TT 31-33
 Swamp stretcher, German adaptation of Finnish plywood *akja* sled, (illus.) 39 TT 28-30
 Swastika flags, German, use in air-ground communications, I-7 IB 40; 24 TT 27-28
 Switch antipersonnel, British, (illus.) I-12 IB 80-82
 Swords, Japanese, I-1 IB 67
 Symbols, German:
 Motorized infantry regiment, 4 SS 54
 Tactical, 9 SS 28

T

"Tactical Handbook for the Troop Commander," by Gen. Friedrich von Cochenhausen, excerpts, 7 TT 22-29; 8 TT 7-15; 11 TT 5-16; 32 TT 45-59
 Tactics (*see also* Airborne troops; Air forces; Amphibious operations; Antiaircraft measures; Antiparachutist tactics; Anti-tank measures; Armored forces; Coastal defenses; Commandos; Desert warfare; Field artillery; Infantry; Jungle warfare; Mountain warfare; Night operations; Parachute troops; Reconnaissance; Smoke; Sniping; Street fighting; Strongpoints; Tanks; Winter warfare)
 British (*see also* Self-propelled artillery, British):
 Counterattack in Malaya, 13 TT 25; 15 TT 29-30
 Cyrenaica campaign notes, 18 TT 20
 Defense, 12 MR 33; 6 SS 63-70
 El Alamein offensive, (map) 2 MR 49-60; 3 MR 41-60; 4 MR 13-14; 14 TT 22-23
 Experiences of a junior officer in North Africa, I-12 IB 75-79
 Japanese estimate of, 14 TT 58-60
 Madagascar, lessons from operations at, 4 MR 42-43
 Middle East, trends in, 12 MR 32-34

Tactics—Continued

British—Continued

Road blocks, destruction of, I-4 IB 16-17; I-12 IB 72-74
 Self-propelled artillery, 1 MR 15-17
 Withdrawal, II-1 IB 96; 6 SS 70
 Finnish, small units, (illus.) 6 TT 39-45

German:

Attack, I-12 IB 33-37; 8 SS 45-60; 15 TT 19-20; 16 TT 14-15; 16 TT 25-29; (illus.) 17 TT 28-31; 18 TT 17, 39-46; 22 TT 26-27; 36 T 5-9

Blitzkrieg and anti-Blitz, in U. S. S. R., 22 TT 29-32

Breakthrough, 8 SS 54-55

British comments on, I-12 IB 75-79; II-2 IB 24-29

Close-quarter fighting, 40 TT 24-25

Coordination of arms, in attack, 8 SS 50-51, 53; 9 SS 23-32; 3 TT 7-8; (illus.) 7 TT 22-27

Counterattack, I-10 IB 31-33; 5 SS 2, 5, 7-8, 15, 34; 8 SS 63-69; (illus.) 9 SS 99-101; 17 SS 6-8; 14 TT 30; 27 TT 26-27

Defense, I-9 IB 36-42; II-1 IB 62-64; 5 SS 1-60; 6 SS 59-60; 8 SS 61-69; 15 SS 1-2; 15 TT 21-22; 18 TT 18; 20 TT 22-23; 22 TT 29-30; 26 TT 30; 28 TT 26-29; 29 TT 19; 31 TT 33-34; 33 TT 27-29; 37 TT 36-39; 39 TT 45-50

Delaying, I-11 IB 51-53; 8 SS 62, 70-71; 26 TT 18-19

Fortifications, tactical doctrine, 17 SS 5-23

Kharkov, tactics in final phase, 12 TT 27-29

Mareth Line, I-10 IB 31; 27 TT 26-27

Marshy country, 11 TT 49-50, 51; 33 TT 27-29

Mechanized warfare. *See* Armored forces.

Meeting engagements (*see also* Attack), I-5 IB 2, 32; 8 SS 55-56; 15 TT 19

Tactics—Continued

German—Continued

North African operations, I-4 IB 32-34; I-6 IB 44-51; I-8 IB 15, 21; I-10 IB 14-18; 20 TT 19-20; 27 TT 26-27

*Panzer*grenadier Division. *See* Infantry, motorized.

Pillboxes, attacks against, I-6 IB 42-43; I-12 IB 33-36

Rearguard action, 29 TT 22

Searchlight I-3 IB 17-19; 10 SS 72-73, 96-98; 6 TT 6-7; 27 TT 4-5; 28 TT 8; 38 TT 16; 41 TT 48-49

Retreat, II-3 IB 1-8; 8 SS 72; 27 TT 22

Sniping, 29 TT 21-22; 38 TT 24-25

Surprise, principle of, 3 SS 39

Tactical doctrine, 4 SS 34-35; 8 SS III-IV, 1-86; 17 SS 5-23

Tunisia, British report, 38 TT 32-35

U. S. S. R., experiences in, I-8 IB 15-19; 7 TT 1-2, 40-49; 10 TT 6, 8; 11 TT 48-60; 12 TT 8-9, 27-29; 16 TT 50-57; 18 TT 17-19; 20 TT 21-23; 23 TT 20-21; 25 TT 20-21; 27 TT 45-51; 36 TT 7-9

Village fighting, I-5 IB 5-6; 15 TT 22-23

Wedge-and-trap operations, Kiev, 7 TT 40-49

Winter combat methods, 18 SS 7-12

Withdrawal, I-11 IB 51-53; 8 SS 72; (illus.) 11 TT 14; 38 TT 33; 40 TT 25

Wooded areas, I-8 IB 1-14; 4 SS 44-45; 16 TT 13; 22 TT 13; 26 TT 27-31; 33 TT 12-16, 27-30

Italian:

Attack notes, I-12 IB 46-47

Counterattacks, 14 TT 22

Withdrawal, 12 TT 35-36

Japanese:

Arakan area, Burma, I-10 IB 65-72; I-11 IB 70-71; II-1 IB 30-33; 32 TT 29-32; 37 TT 23-25

Assault (*see also* attack), I-3 IB 47-49; I-7 IB 16; II-2 IB 55

Tactics—Continued

Japanese—Continued

Attack, I-7 IB 25-26; I-8 IB 59; I-9 IB 6; 14 TT 54-56, 58-59; 16 TT 42; 22 TT 43-44, 47-48; 32 TT 26-32

Attu, I-12 IB 48-53; II-2 IB 35-39; (map) 27 TT 38-41; 28 TT 33-34

Basic principles, 13 TT 53-55

British observations, on, (illus.) 26 TT 31-34, 35

Burma operations (*see also* Arakan area), I-3 IB 29-34; (illus.) 7 TT 19-21; 9 TT 15-18, 19-27; 27 TT 27-29; 37 TT 23-25

China, in, I-2 IB 41-42

Close-combat, I-6 IB 11-12

Coastal-defense, II-4 IB 19

Countermeasures against U. S. and British, I-5 IB 29-36; 14 TT 52-60

Deceptive, I-1 IB 59-62; I-5 IB 39; I-7 IB 26-27; 24 TT 18-19; 33 TT 25-26

Defense, I-4 IB 11; I-5 IB 38-39; I-6 IB 13-15; I-7 IB 29-30; I-8 IB 60; I-9 IB 8-11; I-12 IB 61-64; II-2 IB 35-38; II-3 IB 64-65; II-4 IB 17-20; (illus.) 10 TT 12-15; (illus.) 13 TT 56-59; 14 TT 56, 59-60; 24 TT 16-19; (illus.) 31 TT 25-33; 37 TT 24, (illus.) 45-52

Dogs, use of, 37 TT 25

Envelopment, over "impassable" terrain, I-9 IB 6

Estimate by U. S. observers, I-7 IB 23-30; I-9 IB 1-14

Guadalcanal. *See under* Guadalcanal operations.

