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FM 1-55

WAR DEPARTMENT

**ARMY AIR FORCE FIELD
MANUAL**

**REFERENCE DATA,
ADMINISTRATION**

April 22, 1942

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MANUAL



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ARMY AIR FORCE FIELD MANUAL

REFERENCE DATA, ADMINISTRATION

SECTION I

GENERAL

■ 1. SCOPE.—This manual contains reference data for use by Army Air Force personnel in the theater of operations and includes a list of references and certain tables pertaining to the organizational, technical, and logistical aspects of Army Air Force planning.

■ 2. PURPOSE.—This manual is designed primarily for use by G-4 and S-4 sections of Army Air Force staffs and other staff officers whose duties involve Army Air Force administrative matters.

■ 3. LIST OF REFERENCES.—*a.* For information pertaining to a G-4 Estimate of the Situation, Administrative Orders, and other G-4 tables and reports, see FM 101-5.

b. For information relative to movements by motor, rail, or water, see FM 101-10.

c. For authorized conventional signs, military symbols, and abbreviations, see FM 21-30.

d. For characteristics and performance of U. S. Army airplanes, see Matériel Division monthly publications on this subject.

e. For nomenclature, markings, weights, and cubage of guns, ammunition, bombs, pyrotechnics, and signaling devices, see the appropriate Ordnance Department Standard Nomenclature List (SNL).

f. For nomenclature and characteristics of chemical munitions, see CWS Standard Nomenclature and Price Lists and FM 101-10.

g. For nomenclature, characteristics, weights, and cubage of signal equipment, see Signal Corps General Catalogue.

h. For data pertaining to quartermaster equipment, see FM 21-15.

i. For data relative to moon phases and hours of daylight and darkness, see FM 101-10.

SECTION II

GLOSSARY

Administration.—When unqualified, administration includes all phases of military operations not involved in the terms *tactics* and *strategy*. It comprises: supply, evacuation, sanitation, construction, maintenance, replacements, transportation, traffic control, salvage, graves registration, burials, computations pertaining to movements, personnel management, quartering, military government, martial law, censorship, and other allied subjects.

Administrative map.—A map on which is recorded graphically information pertaining to administrative matters, such as supply and evacuation installations, boundaries of theater of operations and its subdivisions, boundaries of the air force service area and its subdivisions, personnel replacement and evacuation installations, main supply roads, and the line forward of which no lights will be shown; necessary tactical details are also shown.

Note.—*Air force service area.*—The area occupied by all elements of the air force assigned to a theater of operations and within which the air force commander is responsible for organization and operation of administrative arrangements to serve components of this command. (See par. 145, FM 100-10.)

Administrative order.—An order covering administrative details relative to supply, evacuation, traffic, service troops, and other administrative details of operation. They are issued when the instructions are too voluminous to be included in paragraph 4 of the field order and at other times when necessary to publish administrative instructions to the command. They are usually issued by the headquarters of air forces and air commands higher than groups and by air base commanders.

Aerial photograph.—A photograph taken from any kind of aircraft in the air.

Aeronautical charts.—Maps upon which information pertaining to air navigation has been added; intended primarily for use in air navigation. They are classified as *sectional* (scale 1:500,000) and *regional* (scale 1:1,000,000).

Air base.—A command which comprises the installations and facilities required by and provided for the operation, maintenance, repair, and supply of a specific air force.

Air-borne troops.—A general term used to include parachute troops and air-landing troops.

Air force.—A major combat unit normally comprising a headquarters, a bomber command, an interceptor command, an air support command, air bases, and such other tactical air units and ground arms and services as may be attached or assigned. Its headquarters is divided into a combat echelon and a fixed echelon and it is self-contained in approximately the same degree as a mobile field army.

Air force combat command.—A command which includes all combat, reconnaissance, units of the air support command, and transport aviation of the Army Air Forces, not assigned or attached to task forces, oversea garrisons or other commanders, and such tactical and auxiliary units and troops as may be assigned or attached thereto.

Aircraft warning service.—A combination of visual, audio, and instrumental means of collecting information of hostile and friendly aircraft; means for evaluating that information and displaying the resulting intelligence in a form adapted to the requirements of interceptor pursuit aviation, anti-aircraft artillery, barrage balloons, and for warnings to civil, industrial, military, and naval establishments; and the essential communications and military and civilian personnel to operate the Service.

Bombardment aviation.—That type of military aviation whose primary mission is the attack of surface objectives with bombs; classified as light, medium, and heavy.

Depot.—An organized locality for the reception, classification, storage, issue, or salvage of supplies; or for the reception, classification, and forwarding of replacements. *Branch depots* pertain to a single arm or service and *general depots* pertain to two or more supply arms or services.

Echelon.—A formation in which the sub-divisions are placed one behind another extending beyond and unmasking one another wholly or in part. In battle formations, the different fractions of command in the direction of depth, to each of which a principal combat mission is assigned; such as the attacking echelon, support echelon, and reserve echelon.

The various sub-divisions of a headquarters; such as forward echelon and rear echelon. The sub-division of Army Air Force units such as the air echelon and the ground echelon.

Fragmentary orders.—Combat orders issued in fragmentary form, and consisting of separate instructions to one or more subordinate units prescribing the part each is to play in the operation or in the separate phases thereof.

Group.—An Army Air Force unit composed of two or more squadrons of a single class of aviation.

Intermediate scale maps.—Maps normally of a scale from 1:200,000 to 1:500,000 intended for planning strategic operations, including the movement, concentration, and supply of troops.

Landing field.—A field or system of runways suitable for the landing and taking-off of airplanes.

Large scale maps.—Maps normally of a scale not greater than 1:20,000 intended for the technical and tactical needs of the combat arms.

Liaison.—The connection established between units or elements by a representative—usually an officer—of one unit who visits or remains with another unit.

Logistics.—That branch of military art that comprises everything relating to movement, supply, and evacuation.

Medium scale maps.—Maps normally of a scale from 1:50,000 to 1:125,000 intended for strategical, tactical, and administrative studies by units ranging in size from corps to the regiment.

Mission.—A specific task or duty assigned to an individual or unit, or deduced from a knowledge of the plans of the immediate superior. For the Army Air Forces: Each separate flight operation of a single airplane or of a formation.

Mosaic.—An assembly of two or more overlapping vertical photographs.

Oblique aerial photograph.—A photograph made from an airplane in the air with a camera whose optical axis is tilted away from the vertical.

Observation aviation.—That type of military aviation whose primary functions are observation of artillery fire; and command, courier, and liaison duty for ground units.

Parachute troops.—Troops moved by air transport and landed by means of parachutes.

Photomap.—An aerial photograph upon which information commonly found on maps has been placed, including, at least, a scale and a directional arrow.

Pursuit aviation.—That type of military aviation whose primary function is air fighting; classified as interceptor and fighter.

Reconnaissance aviation.—That type of military aviation whose primary functions are reconnaissance and photography for ground and air force units.

Requisition.—A request for supplies, usually on a form furnished for the purpose; also used to signify the purchase by demand of supplies in hostile occupied territory.

Squadron (Army Air Forces).—The basic administrative and tactical unit of the Army Air Forces, consisting of two or more flights.

Task force.—A temporary tactical grouping of units of one or more arms and services, under one command, formed for the execution of a specific operation or mission. (See FM 100-5, pars. 23 and 125).

Transport aviation.—That type of military aviation organized, equipped, and trained to carry personnel and cargo.

Troop movement by air.—A movement in which troops are moved by means of air transport.

Unit loading.—Method of loading which gives primary consideration to the availability of the troops for combat purposes on landing, rather than utilization of ship space.

1. *Combat unit loading*.—Method of loading in which certain units are completely loaded on one ship (airplane) with at least their essential combat equipment and supplies immediately available for debarkation with the troops, together with the animals and motors for the organization when this is practicable.
2. *Convoy unit loading*.—Method of loading in which the troops with their equipment and supplies are loaded on transports (airplanes) of the same convoy (formation), but not necessarily on the same transport (airplane).
3. *Organizational unit loading*.—Method of loading in which organizations, with their equipment and supplies, are loaded on the same transport, but not so loaded as to allow debarkation of troops and their equipment simultaneously.