Infiltration, I-1 IB 54-57; I-2 IB 38; I-3 IB 38; I-4 IB 2-3; I-5 IB 38; 13 TT 59

Machine-gun employment, I-3 IB 50-51; I-6 IB 12-13; I-10 IB 60; II-2 IB 38, 67-71; 16 TT 41

Makin Island, defense of, I-9 IB 11; (illus.) 13 TT 56-59

Malayan campaign, 13 TT 22-25; 24 TT 19-20

Meeting engagements (*see also* Attack), I-10 IB 73-74

Tactics—Continued

Japanese—Continued

- Netherlands Indies campaign, 2 TT 15-17
- New Guinea operations, 6 MR 47-49, 56; I-7 IB 30; I-9 IB 4, 5, 7, 8, 10-11, 12; I-10 IB 51-55, 73-76; I-11 IB 59-63, 75; I-12 IB 54-60; II-2 IB 62-66; 1 TT 1; 17 TT 25-27; 21 TT 18; 23 TT 22-23; 24 TT 18-19; (illus.) 26 TT 34-39; 38 TT 29-32
- Noises, I-5 IB 38; 25 TT 24-26
- Philippine operations, I-2 IB 37-41; 12 MR 50-52; 6 TT 26-29
- Pillboxes, attacking, I-12 IB 55-60
- Raiding-demolition, against artillery, II-4 IB 15-16
- Retreat, I-3 IB 51; 14 TT 57
- Solomon Islands, I-3 IB 35-40; I-4 IB 1-13; I-5 IB 37-41; II-2 IB 62-66; 3 MR 37; 10 TT 12-15; 16 TT 22-23; 17 TT 25-27; 19 TT 5-6; 21 TT 18-19; 22 TT 43-44, 47-48; 35 TT 34-39
- Withdrawal, I-10 IB 76
- Soviet:
 - Attack, 4 MR 57; I-2 IB 69-72; 10 TT 15-16
 - Breakthrough against German defenses, 10 TT 17-18; 28 TT 29-30
 - Fighting the German, "Ferdinand" gun, II-2 IB 1; 35 TT 20
 - Principles, 8 MR 55-59; 22 TT 29-32
 - Ski patrol, 3 TT 50-52; 16 TT 19-21
 - Wooded areas, combat in, 23 TT 21-22
- United States:
 - AA in Sicily, 11 MR 9-10
 - Guadalcanal operations, 22 TT 44-48
 - Japanese estimate of, I-5 IB 29-36; I-6 IB 17; I-7 IB 1-4; I-8 IB 57-58; II-1 IB 27-29; 14 TT 52-58; 22 TT 49-54
 - Tunisia, 30 TT 37-38

Tags, identification:

- German, I-3 IB 11; 9 TT 32-34
- Italian, I-4 IB 64
- Taisho* marking system for weapons, Japanese, 19 SS 4-5
- Tampella*, 120-mm mortar, Finnish, 39 TT 11
- Tandem harness, German use with sleds, (illus.) 18 SS 202, 204, 207, 213
- Tank Badge, German, 11 SS 15
- Tank battalion, German, order of march, 24 TT 49
- Tank-borne infantry, I-10 IB 33-34; (illus.) 13 MR 8
- Tankbüchse*, Polish AT rifle, 14 SS 34, 38
- Tank-carrying aircraft, German, 3 TT 1
- Tank-destroyer battalion, German, 6 SS 107
- Tank guns (*see also individual tanks*):
 - German:
 - Ammunition developments, I-9 IB 56-58
 - Care in winter, 18 SS 160
 - Developments in manufacture of, I-9 IB 55-56
 - 88-mm (*Kw.K. 36*), I-9 IB 56, 58
 - 50-mm, 3 TT 10; 9 TT 43; 22 TT 13; 32 TT 8, 9
 - 50-mm (*Kw.K. 39*), 6 SS 7-8, 98; 5 TT 14; 9 TT 43; (illus.) 20 TT 10, 11; (illus.) 32 TT 8-10; (illus.) 33 TT 9, 10
 - 75-mm, 3 TT 10; 9 TT 44; 18 TT 27; 19 TT 27
 - 75-mm, long-barreled (*Kw.K. 40*), 4 TT 15; 9 TT 44; 12 TT 11; 18 TT 27; (illus.) 20 TT 10, 12
 - 75-mm short-barreled (*Kw.K. 38*), (illus.) 21 TT 11, 12
 - 75-mm tank-mounted gun, 6 SS 100
 - 75-mm tapered-bore (*Kw.K. 41*), I-9 IB 56, 58
 - 37-mm, 3 TT 10; 9 TT 42
 - 20-mm, 3 TT 10; 9 TT 41
 - Japanese:
 - 7.7-mm machine-gun, Model 97 (1937), on ground mount, (illus.) 19 SS 240, 241

"Tankette" (light tank), Japanese. (illus.) I-4 IB 22-23; 31 TT 11-14

Tank hunters. *See* Antitank (AT) measures.

Tank-landing craft, German, (illus.) 11 TT 26-27

Tank-mounted rack for smoke candles, German, 16 SS 20-21

Tank obstacles. *See* Antitank (AT) obstacles.

Tank-recovery platoon, German, employment, I-8 IB 36-38

Tank requirements in Libyan fighting, 1 TT 25-27

Tanks (*see also* Antitank (AT) measures; Antitank obstacles; Armored forces; Mines):

Australian Mk I, (illus.) 2 MR 18-20

British:

Airborne division, 10 MR 4-5

Amphibious operations, use in, 5 MR 52

Armored OPs, use as, 1 MR 19-20

Assault echelon, 11 MR 16-17

Attack, 11 MR 17-18

Burma, performance in, 7 TT 32

Casualties among personnel in North Africa, 13 TT 36-38

"Churchill," (illus.) 10 MR 12-14; 11 MR 14-19; 13 MR 9

Classification, 9 TT 30

"Cromwell," specifications of, (illus.) 13 MR 9-11

Cruiser class, German comment, 35 TT 14

Crusader, characteristics, 3 MR 16

Defense against aircraft, 11 MR 20-21

Defense role of, 11 MR 19

El Alamein, use at, 4 MR 13-14

Exploitation of success, 9 MR 18

Field artillery against, 4 MR 18-19

German estimate of, 35 TT 14

Indirect fire by, 10 MR 16-18

Infantry carried on, 1 MR 37

Infantry-tank cooperation, 9 MR 17; 11 MR 15-16

Jungle warfare, II-1 IB 93-96

Maintenance and recovery, 4 MR 37-39

Tanks—Continued

British—Continued

Matilda, 6 SS 94-95; 3 TT 9-10

Middle East, employment in, 9 MR 16-18; (illus.) 10 MR 10-18

Mobile scissors-bridge mounted on, (illus.) 15 TT 14-16

Mustard-bomb hits on, effect of, 2 MR 28-30

Nicknames, I-7 IB 77; 9 TT 30

Night operations, 9 MR 18; 10 MR 15-16; 11 MR 19; 12 MR 33-34

Pursuit of enemy by, MR 15-16

Radio control, 1 TT 27-28

Rescuing wounded from, I-11 IB 80

Sicilian campaign, employment in, 12 MR 10-13

Smoke, use of, 2 MR 15

Tactics, 2 MR 16-18; 10 MR 15-18; 11 MR 18-19; 13 TT 29; 12 MR 33-34

Tunisia, performance in, 10 MR 10-19

Canadian:

Grizzly I, characteristics, 8 MR 29-30

Ram II, characteristics, 1 MR 17n

Czech, 11-ton model used by Germans, 16 TT 30

French:

Char B, German modification, 5 TT 32

Comments on, German, 35 TT 14

Mechanized equipment used by Axis, 9 TT 28-29

Fumes in armored vehicles, Canadian investigation of, 9 TT 31

German (*see also* Pz. Kw. tanks):

Air support in Africa, 24 TT 3

Ammunition, I-4 IB 32-33; II-4 IB 62

Amphibious tanks. *See* Amphibious tanks, German.

Armor, 3 TT 14; (illus.) 14 TT 30-33; (illus.) 40 TT 11

AT guns used with, (illus.) 27 TT 8

Basic principles, 2 SS 1-5

Tanks—Continued

German—Continued

- Camouflage in snow, (illus.), 18 SS 122, 123
- Commander's, 4 TT 16
- Company tactics, I-11 IB 46-47
- Cooperation with other arms in street fighting in U. S. S. R., II-2 IB 21-23; II-4 IB 57-63; 7 TT 23-24; 8 TT 30-32; 31 TT 11; 32 TT 18-20
- Deceptions and ruses, II-1 IB 66-67; 2 TT 19; 12 TT 33; 16 TT 29; 28 TT 13
- Desert tactics, 6 SS 86-87
- Destruction to prevent capture, 27 TT 11
- Effect of artillery on, 6 SS 86-87
- Engaging a British observation post, I-10 IB 33
- Flame-throwing, I-9 IB 62-63; 16 SS 35; 19 TT 9; 39 TT 9-11
- Fuel supply, 7 TT 29
- Gyroscopic compasses, (illus.) 7 TT 29-30, 31
- History, 2 SS 6-13
- Infantry carried on, I-10 IB 33-34
- Infantry, cooperation with, (illus.) I-11 IB 1-17; II-4 IB 57-63; 31 TT 11
- Maintenance and repair, I-4 IB 33; I-8 IB 34-39; 4 TT 10-14; 10 TT 24-32; 12 TT 37
- Motorized-infantry cooperation, 4 SS 31-33
- Night attack, 27 TT 11-12
- Platoon missions and operations, 24 TT 47-50
- Platoon tactics, I-11 IB 44-46
- Pz.Kw.* See *Pz. Kw tanks.*
- Reconnaissance, I-9 IB 31-35; 24 TT 49
- Rules of Panzer Army High Command on function and employment of, 28 TT 12-13
- Ruses, II-1 IB 66-67; 2 TT 19; 12 TT 33; 16 TT 29; 17 TT 34
- Shelter, improvised, for winter use, (illus.) 18 SS 89
- Smoke-employment against, I-7 IB 58-60; 20 TT 13-15
- Speed, I-2 IB 24

Tanks—Continued

German—Continued

- Support by other troops, I-4 IB 52
- Tactics, I-1 IB 7-10; I-2 IB 15; I-4 IB 33, 51; I-6 IB 44-51; I-10 IB 31, 33; I-11 IB 1-17, 42-47, 53-54; II-4 IB 57-63; 5 SS 29-32; 6 SS 76; 2 TT 18-19; 7 TT 22-29; 8 TT 30-31; 13 TT 32; 16 TT 14-15; 25-29; 17 TT 28-31; 26 TT 12-14; 27 TT 8; 28 TT 12-13; 32 TT 18-20; 34 TT 11-12
- Tank warfare in Stalingrad streets, 14 TT 34
- Tiger. See *Pz.Kw. (Mark) VI (Tiger)* tank.
- Training of crews, 4 TT 8-9
- Types, standard, 4 TT 15-18
- Vulnerability, 11 TT 28-29
- Italian:
 - Flame-throwing, I-4 IB 67-68; (illus.) 16 SS 6-9
 - Light, with trailer for mustard gas, 16 SS 61
 - Modifications, 6 TT 31
 - Signals, 14 TT 33-34
- Japanese:
 - Flame-throwing, 16 SS 134
 - Jungle warfare, 11 MR 25-26
 - Night use of, I-10 IB 76
 - Protection against sticky grenades, 25 TT 15
 - Speed and fording ability, 2 TT 20
 - Support of infantry during landing operations, II-3 IB 52-53
 - Tankette (light tank), (illus.) I-4 IB 22-23; 31 TT 11-14
- Range finding on, by airborne radar, 11 MR 48-50
- Soviet:
 - Amphibian, 35 TT 15
 - Camouflage, 17 TT 32-36; (illus.) 23 TT 16
 - Descriptions, (illus.) 8 MR 22-28
 - Development, (illus.) 13 MR 4-9
 - Engineer support, 15 TT 17-18
 - German estimate, (illus.) 8 MR 22-28; 35 TT 15-16
 - Independent action by, 13 MR 7-8

Tanks—Continued

Soviet—Continued

Infantry carried on (*Desyanti*),
3 TT 44-45; 10 TT 18

Infantry support by, 13 MR 7

KV (*Klementi Voroshilov*),
(illus.) 8 MR 24-27; (illus.)
13 MR 5-7; (illus.) 5 TT
26-29; 41 TT 15

Night action, 15 TT 31-32

Tactics, 13 MR 8; 3 TT 43-44;

13 TT 32-33; 16 TT 29-31;

18 TT 5; (illus.) 41 TT 9-13

T70, 8 MR 23; 13 MR 5

T60 light, 8 MR 22; 13 MR 5;
5 TT 30

T35 A, B, and C (multiturret),
8 MR 27-28

T34 medium, 4 MR 58; (illus.)
8 MR 23-24; (illus.) 13 MR
5-8; (illus.) 5 TT 30, 31, 35;
35 TT 15; 41 TT 15

T26B light, used as flame
thrower, 5 TT 30

United States:

Africa, used by British in, 4 MR
13-15

British nicknames, I-7 IB 77;
9 TT 30

Burma, performance in, 7 TT 30,
32

Classification, 9 TT 30

General Grant, M3, I-1 IB 7;
3 MR 16; 7 TT 30, 32; 13 TT
36

General Lee, I-1 IB 7; 35 TT 14;
41 TT 6-8

General Sherman, 2 MR 55, 59; 3
MR 15, 16, 54, 55-56; 4 MR
13-15; 12 MR 10-13; 35 TT
14-16

General Stuart, 6 MR 14-17; 35
TT 14

German comments on, 35 TT 14,
15, 16

German recognition of, I-9 IB
61-62

Infantry cooperation with,
(illus.) I-11 IB 1-17; 11
MR 32

Japanese comment on, I-5 IB 35;
II-1 IB 28

Libya, operations in, 1 TT 25

New Guinea, use by Australians
in, 6 MR 14-17

Tank traps. *See* Antitank obstacles.
Tank-turret emplacements, German,
15 SS 71-73

Tannoy enunciator system, British,
6 SS 49n

"Tape-measure" mine. *See* Mines,
Japanese, antivehicle.

Tapered-bore guns. *See* Goerlich-
principle guns.

Target designation, aerial operations,
Japanese, 2 TT 2-3

Target engagement by AA, British,
1 MR 6-7

Target-indicator bomb, 5-kg, Italian,
(illus.) 25 TT 26-28, 29

Target location by aerial photo-
graphs, British, 4 MR 18, 22

Targets, moving, balloon defenses
of, British, 5 MR 8-11

Task forces (*see also* Commandos):
Development of task-force prin-
ciple, 6 SS 39

German:

AA allocation for, 10 SS 61

Principles, I-1 IB 48-51; 3 SS
26-29; 10 SS 60-61

Training, I-1 IB 36-39

Japanese:

China, employment, in, 19 TT
22-23

South Sea operations, 13 TT 10-
13

Technical General Staff, German,
task and mission, 3 TT 26-30

Telegraph. *See* Communications.

Telephones. *See* Communications.