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Vertical aerial photograph.—An aerial photograph made with a camera whose optical axis is at or near the vertical.

Wing.—An Army Air Force unit composed of two or more groups of the same or different type airplanes.

SECTION III

STRENGTH OF ARMY AIR FORCE ORGANIZATIONS

Organization	Strength		
	Airplanes	Officers	En-listed men
Headquarters and headquarters squadron, air force.	{ 6 (1-engine) ----- 7 (2-engine) ----- }	84*	521
Headquarters and headquarters squadron, wing..	{ 1 (1-engine) ----- 2 (2-engine) ----- }	14	130
Headquarters and headquarters squadron, bomber command.	{ 1 (1-engine) ----- 2 (2-engine) ----- }	30	157
Headquarters and headquarters squadron, air support command.	{ 3 (1-engine) ----- 2 (2-engine) ----- }	36	189
Headquarters and headquarters squadron, interceptor command.	{ 1 (2-engine) ----- 2 (1-engine) ----- }	32	169
Headquarters and headquarters squadron, pursuit group (I) or (F).	5 (1-engine) -----	47	250
Pursuit squadron (I)	25 (1-engine) -----	42	218
Pursuit squadron (F)	25 (2-engine) -----	34	287
Headquarters and headquarters squadron, bomber group (H).	3 (4-engine) -----	24	267
Bomber squadron (H)	8 (4-engine) -----	38	237
Headquarters and headquarters squadron, bomber group (M).	5 (2-engine) -----	26	273
Bomber squadron (M)	13 (2-engine) -----	52	254
Headquarters and headquarters squadron, bomber group (L).	5 (2-engine) -----	21	261
Bomber squadron (L)	13 (2-engine) -----	26	219
Reconnaissance squadron (H)	8 (4-engine) -----	44	271
Reconnaissance squadron (M)	13 (2-engine) -----	61	276
Reconnaissance squadron (L)	13 (2-engine) -----	38	241
Observation squadron	{ 3 (1-engine) ----- 10 (2-engine) ----- }	36	219
Observation squadron (AF)	{ 4 (1-engine) ----- 13 (2-engine) ----- }	46	265

REFERENCE DATA, ADMINISTRATION

Organization	Strength		
	Airplanes	Officers	En-listed men
Headquarters and headquarters squadron, transport wing.	3 (1-engine)-----	9	64
Headquarters and headquarters squadron, transport group.	3 (1-engine)-----	11	106
Transport squadron (2-engine)-----	13 (2-engine)-----	41	184
Headquarters and headquarters squadron, air base group.	None-----	23	225
Matériel squadron-----	3 (1-engine)-----	12	315
Air base squadron-----	3 (1-engine)-----	8	118

*Includes 5 warrant officers. This table shows aggregate strength in accordance with tables of organization, July 1, 1941.

SECTION IV

STRUCTURAL REQUIREMENTS FOR ARMY AIR FORCE UNITS IN THE FIELD

ALL HEADQUARTERS AND HEADQUARTERS SQUADRONS AIR FORCES

Number	Purpose	Size	Location
2	Headquarters and communications building.	20' x 100'-----	Safe distance.
1	Operations-----	20' x 28'-----	Near field.
1	Technical distributing point supply-----	20' x 20'-----	Near field.
3	Latrines-----	8' x 16'-----	Near field.
2	Bathhouse and lavatory—enlisted-----	20' x 28'-----	Near barracks.
1	Bathhouse and lavatory—officers'-----	20' x 28'-----	Near barracks.
2	Mess halls—enlisted-----	20' x 100'-----	Near barracks.
1	Ordnance supply building-----	20' x 20'-----	Near field.
2	Supply buildings, Chemical Warfare Service.	20' x 36'-----	Near field.

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**ALL COMMAND, WING AND GROUP HEADQUARTERS AND
HEADQUARTERS SQUADRONS**

Number	Purpose	Size	Location
1	Headquarters and communications building.	20' x 84'	Safe distance.
1	Operations building	20' x 28'	Near field.
1	Technical distributing point supply building.	20' x 20'	Near field.
2	Latrines	8' x 16'	Near field.
1	Bathhouse and lavatory—enlisted	20' x 28'	Near barracks.
1	Bathhouse and lavatory—officers'	20' x 28'	Near officers' quarters.
1	Mess hall—enlisted	20' x 100'	Near barracks.
1	Ordnance supply building	20' x 20'	Near field.
1	Supply buildings, Chemical Warfare Service.	20' x 36'	Near field.

**ALL HEADQUARTERS AND HEADQUARTERS SQUADRONS
AIR BASE GROUPS**

1	Headquarters and communications building.	20' x 52'	Safe distance.
2	Latrines	8' x 16'	Near field.
1	Bathhouse and lavatory—enlisted	20' x 28'	Near barracks.
1	Bathhouse and lavatory—officers'	20' x 28'	Near officers' quarters.
1	Mess hall—enlisted.	20' x 100'	Near barracks.

ALL COMBAT SQUADRONS

1	Headquarters and communications building.	20' x 28'	Near field.
1	Technical distributing point supply building.	20' x 20'	Near field.
1	Ordnance supply building	20' x 20'	Near field.
1	Ordnance supply building (ammunition and pyrotechnics).	20' x 20'	Safe distance.
2	Latrines	8' x 16'	Near field.
1	Bathhouse and lavatory—enlisted	20' x 28'	Near barracks.
1	Bathhouse and lavatory—officers'	20' x 28'	Near officers' quarters.
1	Mess hall—enlisted	20' x 100'	Near barracks.
1	Warehouse and shop—Chemical Warfare Service.	20' x 36'	Near field.

REFERENCE DATA, ADMINISTRATION

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, AIR FORCES

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
11	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
4	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 100'.....	Near officers' quarters.
3	Latrine—enlisted.....	8' x 16'.....	Near barracks.
2	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, WING

1	Repair hangar.....	Undetermined..	Adjacent to field.
3	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters and mess—officers'.....	20' x 100'.....	Safe distance.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, BOMBER COMMAND

1	Repair hangar.....	Undetermined..	Adjacent to field.
3	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess—officers'.....	20' x 52'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

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ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, AIR SUPPORT COMMAND

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined	Adjacent to field.
4	Barracks—400 cubic feet per man.....	20' x 100'	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'	Safe distance.
1	Mess—officers'.....	20' x 60'	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'	Near barracks.
1	Latrine—officers'.....	8' x 16'	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, INTERCEPTOR COMMAND

1	Repair hangar.....	Undetermined	Adjacent to field.
4	Barracks—400 cubic feet per man.....	20' x 100'	Safe distance.
2	Quarters—officers' 800 cubic feet per officer.....	20' x 100'	Safe distance.
1	Mess hall—officers'.....	20' x 60'	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'	Near barracks.
1	Latrine—officers'.....	8' x 16'	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, TRANSPORT, WING

1	Repair hangar.....	Undetermined	Adjacent to field.
2	Barracks—400 cubic feet per man.....	20' x 100'	Safe distance.
1	Quarters and mess—officers'.....	20' x 100'	Safe distance.
1	Latrine—enlisted.....	8' x 16'	Near barracks.
1	Latrine—officers'.....	8' x 16'	Near officers' quarters.

REFERENCE DATA, ADMINISTRATION

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON, PURSUIT GROUP (I) OR (F)

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 76'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR PURSUIT SQUADRON (I)

2	Repair hangar.....	Undetermined..	Adjacent to field.
5	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 76'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR PURSUIT SQUADRON (F)

2	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 60'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

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ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS
SQUADRON BOMBER GROUP

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 52'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR BOMBER SQUADRON (H)

1	Repair hangar.....	Undetermined..	Adjacent to field.
5	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 60'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Warehouse and shop—Chemical Warfare Service.....	20' x 36'.....	Adjacent to field.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS SQUADRON BOMBER GROUP (M)

1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 52'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

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ADDITIONAL FOR BOMBER SQUADRON (M)

Number	Purpose	Size	Location
1	Repair hangar	Undetermined ..	Adjacent to field.
6	Barracks—400 cubic feet per man	20' x 100'	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.	20' x 100'	Safe distance.
1	Mess hall—officers'	20' x 76'	Near officers' quarters.
2	Latrines—enlisted	8' x 16'	Near barracks.
1	Latrine—officers'	8' x 16'	Near officers' quarters.
1	Warehouse and shop	20' x 36'	Adjacent to field.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS SQUADRON BOMBER GROUP (L)

1	Repair hangar	Undetermined ..	Adjacent to field.
6	Barracks—400 cubic feet per man	20' x 100'	Safe distance.
1	Quarters—officers', 800 cubic feet per officer.	20' x 100'	Safe distance.
1	Mess hall—officers'	20' x 52'	Near officers' quarters.
2	Latrines—enlisted	8' x 16'	Near barracks.
1	Latrine—officers'	8' x 16'	Near officers' quarters.