Telescopes:

BC anti-aircraft, British, 4 MR 5

Coaxial, sighting, German, (illus.)
8 TT 41-46

Tellermines:

Antipersonnel mines used with,
I-12 IB 5; 23 TT 13

Booby trapping of, I-10 IB 5-6;
(illus.) 40 TT 19-20

Coastal-defense minefields, (illus.)
15 SS 26-33

Description, 7 MR 40; 5 SS 16n

Desert terrain, use in, I-5 IB 7;
I-12 IB 3, 4, 5, 6; 5 SS 16-17;
1 TT 4; 6 TT 23

Detonation, sympathetic, 5 TT 22

Handling, II-1 IB 71-72; (illus.)
32 TT 40-41

Igniter adaptation, (illus.) 35 TT
46

Tellermine—Continued

- Improvised, (illus.) 33 TT 24
- Laying, rules for, II-1 IB 71
- Neutralizing igniters, 36 TT 23
- Roads, mining of, I-10 IB 2-4; I-12 IB 4 (illus.) 15 SS 32-33; 26 TT 23-24; 38 TT 20-23; 41 TT 18
- Tank hunters, use by, (illus.) I-12 IB 29, 30
- Types, I-10 IB 1, 2; (illus.) I-12 IB 7-13; (illus.) 28 TT 15-22; 29 TT 18-19; 36 TT 21
- Temnac Bay, Attu, Japanese operations, I-12 IB 51
- 10-kg chemical shrapnel bomb, German, 16 SS 25; 36 TT 48
- 10-kg naval smoke candle, Japanese, 16 SS 116; (illus.) I-10 IB 47-50
- 10th Armored Division, British, 13 TT 35
- 10th Corps, British, in El Alamein offensive, 4 MR 15, 17
- 10.35-mm revolver, *Bodeo*, Model 89, Italian, I-3 IB 55; 11 TT 42
- Tents, German, for winter use, (illus.) 18 SS 79-83
- Terminology (*see also* Abbreviations):
 - British:
 - Air-force, I-2 IB 85
 - Armor, 18 TT 30, 32-36
 - Artillery, with American equivalents, II-4 IB 75-78
 - Civilian, I-2 IB 86-90; 13 SS 83-92
 - Ground-force, I-2 IB 85
 - Military, I-2 IB 81-85, 90-91; II-4 IB 75-78; 13 SS 1-210; 18 TT 30, 32-36
 - German:
 - Infantry-weapons, 14 SS 185-186
 - Military words in common use, 8 TT 48
- Terrain (*see also* Camouflage and concealment; Desert; Desert warfare; Jungles; Jungle warfare; Mountain warfare):
 - Burma, 27 TT 28
 - Crete, 8 TT 51
 - Estimate of, in tactical planning, German, 8 SS 3-6, 27, 61; 39 TT 45-46

Terrain—Continued

- French Equatorial Africa, motor-transport problems, 14 TT 42-45
- Influence on motorized infantry, German; 4 SS 5-6
- Training, German, in knowledge of, 3 SS 38-39
- "Thermos," 4 A. R. fragmentation bomb, Italian, 29 TT 2
- 13.5-in gun, Mk V, British, specifications, 13 MR 16
- 13-mm aircraft machine gun, German, (illus.) 12 TT 1
- 13-mm AT rifle, *Arisaka* (1939), Japanese, 10 TT 33
- 13-mm machine gun, twin heavy, Model 93 (1933), Japanese, (illus.) 19 SS 127-134, fol. 241
- 13.2-mm AA machine gun, Hotchkiss type, Japanese, I-8 IB 75-76; 10 TT 33
- .30-cal rifle, M1903, U. S., compared with Japanese 7.7-mm model 99 short rifle, I-7 IB 5, 8-12
- 37-mm AA/AT gun, German, 6 SS 9; (illus.) 10 SS 18, 28, 30-34, 77-78; 9 TT 42; (illus.) 25 TT 36-38
- 37-mm AA gun, German, 5 TT 15; (illus.) 25 TT 7; (illus.) 35 TT 4, 6; (illus.) 39 TT 2-4
- 37-mm AT guns:
 - German:
 - Armor penetration, 3 TT 10; 12 TT 10; 17 TT 12
 - Description, 6 SS 98-99; (illus.) 14 SS 113-123; 5 TT 12; 9 TT 42; (illus.) 25 TT 39
 - Infantry-division weapon, (illus.) 30 TT 28-29
 - Sled-mounted, (illus.), 18 SS 206, 209
 - Stick bomb, 19 TT 28; (illus.) 24 TT 25
 - Use in winter, II-2 IB 11; 18 SS 167-168
 - Japanese, employment, 7 TT 20
 - 37-mm AT and infantry gun, Model 94 (1934), Japanese, (illus.), 19 SS 194-206, fol. 241; 10 TT 34
 - 37-mm infantry gun, Model 11 (1922), Japanese, (illus.), 19 SS 188-194
 - 37-mm (37/54) AA gun, *Breda*, Italian, 6 SS 110; 11 TT 43

- 37-mm (37/54) AA gun, light double-barrel, Italian, 6 SS 25-26; 7 TT 34
- Thompson submachine gun, United States, used by Australians at Milne Bay, 6 MR 54
- "Thor" heavy mortar, German, (illus.) 10 TT 6-8
- 3.45-in gun, British. *See* 25-pounder.
- 380-mm bomb, for (spigot mortar), German, 35 TT 47
- 380-mm field gun, German, 6 SS 102
- 381-mm (381/40) railway gun, Italian, 6 SS 112; 11 TT 45
- 305-mm coast-defense gun, *Skoda*, German, 12 TT 13-14
- 305-mm (305/50) coast-defense gun, Italian, 6 SS 112; 11 TT 45
- 305-mm (305/17) howitzer, Model 17, Italian, 6 SS 112; 11 TT 45
- 3-in mobile AA gun, British, characteristics, 4 MR 4
- 3-in mortar:
 Australian, used at Milne Bay, 6 MR 53-54
 British, improvements in, (illus.) 12 MR 16-18
- 3-in naval AA gun, Japanese, 8 TT 19
- 3-in rocket projector, British, use of, 4 MR 5
- 3-in semimobile AA gun, British, characteristics, 4 MR 4
- 3-kg magnetic AT hollow charge, German, (illus.) 23 TT 3-4; 36 TT 5
- 3.7-in AA gun:
 Australian, use in artillery support, 6 MR 52
 British:
 AT role of, 5 MR 16-17
 Fixed, 4 MR 4
 Mobile, 3 MR 3-4; 4 MR 4, 11
 Canadian:
 QF, MK II, 5 MR 15
 Self-propelled, 6 MR 18-19
- Tick-borne diseases, I-4 IB 25; I-9 IB 78; II-3 IB 77; 30 TT 14
- Tides, factor in planning raids, 1 SS 124-125
- Tiger tank. *See* *Pz. Kw. (Mark) VI*, German.
- Time zones in relation to Greenwich Civil Time, 4 TT 25
- Timor Island (*see also* Netherlands Indies), Japanese attacks, I-2 IB 43-45; 7 SS 16-17; 8 TT 38-39
- Timoschenko, Semyon, Field Marshal, biographical sketch, I-2 IB 93
- T-mines. *See* Tellermines.
- Toboggan-type horse-drawn sled, German, (illus.) 18 SS 207-210
- Tobruk. *See under* Libya.
- Todd, Organisation. *See Organisation Todd*.
- Toggle and loop device for crossing streams, (illus.) 14 TT 29
- Tommy guns, Japanese use as ruse, I-10 IB 71
- Torpedoes, aerial, circling parachute, Italian, (*see also* Bombs) (illus.) 11 TT 1-2
- Torpedoes, Bangalore. *See* Bangalore torpedoes.
- Torpedo-plane bombings. *See* Air forces.
- Torpedo planes. *See* Aircraft and individual planes.
- Toughness, definition in relation to armor, 18 TT 36
- Towers, AA, German, 10 SS 86; (illus.) 15 SS 85-86, 87; (illus.) 17 SS 127, 128
- Towing planes for gliders, German, 7 SS 38, 43
- Towns, defense of (*see also* Street fighting; Village fighting):
 German, I-10 IB 36-37; 37 TT 36-39
 Soviet, 3 TT 39-40; 26 TT 53-54
- Toxic smoke. *See* Smoke.
- Tracer bullets, 13-mm, Italian, 14 TT 16
- Tracer cross-fire to indicate targets, Japanese, 24 TT 22
- Tracer fire for mortar ranging, Japanese, 27 TT 29
- Tracks, camouflage of, (illus.) I-3 IB 71-73
- Track-wheel vehicles, German, (illus.) 39 TT 34-37
- Tractors, German use of half-tracks as, 1 TT 18
- Trailers, German, 13 TT 5; 17 TT 42; 41 TT 26-29

Training:

- AA units for theaters of operations, 6 TT 7-8
- Aerial dart gun for training AA machine gunners, (illus.) 33 TT 4-7
- Allied, AA in North Africa, 7 MR 7-8
- Argentine mountain artillery, 1 TT 5
- Australian:
 - Military engineering school, 6 MR 31-32
 - Officers' school, engineers, 6 MR 31-32
 - Security, 7 MR 55-59
- Brazilian, 11 MR 36-38
- British:
 - AA units, 6 MR 4-5; 8 MR 20-22; 9 MR 9
 - Ambushing, I-7 IB 67-70
 - Amphibious operations, requirements for, 5 MR 44-45
 - Assault course, I-6 IB 86
 - Battle inoculations, 5 MR 25-29; 10 MR 31-32
 - Collective, I-6 IB 82-84
 - Commandos, 1 SS 11-13, 27-52; 1 TT 13-16; 28 TT 39, 52-53
 - Crossing minefields, I-6, IB 84
 - Enemy aircraft recognition, 3 MR 9-10
 - Engineer units, 14 TT 16, 18
 - Enlisted men, individual, I-6 IB 78-79
 - Gas defense, 1 MR 21-25
 - Glider, 2 TT 13-14
 - Indoor war game, (illus.) I-5 IB 81-85
 - Infantrymen in combating tanks, I-6 IB 84-85
 - Jungle warfare, 6 MR 34-36
 - Maintenance of equipment, I-6 IB 81
 - Middle East Infantry Training Depot, 13 TT 25-26
 - Minefield-clearance methods, 2 MR 30-37; 10 MR 29-31
 - Mountain warfare, 11 MR 39-46; 1 SS 45-52
 - Night operations, I-6 IB 83
 - Noncommissioned-officer and specialist cadres, I-6 IB 80-81
 - Organization, I-6 IB 77-78

Training—Continued

British—Continued

- Physical, for AA units, I-9 IB 79-83
- Principles, I-6 IB 76-88
- Scouts and observers, I-7 IB 65-67
- Sniping, I-6 IB 81; 1 MR 32-37
- Street fighting, I-7 IB 70-71
- Technical, 11 SS 9-10
- German:
 - Antigas schools, 16 SS 4-5
 - AT units, 10 TT 43-45; 26 TT 49
 - Basic, I-3 IB 3-4
 - Camouflage, 32 TT 24
 - Combat engineers, I-2 IB 8-9
 - Combat in Soviet wooded country, 26 TT 30-31
 - Engineer platoon of infantry regiment, 13 TT 27
 - Field exercises, 3 SS 41-43, 48-51, 53-87
 - Gas defense, 16 SS 4-5
 - General Staff School, 8 SS iii-iv
 - Girls' labor service, 3 SS 18
 - Glider-borne troops, 7 SS 36
 - Infantry, I-1 IB 39; 9 SS 19-22, 76-77, 80-83; 26 TT 46-49
 - Live ammunition, use of, I-1 IB 38
 - Machine-gun and mortar platoons, 26 TT 48
 - Methods, 3 SS 40-46
 - Military (*see also specific types*), 3 SS 1-106
 - Motorized-infantry division, 39 TT 25-26
 - Mountain troops, I-11 IB 23
 - Officers, 3 SS 13-18, 47-51
 - Orienting forces for war, 11 SS 22-24
 - Parachute troops, I-1 IB 13-14; 7 SS 19-25, 83-90; 11 TT 19, 21
 - Physical conditioning, 3 SS 40-41, 48
 - Premilitary, by Nazi Youth organizations, I-3 IB 1, 3; 3 SS 1, 3-12
 - Rifle, 3 SS 89-106; 26 TT 47-48
 - Second German Army, directive, 11 TT 17-18

- Training—Continued
 German—Continued
 Soviet campaign, modification of training methods for, 26 TT 46-49
 Tank crews, 4 TT 8-9
 Task-force principle, I-1 IB 36-39
 Umpire, 3 SS 53-87
 Winter warfare, 18 SS 4-5, 127-128
 Italian:
 Chemical warfare, 16 SS 52-53
 Military, compulsory, I-4 IB 57-58
 Parachute troops, 7 SS 61; 8 TT 38
 Japanese:
 Chemical warfare, 16 SS 87-88
 Early military, I-5 IB 45-50
 Flame throwers, use of, I-8 IB 65
 Parachute troops, 7 SS 68-69; 9 TT 22-23
 Physical, I-5 IB 45-46
 Jungle warfare, 13 TT 22-23
 Mexican Infantry Training Center, 4 MR 36-37
 New Zealand, light AA, I-10 IB 87-91
 Soviet (*see also* Cavalry; Field artillery):
 Army, 8 MR 57-58
 Artillery, 9 TT 6-7
 Automatic riflemen, 15 TT 23-25
 Aviation, Engels school of, 6 MR 31-32
 United States:
 AA personnel, 6 MR 6; 9 MR 12
 Armored units, recommended for, 4 MR 15
 Japanese estimate of, 22 TT 50
 Jungle warfare, 3 MR 36
 Mountain warfare, 11 MR 33
 Night operations, 11 MR 35
 Scouting and patrolling, 11 MR 33-34
 Training, German, of civilians, 3 SS 4-12
 Trains, road, motor-vehicle, 17 TT 42
 Trains, supply, German, 34 TT 30
 Transmitter, automatic meteorological, German, 16 TT 37-38
 Transmitter, emergency, German, (illus.) 39 TT 37-39
 Transmitter-receiver, portable radio, German, 26 TT 43
 Transmitting messages, British procedure, 13 SS 198-202
 Transportation (*see also* Drags; Evacuation of wounded; Horses; Marches; Movement of troops; Railways; Roads; Sleds; Sliding troughs):
 Australian pack transport in New Guinea, 12 MR 28-31
 British:
 Commandos, 1 SS 122-125
 Road-movement organization, 8 MR 47-50; 12 MR 31
 Traffic control in Tunisia, 12 MR 31
 Burma, British transport problems in, I-3 IB 33
 Finnish sleds for winter transport, (illus.) 19 TT 28-30
 German:
 Airborne, 7 SS 45-57
 Desert warfare, I-2 IB 17
 Food in winter, 18 SS 141-142
 Glider-borne troops, 7 SS 34-36
 Motor-vehicle road trains, 17 TT 42
 Parachute units, 7 SS 53-55
 Italian, airborne, 7 SS 59-60
 Japanese:
 Airborne, 7 SS 71-72
 Animal-drawn, 25 TT 30-31
 Motor landing barges, I-10 IB 56-57
 Troops in tropical battle area, I-1 IB 53
 Soviet, animal-drawn, 25 TT 30-31
 United States, of AA units in Sicily, 11 MR 8
 Transport planes. *See* Aircraft and individual planes.
 Transport trailers, heavy, German, (illus.) 41 TT 26-29
 Traps, British for jungle warfare, (illus.) 13 MR 18-20
 Trefoil principle of defense, German, (illus.) 5 SS 11, 13-14, 17, 18-19, 36
 Trenches:
 Attacks by German engineer detachments, I-12 IB 36-37