ADDITIONAL FOR BOMBER SQUADRON (L)

1	Repair hangar	Undetermined ..	Adjacent to field.
5	Barracks—400 cubic feet per man	20' x 100'	Safe distance.
1	Quarters—officers', 800 cubic feet per officer.	20' x 100'	Safe distance.
1	Mess hall—officers'	20' x 52'	Near officers' quarters.
1	Latrine—enlisted	8' x 16'	Near barracks.
1	Latrine—officers'	8' x 16'	Near officers' quarters.
1	Warehouse and shop—Chemical Warfare Service.	20' x 36'	Adjacent to field.

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ADDITIONAL FOR RECONNAISSANCE SQUADRON (H)

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—Officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 76'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Warehouse and shop—Chemical Warfare Service.....	20' x 36'.....	Adjacent to field.

ADDITIONAL FOR RECONNAISSANCE SQUADRON (M)

1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
3	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 76'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Photo laboratory.....	20' x 20'.....	Safe distance.

ADDITIONAL FOR RECONNAISSANCE SQUADRON (L)

1	Hangar repair.....	Undetermined..	Adjacent to field.
5	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 60'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Warehouse and shop—Chemical Warfare Service.....	20' x 36'.....	Adjacent to field.

REFERENCE DATA, ADMINISTRATION

ADDITIONAL FOR OBSERVATION SQUADRON

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
5	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 60'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Photo laboratory.....	20' x 20'.....	Safe distance.

ADDITIONAL FOR OBSERVATION SQUADRON (AF)

1	Repair hangar.....	Undetermined..	Adjacent to field.
6	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 76'.....	Near officers' quarters.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS SQUADRON TRANSPORT GROUP

1	Repair hangar.....	Undetermined..	Adjacent to field.
2	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters and mess hall—officers'.....	20' x 100'.....	Safe distance.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

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ADDITIONAL FOR TRANSPORT SQUADRON (2-ENGINE)

Number	Purpose	Size	Location
1	Repair hangar.....	Undetermined..	Adjacent to field.
4	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
2	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 60'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR HEADQUARTERS AND HEADQUARTERS SQUADRON AIR BASE GROUPS

5	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters—officers', 800 cubic feet per officer.....	20' x 100'.....	Safe distance.
1	Mess hall—officers'.....	20' x 52'.....	Near officers' quarters.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

ADDITIONAL FOR MATÉRIEL SQUADRON

1	Repair hangar.....	Undetermined..	Adjacent to field.
7	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters and mess, officers'.....	20' x 100'.....	Safe distance.
2	Latrines—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.
1	Warehouse and shop—Chemical Warfare Service.....	20' x 84'.....	Adjacent to field.

ADDITIONAL FOR AIR BASE SQUADRON

1	Repair hangar.....	Undetermined..	Adjacent to field.
3	Barracks—400 cubic feet per man.....	20' x 100'.....	Safe distance.
1	Quarters and mess—officers'.....	20' x 100'.....	Safe distance.
1	Latrine—enlisted.....	8' x 16'.....	Near barracks.
1	Latrine—officers'.....	8' x 16'.....	Near officers' quarters.

REFERENCE DATA, ADMINISTRATION

SECTION V

WEIGHTS AND MEASURES

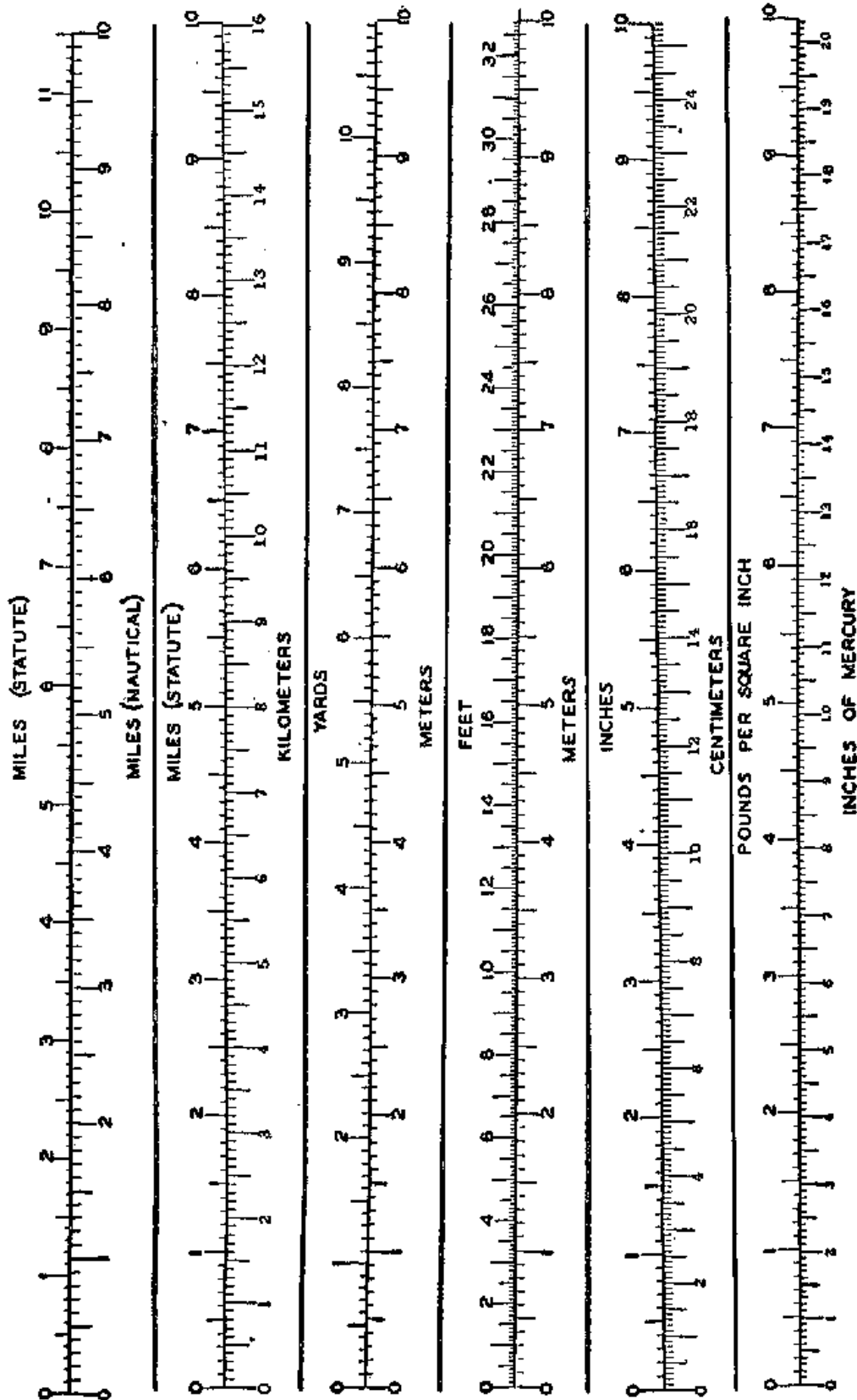
1. CONVERSION FACTORS.

To convert—	Into—	Multiply by—
Acres.....	Hectares.....	0.4047
F°.....	C°.....	$(F^{\circ}-32)\times 5/9$
Centimeters.....	Inches.....	0.3937
Cubic centimeters.....	Cubic inches.....	0.0610
Cubic feet.....	Cubic meters.....	0.0283
Cubic inches.....	Cubic centimeters.....	16.3872
Cubic inches.....	Liters.....	0.0164
Cubic meters.....	Cubic feet.....	35.3144
Cubic meters.....	Cubic yards.....	1.3079
Cubic yards.....	Cubic meters.....	0.7646
Hundredweights.....	Quintals (metric).....	0.508
C°.....	F°.....	$(C^{\circ}\times 9/5)+32$
Feet.....	Meters.....	0.3048
Feet per minute.....	Miles per hour.....	0.01137
Feet per second.....	Miles per hour.....	0.6818
Feet per second.....	Meters per minute.....	18.288
Gallons (imperial).....	Liters.....	4.543
Gallons (U. S.).....	Liters.....	3.7853
Gallons (imperial).....	Cubic feet.....	0.1605
Gallons (U. S.).....	Cubic feet.....	0.1337
Grains.....	Grammes.....	0.0648
Grammes.....	Grains.....	15.4324
Grammes.....	Ounces (avoirdupois).....	0.03527
Hectares.....	Acres.....	2.4710
Imperial gallons.....	U. S. gallons.....	1.201
Inches.....	Centimeters.....	2.5399
Inches.....	Feet.....	0.0833
Inches.....	Meters.....	0.0254
Inches.....	Millimeters.....	25.4001
Inches.....	Yards.....	0.0277
Kilogrammes (1,000 gms.).....	Pounds (avoirdupois).....	2.2046
Kilogrammes.....	Ounces (avoirdupois).....	35.2739
Kilometers.....	Miles.....	0.62137
Knots.....	Mph.....	1.1516
Pound (7,000 gms.).....	Kilogrammes.....	0.45359
Liters.....	Cubic inches.....	61.025
Liters.....	Gallons (imperial).....	0.220
Liters.....	U. S. gallons.....	0.26418
Liters.....	Pints (imperial).....	1.76
Liters.....	Pints (U. S.).....	2.1134

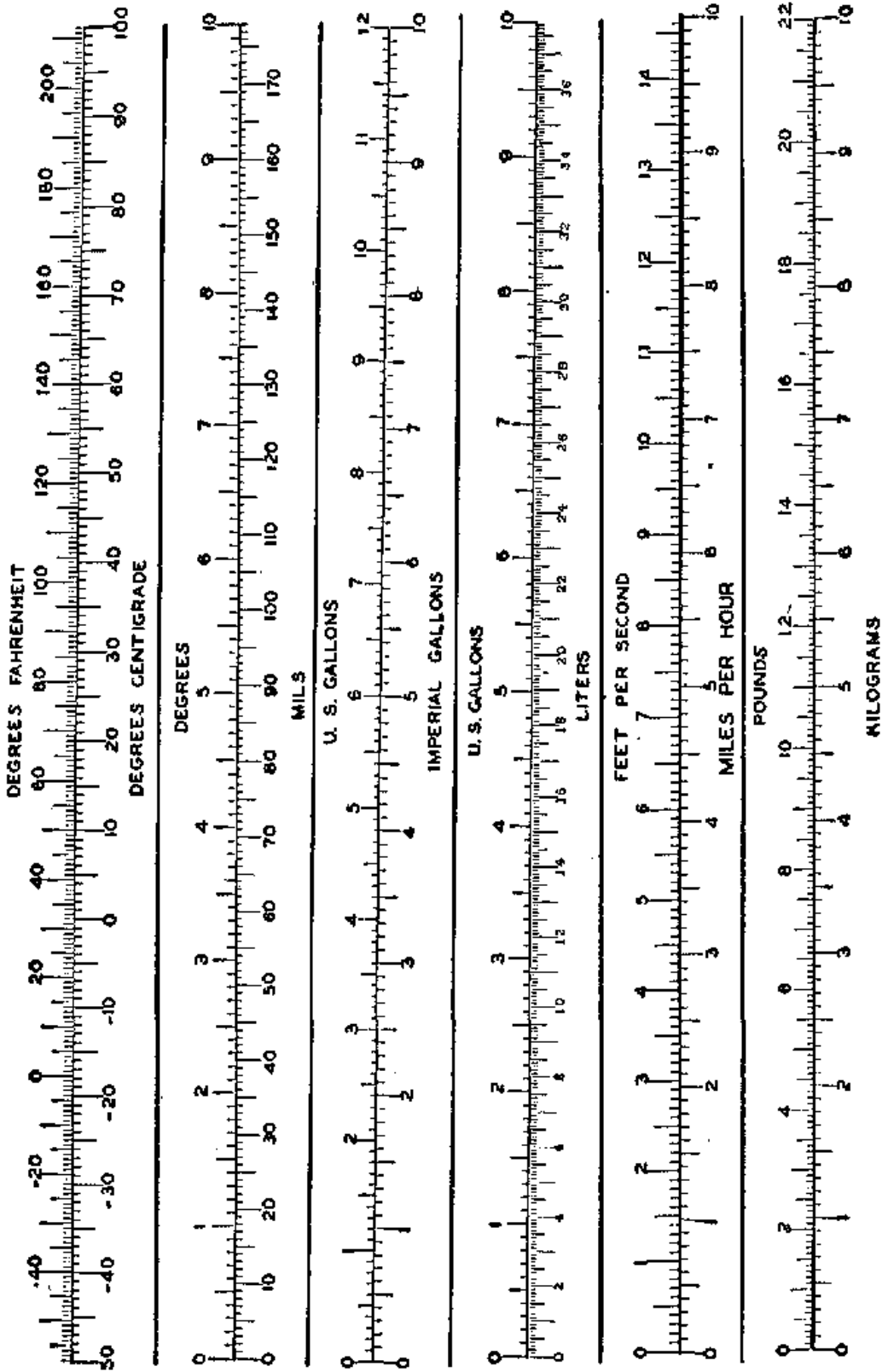
ARMY AIR FORCE FIELD MANUAL

To convert—	Into—	Multiply by—
Meters.....	Feet.....	3. 2808
Meters.....	Inches.....	39. 37
Meters.....	Yards.....	1. 0936
Meters per minute.....	Feet per second.....	0. 0547
Meters per second.....	Mph.....	2. 237
Miles.....	Kilometers.....	1. 6093
Miles per hour.....	Feet per minute.....	88.
Miles per hour.....	Feet per second.....	1. 467
Miles per hour.....	Knots.....	0. 8684
Miles per hour.....	Meters per second.....	0. 447
Millimeters.....	Inches.....	0. 0393
Ounces (avoirdupois).....	Grammes.....	28. 349
Ounces (avoirdupois).....	Kilogrammas.....	0. 02835
Pints (imperial).....	Liters.....	0. 568
Pints (U. S.).....	Liters.....	0. 4732
Quintals (metric).....	Hundredweights.....	1. 97
Square centimeters.....	Square inches.....	0. 155
Square feet.....	Square meters.....	0. 0929
Square inches.....	Square centimeters.....	6. 4516
Square kilometers.....	Square miles.....	0. 3861
Square meters.....	Square feet.....	10. 764
Square meters.....	Square yards.....	1. 1960
Square miles.....	Square kilometers.....	2. 590
Square yards.....	Square meters.....	0. 8361
U. S. gallons.....	Imperial gallons.....	0. 8327
Yards.....	Meters.....	0. 914

2. GRAPHIC EQUIVALENTS.



ARMY AIR FORCE FIELD MANUAL



■ 3. GASOLINE, OIL, AND WATER.

	Pounds per gallon*	Pounds per cubic foot	Pounds per barrel (42 gals.)
Gasoline.....	6.1	45.6	256.2
Oil, lubricating.....	7.0	52.4	294.0
Water, fresh.....	8.355	62.4	340.9

*Weight of container not included. Commercial 10-gallon milk cans weigh approximately 27 pounds.

■ 4. MISCELLANEOUS.

A fathom=6 feet.

A league=3 miles.

A nautical or geographical mile= $2,026\frac{2}{3}$ yards.

An acre=43,560 square feet.

A square mile=640 acres.

A ship ton=40 cubic feet.

A cord of wood=128 cubic feet (8' x 4' x 4').

■ 5. MENSURATION OF SURFACES AND SOLIDS.

Circumference of a circle=diameter \times 3.1416.

Area of a triangle=base \times perpendicular \div 2.

Area of a square or oblong=length \times breadth.