- Trenches—Continued
- British, slit, I-12 IB 78; II-2 IB 28; 34 TT 2-3
 - Camouflage, (illus.), I-3 IB 73-74; 7 MR 38; (illus.) 18 SS 120-122
 - German:
 - Camouflage in snow, (illus.) 18 SS 120-121
 - Concealment, 19 TT 22
 - Cover, for gun crews, (illus.), 17 SS 123-125
 - Slit, used in desert, I-2 IB 17
 - Snow, (illus.) 18 SS 97; (illus.) 22 TT 22-23
 - Stoves, installed in, (illus.) 18 SS 108-110
 - Japanese:
 - Arakan front, (illus.) I-10 IB 67, 68, 69
 - Buna area, I-7 IB 30
 - Triangular and round, as tank traps, I-4 IB 17-18
 - Soviet, types of, (illus.) 8 MR 33-35
 - Trestle barbed-wire obstacle on snow, German, (illus.) 36 TT 18
 - Trieste Division, Italian, 13 TT 35; 16 TT 7
 - Tripolitania. *See* Libya.
 - Trip-wire obstacles, German, II-1 IB 43, 46; 15 SS 22, 24
 - Troop carriers, German, I-6 IB 63-64; I-9 IB 50, 51
 - Troop columns (*see also* Marches; Movement), German, II-2 IB 18-20; 8 SS 35-37; 10 SS 65-66; 16 TT 25
 - Troop fitness, importance of, British, 4 MR 40
 - Troop movement. *See* Movement.
 - Troop trains, German AA protection of, 5 TT 7-8
 - Tropical field-service uniform, Italian, (illus.) I-4 IB 59, 60-61
 - Tropics, living in, (*see also* jungles), II-1 IB 74-92; 19 TT 49-54
 - Trough, sliding, German, (illus.) 18 SS 211, 212-213
 - Trousers as life preservers, (illus.) I-6 IB 89-91
 - Trucks:
 - German:
 - Ford, in North Africa, 20 TT 27-28
 - Trucks—Continued
 - German—Continued
 - Maintenance company, 15 TT 39
 - Maintenance, mobile shop, 37 TT 30-31
 - Opel-Blitz, in North Africa, 20 TT 27-28
 - Speed, I-2 IB 24
 - Italian, Spa, in North Africa, 20 TT 27-28
 - Soviet, winter traction device for, (illus.) 7 MR 48-49
 - T-shaped gun emplacements, German, 15 SS 60-62
 - T 70 tank, Soviet, 8 MR 23; 13 MR 5
 - T 60 tank, Soviet, 8 MR 22; 13 MR 5; 5 TT 30
 - T 35A, B, and C, multiturret tank, Soviet, (illus.) 8 MR 27-28
 - T 34 tank, medium, Soviet (illus.) 8 MR 23-24; (illus.) 13 MR 5-8; (illus.) 5 TT 29-31; 35 TT 15; 41 TT 15
 - T 26B tank, Soviet, used as flame thrower, 5 TT 30, 32
 - Tunisian operations (*see also* North Africa):
 - Axis use of mines and booby traps, 1-12 IB 1-6; 10 MR 29
 - British:
 - Communications lessons, 13 MR 29-33
 - Intelligence problems, 10 MR 51-60
 - Lessons from, 10 MR 44-47
 - Sea power, importance of, 10 MR 44
 - Tank performance, 10 MR 10-14; 11 MR 14-19
 - Traffic-control problems, 12 MR 31
 - El Hamma, Battle of, 7 MR 1-2
 - German:
 - Arnim, Jürgen von, Col. Gen, order for improvement of defensive positions, II-2 IB 12-15
 - Combat, British estimate, II-2 IB 24-29
 - 88-mm multipurpose guns in, 28 TT 11-12
 - Road discipline, II-2 IB 16-20
 - Tactics, I-10 IB 31; I-11 IB 1-17, 27-31; 27 TT 26-27; 28 TT 11-12; 34 TT 9; 38 TT 32-35

- Tunisian operations—Continued
 Medenine, Battle of, 7 MR 13-15
 Minefields, German, clearance of, 30 TT 11-12
 Rebaou, tank and infantry operations, (illus.) I-11 IB 8, 9-12
 United States:
 Infantry lessons, 11 MR 30-36
 Tanks, employment with infantry, (illus.) I-11 IB 1-7
 Tunneling in snow, German, (illus.) 22 TT 22-23
 Turrets, armored, German, (illus.) 15 SS 66-67, 71, 72, 73; (illus.) 17 SS 73-76; 21 TT 39-40
 12-in howitzers, British, 13 MR 16
 12-kg antipersonnel bomb, German, 5 TT 36
 12.7-mm aircraft machine guns. Models 486 and 389, Japanese. (illus.) 34 TT 36-37
 12.7-mm machine gun, *Breda*, Italian, 11 TT 42
 12.7-mm machine gun, heavy, *Arisaka 90*, Japanese, 8 TT 39, 40
 28/20-mm tapered-bore AT guns, German, (illus.) 6 SS 8-9, 98; (illus.) 5 TT 13, 14; 9 TT 41; 17 TT 11-12; 25 TT 38
 .25-cal machine gun, light, Japanese, I-1 IB 58; I-2 IB 38, 40, 42
 .25-cal rifles, Japanese, I-1 IB 66-67
 25-mm AA gun, *Hotchkiss* pom-pom type, Japanese, I-8 IB 74-75; 12 TT 7
 25-pounder gun, self-propelled mount, Canadian, 1 MR 17-19
 25-pounder, howitzer, British, 4 MR 16, 18, 19; 6 SS 30-33
 20-mm AA/AT guns:
 British, Hispano-Suiza, 28 TT 32
 German:
 AT role, 14 TT 8-10
 Care in winter, 18 SS 161
 Characteristics, 6 SS 9, 98; (illus.) 10 SS 18, 20-27; 3 TT 3-4; 5 TT 14-15; 9 TT 41; 10 TT 18; 21 TT 25; 28 TT 32; (illus.) 35 TT 4, 6
 Demolition charge for, 12 TT 20
 Four-barreled, 6 SS 98; (illus.) 10 SS 18, 29-30, 31; (illus.) 4 TT 3-5; 9 TT 41; 13 TT 3-4; 21 TT 25; (illus.) 25 TT 36; 31 TT 40
 20-mm AA/AT guns—Continued
 German—Continued
 Mountain, dual-purpose, Model 38, 13 TT 5-6
 Newspaper comment, I-6 IB 41
 Railway *Flak*, (illus.) 17 TT 5, 6, 7
 Range-finder, 1-meter-base, 10 SS 25, 26-27
 Self-propelled model, 14 TT 8-10; (illus.) 25 TT 35, 36
 Sights, 10 SS 23-25, 26-27; (illus.) 2 TT 8-11; 3 TT 3-4; 41 TT 4-6
 Tactical employment, I-6 IB 38-41; II-3 IB 33-36; 14 TT 8-10
 Italian:
Breda, I-3 IB 59; 11 TT 42; 28 TT 32
Isotta-Fraschini, 28 TT 32
 Japanese, Model 98, (illus.) II-1 IB 21-24; (illus.) 19 SS 177-187, 241; 10 TT 33; 38 TT 2-6
 20-mm AA guns:
 British, 3 MR 3, 5, 6; 4 MR 4; 6 MR 38
 German:
Mausser M. G. (illus.) 12 TT 1, 2; (illus.) 28 TT 31, 32; (illus.) 30 TT 18, 19
Oerlikon, (illus.) 28 TT 31, 32
 Italian:
Breda, 3 MR 12
Scotti, I-3 IB 59
 20-mm AT rifles:
 Italian, *Solothurn*, I-3 IB 58; (illus.) 5 TT 18; 7 TT 35; 11 TT 42
 Japanese, Model 97 (1937), II-2 IB 68, 69; (illus.) 19 SS 170-177, fol. 241; (illus.) 28 TT 31, 32
 20-mm dual-purpose mountain gun, German, 13 TT 5-6
 20-mm machine gun, heavy, *Breda*, Italian, 7 TT 33
 20-mm tank gun, German, 3 TT 10; 9 TT 41
 20-mm weapons, types of, 28 TT 30-32
 27-mm signal pistol, German, 21 TT 23; 27 TT 32; (illus.) 40 TT 23-28
 26-mm HE grenade for flare pistol, German, (illus.) 27 TT 31-34

- Twin-cable bomb system for balloon barrages, British, 4 MR 11-13
- 280-mm gun, *K 56*, German, 13 TT 44
- 280-mm (280/16) howitzer, coast-defense, Italian, 6 SS 112; 11 TT 45
- 280/320-mm chemical mortar or rocket projector, German, 16 SS 17
- 250-kg HE and incendiary bombs, Japanese, (illus.) 36 TT 39-42
- 250-kg mustard-gas bomb, German, 16 SS 26; 36 TT 48
- 240-mm howitzer, Model 12, Japanese, 10 TT 35
- 240-mm *K* gun, German, 6 SS 102
- 240-mm railway gun, Japanese, 10 TT 35
- 200-mm spigot mortar, German, 16 SS 17; (illus.) 16 TT 32-34; 21 TT 24; (illus.) 33 TT 32-34
- 210-mm chemical mortar, or rocket projector, German, 16 SS 16-17
- 210-mm gun, German, 6 SS 102; 13 TT 44
- 210-mm howitzer, *Mörser 18*, German, 6 SS 102; 9 TT 47; 12 TT 14; 18 TT 23-24; (illus.) 32 TT 34
- 210-mm (210/8) mortar, Italian, 6 SS 111; 11 TT 45
- 210-mm (210/22) howitzer, Italian, 6 SS 111; 11 TT 45
- 2-in UP (unrotating projectile) rocket, British, 3 MR 3, 5, 6, 7, 8
- 2-kg smoke pot, Italian, (illus.) 38 TT 17-20
- 2-pounder (40-mm) AT gun, British. See 40-mm (2-pounder) AT gun, British
- 2.2-kg bomb, incendiary, antipersonnel, (illus.) 16 SS 26, 27, 28; 29 TT 3
- Typhus-prevention method, 3 TT 15
- U**
- "Umbrella" bomber (*Dornier (Do) 217 E*), German, (illus.) 10 TT 1-2
- Umpire training, German, 3 SS 53-87
- Underground emplacements, German, 15 SS 76-77, 79
- Underground mining operations, (illus.) 29 TT 39-55
- Underwater obstacles, German, 15 SS 17-19
- Uniforms (see also *Insignia*):
- British commando, 1 SS 9, 15, 48-51
- Finnish, winter, 6 TT 40
- German:
- AA-troop, 10 SS 3
- Air-force, 20 TT 30
- Armored-force, I-3 IB 6; 9 TT 29
- Field cap, standard, (illus.) II-3 IB 38
- Field-service, standard, (illus.) I-3 IB 5-6, 7
- Mountain-troop, I-3 IB 6, 8
- Parachute-troop, (illus.) I-3 IB 6, 7; 7 SS 25-27; 13 TT 45
- Reversible, 19 TT 43
- Italian:
- Field-service, (illus.) I-4 IB 59, 60-61
- Parachute-troop, 18 TT 7
- Japanese, I-5 IB 51-52; II-2 IB 51; 14 TT 47; 16 TT 35-36
- Soviet, 8 MR 58
- Union of Soviet Socialist Republics, operations in:
- AA artillery, German employment, 7 TT 1-2
- Armored tactics, German, I-8 IB 15-18; 36 TT 9
- Artillery used, German, (illus.) 10 TT 6, 8
- AT methods, German, I-8, IB 18-19
- Battle observations, German, 23 TT 20-21
- Caucasus:
- Changes in place names, 10 TT 36-37
- Defenses of, (illus.) 6 MR 57-64
- Dnieper River, German crossing, 7 TT 40-49
- Dondu Kowskaja, German tank attack, 36 TT 7-9
- Gzhatsk-Vyazma front, Soviet AT defenses, (illus.) 12 TT 8-9
- Kharkov, German tactics, (illus.) 12 TT 27-29
- Kiev operations, 1941, (map) 7 TT 40-49; (map) 11 TT 48-60; (map) 16 TT 50-57

Union of Soviet Socialist Republics, operations in—Continued
 Krutojarka, German capture, II-2 IB 21-23
 Leningrad, Soviet breakthrough against German defenses, 10 TT 17
 Moscow, defenses before, (illus.) 26 TT 24-26
 Mozhaisk area, winter fighting, 12 TT 20-27
 Narew River, German crossing, (illus.) 27 TT 45-51
 Nerve gas, German use of, 1 TT 7
 Orel-Kursk sector, artillery counter-preparation, 36 TT 10-11
 Sevastopol operations, 1942, (map) 5 TT 39-45
 Soldiers', characteristics, 8 MR 59
 Stalingrad operations, 4 MR 46-60; 26 TT 54, 59
 Winter warfare, 18 SS 1-215; 12 TT 20-27
 Tactics, German, I-8 IB 15-19; 7 TT 1-2, 40-49; 10 TT 6, 8; 11 TT 48-60; 12 TT 8-9, 27-29; 16 TT 50-57; 18 TT 17-19; 20 TT 21-23; 25 TT 20-21; 27 TT 45-51; 36 TT 7-9

V

Vaagso raid, British, 1 SS 57-97
 Varengeville, France, commando raid, 1942, (map) 28 TT 37-53
 Vasilkov, U. S. S. R., German headquarters, 11 TT 58, 59
 Vedette, small vessel used in German coastal defense, 15 SS 5
 Vehicles (*see also* Amphibious tanks; Amphibious troop carriers; Armored cars; Armored vehicles; Contamination vehicles; Decontamination vehicles; Half-tracks; Maintenance and repair; Motorcycles; OP vehicles; Sleds; Tanks; Tractors; Troop carriers; Trucks):
 British:
 Abandoned, destruction of, 1 MR 40-41
 Snowmobile, (illus.) 2 MR 43-45
 Waterproofed, 2 MR 46
 Dust, effect on motors, I-4 IB 85-86; 14 TT 41-42

Vehicles—Continued

German:
 Abandoned, destruction of, I-8 IB 40-41; 18 TT 28; 27 TT 11; 41 TT 34-35
 Features of, in North Africa, 20 TT 27-28
 Night-driving equipment, I-1 IB 40-42; 1 TT 21-22; (illus.) 9 TT 35-38
 Road trains, 17 TT 42
 Suggestions for drivers in Libya, I-4 IB 28-31
 Track-wheel vehicle development, (illus.) 39 TT 34-37
 Volkswagen, 6 SS 2; 3 TT 13
 Winter care, (illus.) 18 SS 90; 12 TT 41
 Japanese:
 Camouflage of, 13 TT 10
 Road-movement abilities, I-11 IB 74
 United States, jeeps or light tanks used to locate mines, 37 TT 3-4
 Venereal diseases, II-3 IB 83; 11 SS 49-51; 30 TT 12
 Venturi tube, German 26 TT 15, 16; 35 TT 20
 Very lights, German, I-7 IB 42; 24 TT 30
 Very pistols. *See* Signal pistols.
 "V" formations, armored, German, 6 SS 53-54
 Vickers-Armstrong 2-pounder AT gun, Mark I, British, 6 SS 26-29
 Vickers Mk VIII AA gun, British, 4 MR 4
 Vickers predictor, British, 4 MR 4
 Village fighting (*see also* Street fighting), I-5 IB 5-6; I-10 IB 36-37; 4 SS 42-44; 11 TT 24-25
 Vision, night, I-6 IB 66-75
 Visual signals. *See* Communications.
 Volkswagen, army-type, German, 6 SS 2; 3 TT 13
 Voltol, aircraft lubricant, German, 6 TT 2

W

Wake Island, Japanese amphibious tactics, I-8 IB 47-54
 Walkie-talkies, German, 6 TT 36
 Walking-stick method of detecting mines, (illus.) 33 TT 23-24; 9 MR 32-33; 10 MR 30-31