Area of a circle=diameter² \times 0.7854, or radius² \times 3.1416.

Area of sector of circle=length of arc \times radius \div 2.

Area of any right-lined figure of four or more unequal sides is found by dividing it into triangles, finding the area of each, and adding together.

Area of an ellipse=long axis \times short axis \times 0.7854.

Surface of prism or cylinder=(area of two ends) + (length \times perimeter).

Surface of cone or pyramid= $\frac{1}{2}$ (slant height \times perimeter of base) + area of base.

Surface of cube=sum of areas on all the sides.

Surface of sphere=square of diameter \times 3.1416.

Cubic content of prism or cylinder=area of base \times height.

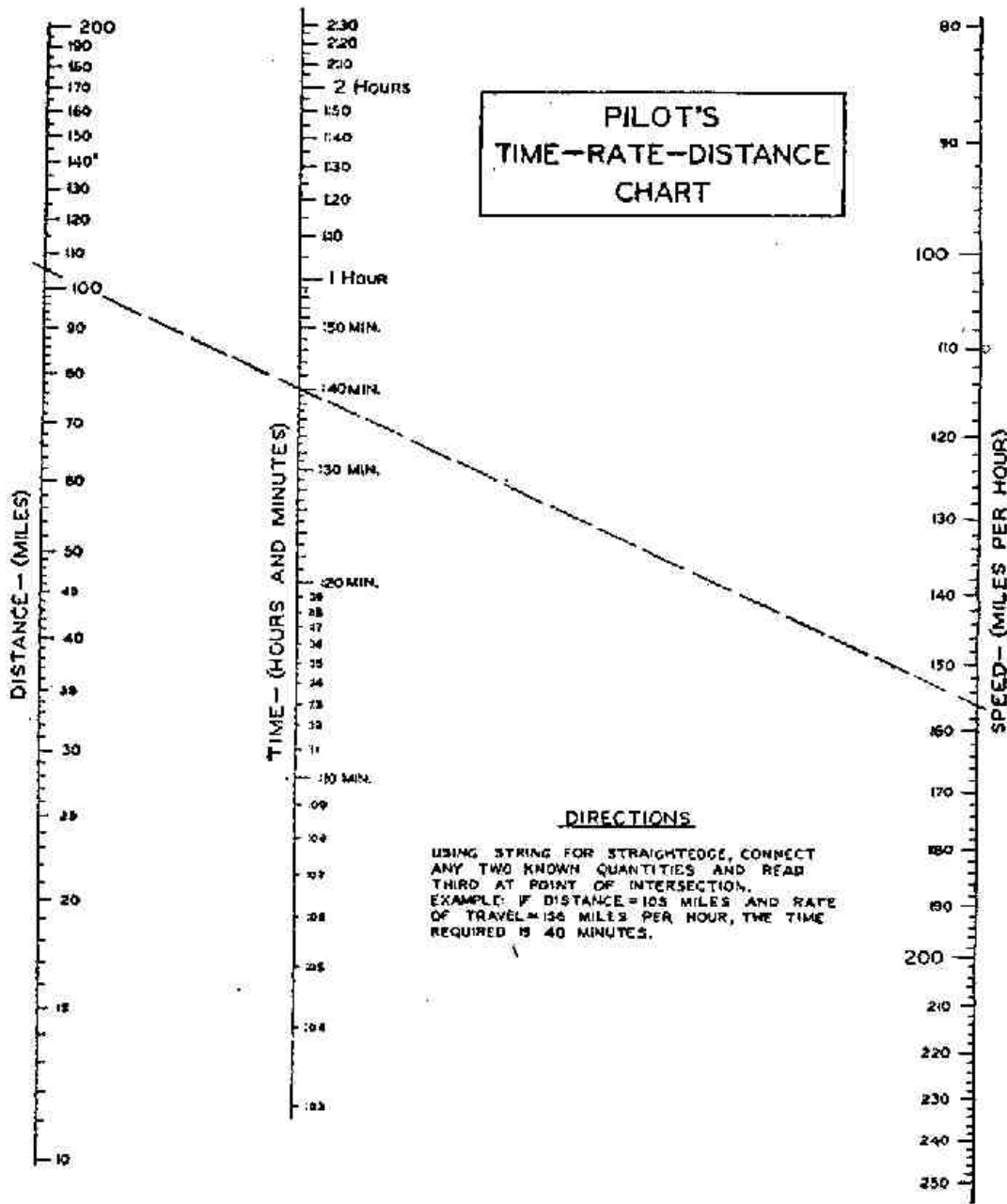
Cubic content of cone or pyramid= $\frac{1}{3}$ (area of base \times perpendicular height).

Cubic content of cube=length \times breadth \times depth.

Cubic content of sphere=cube of diameter \times 0.5236.

SECTION VI

PILOT'S TIME, RATE, AND DISTANCE CHART



REFERENCE DATA, ADMINISTRATION

SECTION VII

WORLD STANDARD TIMETABLE

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
Aden.....	+2	59	54
Africa, French Equatorial.....	+1	0	0
Africa, Portuguese East (Mozambique).....	+2	0	0
Africa, Portuguese West (Angola).....	+1	0	0
Africa, south-west (mandated territory).....	+2	0	0
Alaska (central zone).....	-10	0	0
Alaska (extreme eastern coast zone).....	-9	0	0
Alaska (western zone).....	-11	0	0
Albania.....	+1	0	0
Alcutian Island.....	-11	0	0
Algeria.....	0	0	0
Andorra.....	0	0	0
Anglo-Egyptian Sudan.....	+2	0	0
Angola (Portuguese West Africa).....	+1	0	0
Argentine Republic.....	-4	0	0
Ascension Island.....	-1	0	0
Australia (New South Wales).....	+10	0	0
Australia (northern territory).....	+9	30	0
Australia (Queensland).....	+10	0	0
Australia, South.....	+9	30	0
Australia (Tasmania).....	+10	0	0
Australia (Victoria).....	+10	0	0
Australia, Western.....	+8	0	0
Austria.....	+1	0	0
Azores.....	-2	0	0
Bahamas.....	-5	0	0
Bali Island, Dutch East Indies.....	+7	30	0
Basutoland.....	+2	0	0
Belgian Congo.....	+1	0	0
Belgium.....	0	0	0
Bermuda.....	-4	0	0
Bolivia.....	-4	33	0
Borneo, British North.....	+8	0	0
Borneo, Dutch.....	+7	30	0
Brazil (central zone).....	-4	0	0
Brazil (eastern zone).....	-3	0	0
Brazil (far western zone).....	-5	0	0
Brazil (Fernando de Noronha Island and Trinidad Island).....	-2	0	0
British Isles.....	0	0	0

ARMY AIR FORCE FIELD MANUAL

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
Bulgaria.....	+2	0	0
Burma.....	+6	30	0
Cameroons, British.....	+1	0	0
Cameroons, French.....	+0	38	44.3
Canada ("Atlantic" standard time): New Brunswick, Nova Scotia (including Sable Island), Prince Edward Island Quebec Province (eastern zone).....	-4	0	0
Canada ("Eastern" standard time): Quebec Province (western zone), Ontario (eastern and central zones,) etc.....	-5	0	0
Canada ("Central" standard time): Ontario (western zone), Manitoba, Saskatchewan (far eastern zone), etc.....	-6	0	0
Canada ("Mountain" standard time): Saskatchewan (main zone), Alberta, etc.....	-7	0	0
Canada ("Pacific" standard time): British Columbia, etc.....	-8	0	0
Canada (Yukon territory).....	-9	0	0
Canary Islands.....	-1	0	0
Cape Verde Islands.....	-2	0	0
Caroline Islands (western zone).....	+9	0	0
Caroline Islands (central zone).....	+10	0	0
Caroline Islands (eastern zone).....	+11	0	0
Cayman Islands.....	-5	25	36
Celebes.....	+8	0	0
Ceylon.....	+5	30	0
Chile.....	-5	0	0
Chinese Republic (coastal zone): Shanghai, Peiping, Nanking, Hankow.....	+8	0	0
Chinese Republic (far south zone).....	+7	0	0
Chinese Republic (Hainan).....	+7	0	0
Colombia.....	-5	0	0
Costa Rica.....	-6	0	0
Cuba.....	-5	0	0
Curacao.....	-4	36	0
Cyprus.....	+2	0	0
Czechoslovakia.....	+1	0	0
Dahomey.....	0	0	0
Danzig.....	+1	0	0
Denmark.....	+1	0	0
Dominican Republic (San Domingo).....	-4	40	0
Ecuador (except Guayaquil).....	-5	14	6.7
Ecuador (Guayaquil).....	-5	19	24
Egypt.....	+2	0	0
Eritrea.....	+3	0	0

REFERENCE DATA, ADMINISTRATION

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
Esthonia.....	+2	0	0
Falkland Islands.....	-4	0	0
Faroe Islands.....	0	0	0
Fiji Islands.....	+12	0	0
Finland.....	+2	0	0
Formosa.....	+8	0	0
France.....	0	0	0
Gambia.....	-1	0	0
Germany.....	+1	0	0
Gibraltar.....	0	0	0
Gold Coast.....	0	0	0
Greece (with Crete).....	+2	0	0
Greenland (Scoresby Sound zone).....	-2	0	0
Greenland (west coast zone).....	-3	0	0
Guam Island.....	+10	0	0
Guatemala.....	-6	0	0
Guiana, British.....	-3	45	0
Guiana, Dutch.....	-3	40	35
Guiana, French.....	-4	0	0
Guinea, French.....	-1	0	0
Guinea, Portuguese.....	-1	0	0
Guinea, Spanish.....	0	0	0
Haiti.....	-5	0	0
Hawaiian Islands (including Midway Island).....	-10	30	0
Holland.....	+0	19	32.1
Honduras.....	-6	0	0
Honduras, British.....	-6	0	0
Hong Kong.....	+8	0	0
Hungary.....	+1	0	0
Iceland.....	-1	0	0
India (except Calcutta district).....	+5	30	0
India (Calcutta district).....	+5	53	20.8
Indo-China, French.....	+7	0	0
Iraq.....	+3	0	0
Irish Free State.....	0	0	0
Italy (including Sardinia and Sicily).....	+1	0	0
Ivory Coast.....	0	0	0
Jamaica.....	-5	0	0
Japan (including Kuril Islands).....	+9	0	0
Java.....	+7	30	0
Jugoslavia.....	+1	0	0
Kenya.....	+2	30	0
Korea.....	+9	0	0
Labrador.....	-3	31	0
Ladrone (or Mariannas) Islands.....	+10	0	0

ARMY AIR FORCE FIELD MANUAL

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
Latvia.....	+2	0	0
Leeward Islands (British).....	-4	0	0
Leeward Islands (French).....	-4	0	0
Leeward Islands (U. S. A.).....	-4	0	0
Liberia.....	-0	44	0
Libya.....	+1	0	0
Lithuania.....	+1	0	0
Luxembourg.....	0	0	0
Madagascar.....	+3	0	0
Madeira.....	-1	0	0
Maldivé Islands.....	+4	54	0
Malta.....	+1	0	0
Marianas or Ladrone Islands.....	+10	0	0
Marshall Islands.....	+11	0	0
Mauritania.....	-1	0	0
Mexico (except northern zone in Lower California).....	-6	0	0
Mexico (northern zone in Lower California).....	-8	0	0
Molucca Islands, Dutch East Indies (including Ternate Island and Amboina Island).....	+8	0	0
Monaco.....	0	0	0
Morocco (French and Spanish).....	0	0	0
Mozambique (Portuguese East Africa).....	+2	0	0
Nauru.....	+11	0	0
New Britain.....	+10	0	0
New Caledonia.....	+11	0	0
Newfoundland.....	-3	31	0
New Hebrides.....	+11	0	0
New Ireland.....	+10	0	0
New Zealand.....	+11	30	0
Nicaragua.....	-5	45	10
Nigeria.....	+1	0	0
Norfolk Island.....	+11	12	0
Norway.....	+1	0	0
Palestine.....	+2	0	0
Panama (including Canal Zone).....	-5	0	0
Paraguay.....	-3	27	12
Peru.....	-5	0	0
Philippine Islands.....	+8	0	0
Pitcairn Island.....	-10	0	0
Poland.....	+1	0	0
Porto Rico.....	-4	0	0
Portugal.....	0	0	0
Principe Island.....	0	0	0
Reunion Island.....	+4	0	0
Rhodes Island (to Italy).....	+2	0	0