- Wall loophole, fortification, German, 21 TT 37
- Walls, AT. *See* Antitank obstacles.
- Walther pistol, 9-mm, German, (illus.) 14 SS 10-15, 171, 173, 182, 183
- Warning devices, German, against approach of personnel, 25 TT 17
- Warning flags, German, for gassed areas, (illus.) 24 TT 11-12
- Warning order, German, example of, 8 SS 31-32, 77-78
- Warnings, air-raid:
- British, 2 MR 9-13; 6 MR 10; 9 MR 7
 - German, 10 SS 73, 100-102; 11 TT 8-9; (illus.) 21 TT 3, 5
- Warning system, British warnings to aircraft against balloon barrage, 5 MR 7
- Warships, AA defenses, Japanese, 8 TT 19-22
- Water:
- Desert economy, U. S., I-9 IB 70-72
 - Desert rations, German, 5 TT 35
 - Filters, haversack portable, German, (illus.) 38 TT 41-43
 - French Equatorial Africa, supply in, 14 TT 44
 - India, British supply problem in, 3 MR 31
 - Indo-Pacific Area, supply in, 15 TT 58-59
 - Libya, German precautions, I-4 IB 24-25
 - North Africa, supply in, I-9 IB 66-72; 30 TT 13
 - Precautions, I-9 IB 66-69; II-1 IB 86; 19 TT 53
 - Purification:
 - British mobile plant, (illus.) 5 MR 21-22
 - Japanese methods, I-1 IB 68; (illus.) 22 TT 33-34
 - United States methods, I-9 IB 68-69; 22 TT 33-34
 - Rattan vine, (illus.) 34 TT 40-42
 - Tank-battalion supply on desert, German, 16 TT 35
- Waterproofed vehicles, British, 2 MR 46
- Waterproofing AA equipment, British, 6 MR 5
- Wax-paper gas capes, German, 15 TT 13
- Weapons (*see also individual weapons*):
- Australian and New Zealand Independent Companies, 1 SS 22-24
 - British:
 - Airborne division, 10 MR 6-7
 - Commandos, 1 SS 14-16, 22; 1 TT 12
 - Infantry reconnaissance regiment, 10 MR 37
 - Italian, captured, use of, 7 TT 33-35
 - German:
 - Basic requirements for winter warfare in U. S. S. R., 18 SS 7
 - Desert, used in, 6 SS 6-21
 - Developments, 21 TT 22-25
 - Fears of, 9 MR 36-39; 12 MR 19-22
 - Mountains, used in, I-11 IB 20-21
 - Parachute-troop, 7 SS 28-32; 13 TT 45-46
 - 20-mm types, (illus.) 28 TT 30, 31, 32
 - Winter care, 18 SS 154-163
 - Italian:
 - Desert, used in, 6 SS 21-26
 - 20-mm types, 28 TT 32
 - Japanese:
 - Attu, used on, I-11 IB 67-68
 - Caliber measurements, 19 SS 6
 - Defensive, I-12 IB 62-63
 - Marking systems for, 19 SS 4-6
 - Parachute-troop, 14 TT 47
 - Pillbox-attack group, used by, I-12 IB 55-56
 - 20-mm types, (illus.) 28 TT 31, 32
 - 20-mm types, (illus.) 28 TT 30-32
- Weather (*See also* Climate; Winter warfare):
- Amphibious operations, requirements for, 5 MR 40-41
 - Charts, Japanese, captured, combat intelligence value of, 13 MR 58
 - Desert, effects, I-2 IB 18; I-4 IB 28-31; 13 TT 39
 - Smoke operations, effect on, 6 MR 27-28; 7 MR 28-29; 18 TT 46; 40 TT 15

Weather—Continued

- U. S. S. R., 18 SS 1-4; 12 TT 20, 27
 Vaagso raid, factor in, 1 SS 84
 Wedge-and-trap maneuver, German, at Kiev, 7 TT 40-49
Wehrmacht, German armed forces, non-German membership, 35 TT 53
 Weichs, Maximilian von, Field Marshal, 2 SS 18; 11 TT 49, 60
 Weights and measures, British and U. S. conversion tables, 13 SS 204-210
 Weissmann igniter, (illus.) German, 16 TT 9
 West Wall, German (*see also* Fortifications, German), (maps, illus.) 17 SS viii-ix, 48-141
 Wheel-caterpillar car *RR*, type 7, German, (illus.) 39 TT 35-37
 Wind measurement, German parachute cartridge for, 10 TT 23
 Winter warfare (*see also* Bivouacs; Camouflage and concealment; Clothing; Communications; Evacuation of wounded; Health measures; Heating facilities; Marches; Morale; Mountain warfare; Obstacles; Orientation; Rations; Roads; Shelters; Ski troops; Sleds):
 Finnish:
 Tactics of small units, 6 TT 39-45
 Tank traps over frozen rivers, (illus.) 21 TT 8-11
 German:
 Aircraft, problems of operation of, (illus.) I-6 IB 52-62
 Artillery fire, 18 SS 172-174
 Clothing, I-11, I-B 23; 18 SS 6, 128-136; 12 TT 27
 Combat methods, I-11 IB 25-26; 18 SS 7-12; 12 TT 20-21, 22, 23-24, 25-26
 Demolition stores, handling of, 36 TT 21
 Engineer practices, (illus.) 36 TT 16-21
 Field fortifications and use of ice-concrete, (illus.) 22 TT 20-26

Winter warfare—Continued

- German—Continued
 Footgear, (illus.) 18 SS 130, 131, 132, 134-136
 Infantry weapons, use of, (illus.) II-2 IB 5-11; (illus.) 18 SS 164-168
 Marches. *See under* Marches, German.
 Minefields in snow and frozen ground, 12 TT 23, 24; (illus.) 36 TT 20
 Motor vehicles, care of, 12 TT 41
 Obstacles, (illus.) 18 SS 100-104; (illus.) 36 TT 16-19
 Optical instruments, protection and use, 18 SS 174-175
 Positions, (illus.) 18 SS 94-100, 120-123
 Preparation for, 18 SS 4-5
 Reconnaissance, I-11 IB 25; 18 SS 16
 Snow and ice as obstacles, (illus.) 36 TT 19-20
 Tanks used with infantry, correct and incorrect methods, II-4 IB 62-63
 Training, 18 SS 4-5, 127-128
 Troop transportation, 18 SS 53-56
 Weapons and equipment, care of (*see also individual weapons*), 18 SS 6-7, 154-163, 175-178
 Soviet:
 Clothing and equipment, 3 TT 50-52; 12 TT 26-27
 Mozhaisk area, 12 TT 20-27
 Obstacles, AT, 12 TT 22-23
 Ski troops, 3 TT 50-51; 12 TT 20-21, 27; 16 TT 17-22
 Sled, propeller-driven, *NKL-16*, (illus.) 12 TT 37-39
 Weather conditions in U. S. S. R., 18 SS 1-4; 12 TT 20, 27
 Wire, barbed. *See* Barbed-wire obstacles.
 Wire communications. *See* Communications
 Withdrawal (*see also* Retreat):
 British tactics, II-1 IB 96; 6 SS 70
 German tactics, I-11 IB 51-53; 8 SS 72; (illus.) 11 TT 14; 38 TT 33; 40 TT 25

Withdrawal—Continued
 Italian measures for concealing,
 12 TT 35-36
 Japanese, by night, I-10 IB 76
 Wooded areas, tactics in:
 German. *See* Tactics, German,
 wooded areas.
 Soviet, German views on, 23 TT
 21-22
 Women's Auxiliary Air Force
 (WAAF), British, balloon-bar-
 rage role, 1 MR 8
 Woodcraft, lecture to British Com-
 mandos on, I-7 IB 71-73
 Wounded. *See* Evacuation of
 wounded.
 Wright brothers, aircraft develop-
 ments, 7 SS 5-6

X, Y, Z

Yellow fever, II-3 IB 74-75
 Yokosuda, 5th Special Landing Party,
 Japanese, I-9 IB 24-26
 Youth Movement, German (Hitler
 Youth), I-3 IB 1, 3; 3 SS 5-8,
 9, 10, 12
 Youth organizations, Italian Fascist,
 I-4 IB 57
 "Zeke," zero fighter, Japanese, 19 TT
 1-3; 21 TT 32; 26 TT 1
 Zero bombers, Japanese, 2 TT 1-2; 6
 TT 3-4; 25 TT 2, 4-5
 Zero fighters, Japanese, I-1 IB 74-76;
 2 TT 1; 5 TT 1-4; 6 TT 2-3; 8
 TT 4-5, 16; 19 TT 1-3; 21 TT 32