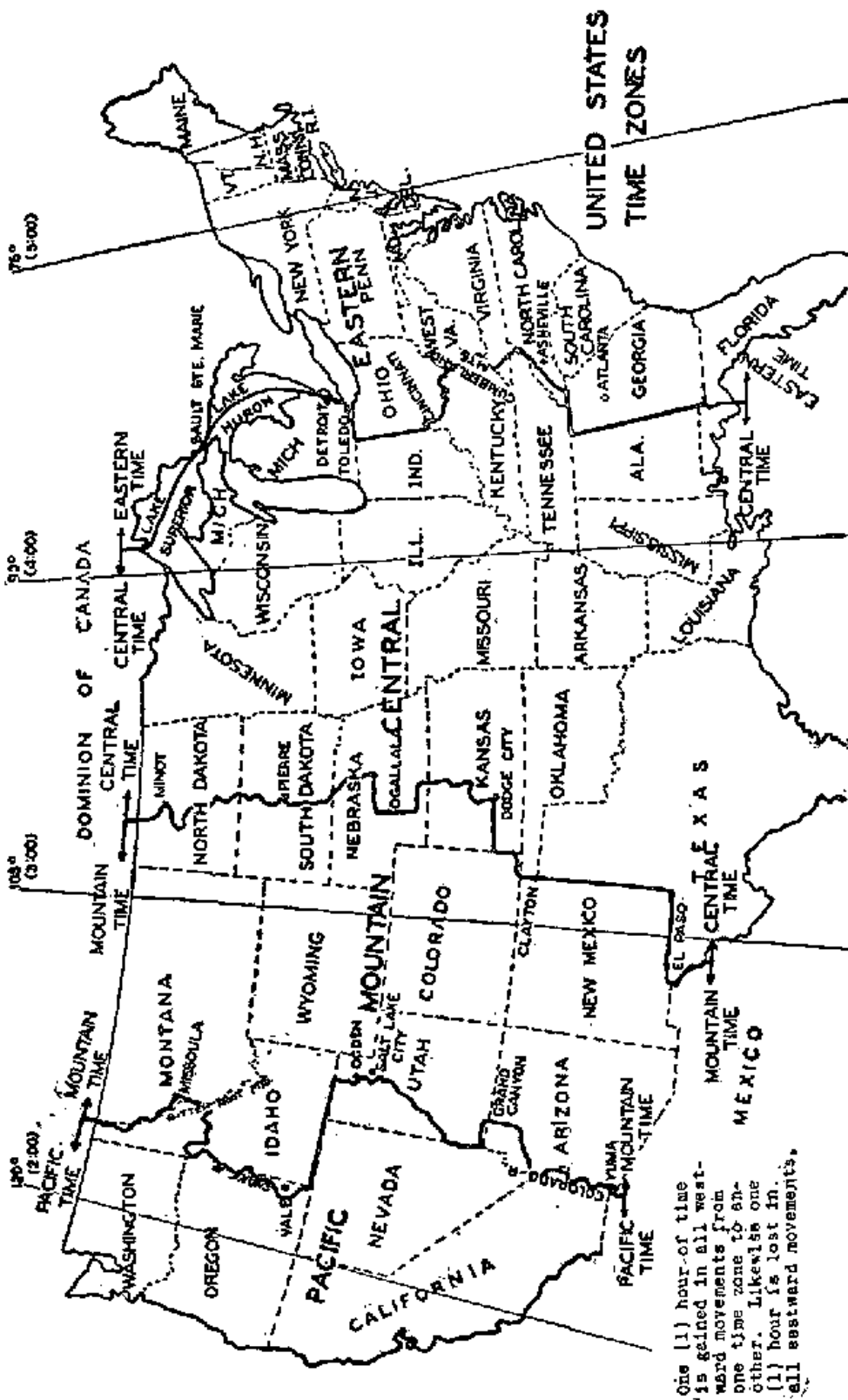
REFERENCE DATA, ADMINISTRATION

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
Rhodesia, Northern.....	+2	0	0
Rhodesia, Southern.....	+2	0	0
Rio de Oro (Spanish Sahara).....	-1	0	0
Roumania.....	+2	0	0
St. Helena.....	-0	23	0
Salvador.....	-6	0	0
Samoa Island.....	-11	0	0
San Domingo (Dominican Republic).....	-4	40	0
Sarawak.....	+7	30	0
Senegal.....	-1	0	0
Somalland, British.....	+2	59	54
Somaliland, French.....	+3	0	0
Somaliland, Italian.....	+3	0	0
South Georgia.....	-2	7	0
Spain.....	0	0	0
Straits Settlements.....	+7	20	0
Sumatra (north-west zone).....	+6	30	0
Sumatra (south-east zone).....	+7	0	0
Sumba, Dutch East Indies.....	+8	0	0
Sumbawa, Dutch East Indies.....	+8	0	0
Swaziland.....	+2	0	0
Sweden.....	+1	0	0
Switzerland.....	+1	0	0
Syria.....	+2	0	0
Tahiti Island.....	-10	0	0
Tangier.....	0	0	0
Thailand.....	+7	0	0
Timor.....	+8	0	0
Trinidad.....	-4	0	0
Tripolitania.....	+1	0	0
Tunisia.....	+1	0	0
Turkey (Europe and Asia).....	+2	0	0
Union of South Africa (including South-West Africa).....	+2	0	0
U. S. A. ("Eastern" standard time): Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Maryland, Delaware, Pennsylvania, North and South Carolina, Virginia, West Virginia, Washington, D. C. etc.....	-5	0	0
U. S. A. ("Central" standard time): Illinois, Iowa, Michigan, Minnesota, Wisconsin, Indiana, Missouri, Arkansas, Oklahoma, Alabama, Mississippi, Louisiana, Texas, etc.....	-6	0	0

ARMY, AIR FORCE FIELD MANUAL

Location	Time fast (+) or slow (-) on Greenwich mean time		
	Hours	Minutes	Seconds
U. S. A. ("Mountain" standard time): Montana, Idaho (except northern zone), Wyoming, Arizona, Colorado, Utah, etc.....	-7	0	0
U. S. A. ("Pacific" standard time): California, Nevada, Oregon, Washington, Idaho (northern zone), etc.....	-8	0	0
U. S. S. R. (Moscow-Leningrad-Ukraine zone).....	+2	0	0
U. S. S. R. (Astrakhan, Tiflis-Archangel zone).....	+3	0	0
U. S. S. R. (Khiva-Aral Sea zone).....	+4	0	0
U. S. S. R. (Omsk-Tobolsk zone).....	+5	0	0
U. S. S. R. (Tomsk zone).....	+6	0	0
U. S. S. R. (Irkutsk zone).....	+7	0	0
U. S. S. R. (Yakutsk zone).....	+8	0	0
U. S. S. R. (Okhotsk-Vladivostok zone).....	+9	0	0
U. S. S. R. (Yamsk zone).....	+10	0	0
U. S. S. R. (Gijinsk-Petropavlovsk zone).....	+11	0	0
Uruguay.....	-3	30	0
Venezuela.....	-4	30	0
Yugoslavia.....	+1	0	0

SECTION VIII
UNITED STATES TIME ZONES



One (1) hour of time is gained in all westward movements from one time zone to another. Likewise one (1) hour is lost in all eastward movements.

SECTION IX

GENERAL CHARACTERISTICS OF WARSHIPS¹

Type	Sym- bol	Dis- place- ment (tons)	Draught (mean feet)	Speed (designed knots)	Armament (guns)				Armor (inches)		
					Main battery		Secondary battery		Main belt (ins.)	Turrets and barbettes or gun shields (ins.)	Decks (ins.)
					Number and caliber	Range (yds.)	Number and caliber	Range (yds.)			
Battleship	BB	26,000 to 40,000	25 to 36	22 to 30	8 to 12 11 inches to 16 inches.	24,000 to 35,000	8 to 20 5 inches to 6 inches.	17,000	5½ to 16	5 to 15	3 to 10½
Cruiser, battle.	CC	32,000 to 42,000	26 to 29	29 to 31	6 to 8 8 inches to 15 inches.	24,000 to 35,000	8 to 12 4 inches to 5.5 inches.	17,000	9 to 12	11 to 13	3 to 5½
Cruiser, heavy	CA	7,100 to 10,000	15 to 20	32 to 36	6 to 10 8 inches	18,000 to 35,000	4 to 12 3.9 inches to 5 inches. ²	15,000	0 to 5½	0 to 6	0 to 5
Cruiser, light	CL	3,362 to 10,000	13 to 17	29 to 41	5 to 15 5.3 inches to 6.1 inches.	18,000 to 22,000	2 to 12 3 inches to 4 inches. ²	15,000	0 to 4½	0 to 5½	0 to 3
Aircraft carrier	CV	7,100 to 33,000	15 to 25	22 to 34	8 to 16 4.5 inches to 8 inches.	15,000 to 20,000	Varying 5 inches or smaller.	15,000	0 to 6	Varying	1 to 5
Destroyer	DD	905 to 2,884	8 to 15	34 to 39	3 to 8 4 inches to 5.5 inches. ²	15,000					

REFERENCE DATA, ADMINISTRATION

Submarine.....	SS	250 to 2,880 ³	13 to 20	1 to 4 1 inch to 8 inches.	7,000 to 15,000				
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¹ Data included in this table are based on average characteristics of warships of great naval powers.

² Dual-purpose guns which may be used for firing at aerial, naval, or land targets.

³ Surface.

SECTION X

WEIGHT DATA ON EQUIPMENT OF U. S. ARMY
PARACHUTE TROOPS AS OF MAY 12, 1941

Total weight of equipment carried on person of parachutist, including two parachutes with harness, etc., 54½ pounds.

NOTE.—Quick-attachable reserve parachute will be worn in combat if jumping height so warrants.

Additional parachute squad (12 men), equipment is packed into three containers, each with a maximum pay load of 185 lbs., which are ejected manually.

NOTE.—This figure does not include the weight of the aerial delivery unit.

SECTION XI

AERONAUTICAL TERMS IN ENGLISH, SPANISH,
FRENCH, GERMAN, ITALIAN

English	Spanish	French	German	Italian
Aerial, fixed.	antena fija.	Antenne fixe.	Feste Antenne.	Antenna fissa.
Aerial observer.	observador aéreo.	observateur aerien.	Luftbeobachtung.	Asservatore aérea.
Aerial, trailing.	antena remolcada.	Antenne remorquée.	Hängeantenne.	Antenna rimorchiatà.
Ailerons.	aleronos.	Ailerons.	Querruder.	Alettoni.
Aircraft.	avión, aereovehículo, aeronave, "aparato" (Eng. "craft").	Aéromef.	Luftfahrzeug.	Aeromobile.
Airdrôme.	aeródromo, campo de aviación.	Aérodrome.	Flugplatz.	Campo di aviazione.
Airdrôme lighting.	alumbrado (iluminación) de aeródromo (aeropuerto, cam- po de aviación).	Balísage de nuit d'aé- rodrome.	Flughafenfeuerung und Beleuchtung.	Illuminazione di campo di aviazione.
Airframe.	célula, estructura total de la ala, fuselaje (sin motor).	Cellule.	Tragwerk.	Cellula.
Airplane.	aeroplano, avión, "aparato" (Eng. "plane").	Avion.	Flugzeug.	Velivolo.
Airplane engine.	motor de avión, m. de aere- plano, m. de aviación.	Moteur d'aviation or aéromoteur.	Flugmotor.	Motore di aviazione.
Airplane, pusher.	avión (aeroplano) de motor propulsor, a. de hélice pro- pulsora.	Avion à hélice propul- sive.	Druckschrauber.	Velivolo ad elica propul- siva.

ARMY AIR FORCE FIELD MANUAL

English	Spanish	French	German	Italian
Airplane, tractor.	avión (aeroplano) de tracción, a. de hélice de tracción, a. de hélice tractora, a. de hélice delantera, a. de motor tractor, a. de motor delantero.	Avion à hélice tractive.	Zugschrauber.	Velivolo ad elica trattiva.
Airport.	aeropuerto, paradero (estación) para aeroplanos (aviones).	Aéroport.	Flughafen.	Aeroporto.
Air route.	ruta aérea, aeroruta.	Route aérienne.	Luftkurs.	Rotta aerea.
Airship.	aeronave, aerovehículo, dirigible.	Dirigeable.	Luftschiff.	Dirigibile.
Air speed.	velocidad con relación al aire.	Vitesse relative.	Eigengeschwindigkeit.	Velocità relativa.
Air speed, indicated.	velocidad indicada con relación al aire.	Vitesse relative indiquée.	angezeichnete Geschwindigkeit.	Velocità relativa indicata.
Airway beacon.	aerofaro.	Phare di ligne.	Flugstreckenfeuer.	Faro di rotta.
Altimeter.	altímetro.	Altimètre.	Höhenmesser.	Altimetro.
Altitude, rated.	altura de restablecimiento.	Altitude nominale.	Höhe, gerechnete.	Quota nominale.
Alto-cumulus.	alto-cúmulo.	Alto-cumulus.	Alto-cumulus.	Alto-cumuli.
Alto-stratus.	alto-estrato.	Altostratus.	Altostratus.	Alto-strati.
Anemometer.	anemómetro.	Anémomètre.	Windmesser.	Anemometro.
Angle of incidence.	ángulo de incidencia.	Angle d'incidence.	Anstellwinkel.	Angolo di incidenza.
Anticyclone.	anticiclón.	Anticyclone.	Hochdruckgebiet.	Anticiclone.
Arming vanes.	aletas (veletas) de armar, a. de seguridad.	Ailettes d'armement.	Entsicherungsflügel.	Aletta di armamento.
Artificial horizon.	horizonte artificial.	Horizon artificiel.	Künstlicher Horizont.	Orizzonte artificiale.

REFERENCE DATA, ADMINISTRATION

Aspect ratio.	alargamiento.	Allongement.	Seitenverhältnis.	Allungamento.
Atmospheric pressure.	presión atmosférica.	Pression atmosphérique.	Luftdruck.	Pressione atmosferica.
Auxiliary parachute.	paracaídas de cebo, paracaídas piloto.	Parachute auxiliaire.	Hilfsfallschirm.	Paracadute ausiliario.
Auxiliary tank.	tanque auxiliar.	Réservoir auxiliaire.	Reservebehälter.	Serbatoio ausiliario.
Ballast.	lastre.	Lest.	Ballast.	Zavorra.
Balloon.	globo, g. aerostático.	Balloon.	Ballon.	Pallone.
Balloon barrage.	barrera de globos.	Barrage de ballons.	Ballonsperre.	Sbarramento con palloni.
Balloon, captive.	globo cautivo.	Ballon captif.	Fesselballon.	Pallone frenato.
Barometer.	barómetro.	Baromètre.	Luftdruckmesser, Barometer.	Barometro.
Bar, rudder.	barra de dirección, palanca de pedales.	Palonnier.	Seitensteuer.	Pedaliara.
Beacon.	aerofaro, faro.	Phare.	Leuchtfeuer.	Faro.
Beacon, airdrome.	aerofaro (faro) de campo de aterrizaje.	Phare de terrain.	Platzfeuer.	Faro di terreno.
Beacon, airway.	aerofaro (faro) de ruta aérea.	Phare de ligne.	Flugstreckenfeuer.	Faro di rotta.
Beacon, landmark.	aerofaro (faro) de marca.	Phare de repère.	Ortungsfeuer.	Faro al suolo.
Bearing plate.	plancha (placa) de apoyo.	Plaque de support.	Peilscheibe.	Pisatra.
Biplane.	biplano.	Biplan.	Doppeldecker.	Biplano.
Blizzard.	chubasco de nieve.	Blizzard.	Schneesturm.	Blizzard.
Bomb.	bomba.	Bombe.	Bombe.	Bomba.
Bombardier.	bombardero, avión de bombardeo.	Viseur bombardier.	Bombenvisier.	Puntatore in gittata.
Bomb, incendiary.	bomba incendiaria.	Bombe incendiaire.	Brandbombe.	Bomba incendiaria.
Bomb rack.	aparato portabombas, portabombas, lanzabombas.	Porte-bombes.	Bombenträger.	Porta bombe.
Bomb-release control.	palanca lanzabombas, p. de lanzamiento de bombas.	Commande de lancement de bombes.	Bombenabwurfkontrolle.	Comando di lancio bombe.
Boundary light.	alumbardo de límites, luz de limitación, l. de límite.	Feu de délimitation de terrain.	Umrandungsfeuer.	Luce limite del terreno.

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English	Spanish	French	German	Italian
Brake horsepower.	potencia al freno, caballos de fuerza al freno.	Puissance au frein.	Bremspferdestärke.	Potenza al freno.
Breeze.	brisa, viento suave.	Brise.	Brise.	Brezza.
Breeze, land.	brisa de tierra.	Brise de terre.	Landbrise.	Brezza di terra.
Breeze, sea.	brisa de mar.	Brise de mer.	Seebrise.	Brezza di mare.
Bubble sextant.	sexante de burbuja.	Sextant à bulle.	Blasensexant.	Sestante a bolla.
Calm.	calma, tranquilidad.	Calme.	Windstille.	Calma.
Camber.	comba, combadura, curvatura.	Courbure (cambrure).	Wölbung.	Curvatura.
Carburetor.	carburator.	Carburateur.	Karurator.	Carburatore.
Ceiling, absolute.	techo absoluto, altura máxima.	Plafond pratique.	Absolute Gipfelhöhe.	Quota di tangenza pratica.
Ceiling, service.	techo de servicio, techo práctico.	Plafond d'utilisation.	Betriebsgipfelhöhe.	Quota di navigazione.
Centre of pressure.	centro de presión.	Centre de pression.	Druckpunkt.	Centro di pressione.
Centre section.	cabaña, parte central.	Section centrale.	Mittelflügel.	Sezione centrale.
Cirro-cumulus.	Cirro-cúmulo, cielo aborregado, cirros con cúmulo.	Cirro-cumulus.	Cirrocumulus.	Cirro-cumuli.
Cirro-stratus.	cirro-estrato, cirros con estrato.	Cirro-stratus.	Cirrostratus.	Cirro-strati.
Cirrus.	cirros.	Cirrus.	Cirrus.	Cirri.
Climb (or descent) indicator, rate of.	indicator de la velocidad de ascenso (de descenso), variómetro.	Indicateur de vitesse ascendionnelle (ou de descente).	Aufsteiggeschwindigkeit (Fallgeschwindigkeit) —zeiger.	Indicatore della velocità di salita (o di discesa).
Clouds, high.	nubes altas.	Nuages élevés.	Wolken, hohen.	Nubi superiori.
Clouds, low.	nubes bajas.	Nuages bas.	Wolken, niedrigen.	Nubi inferiori.
Cockpit.	puesto de pilotaje, cabina.	Poste de pilotage.	Führersitz.	Posto di pilotaggio.
Cold front.	frente de aire frío.	Front froid.	Kaltfront.	Fronte fredda.
Commercial load.	carga comercial, carga de pago.	Charge commerciale.	Nutzlast.	Carico commerciale.
Compass.	brújula, compás, aguja.	Boussole.	Kompass.	Bussola.

REFERENCE DATA, ADMINISTRATION

Compass base.	montaje de la brújula (aguja).	Platorme de compensation de compas.	Kompassunterlage.	Platforma di compensazione della bussola.
Compass course.	curso de brújula.	Route au compas.	Kompasskursrichtung.	Corsa alla bussola.
Consumption, oil.	consumo de aceite.	Consumation d'huile.	Schmierstoffverbraueh.	Consumo de lubrificante.
Consumption, petrol.	consumo de gasolina (esencia), c. de combustible.	Consumation d'es-sence.	Benzinverbrauch.	Consumo di benzina.
Control lever.	palanca de mando.	Levier de commande.	Knüppel.	Leva di comando.
Coolers (oil).	aparatos para el enfriamiento por aceite.	Refruidisseurs (d'huile).	Ölkühlern.	Radiatore per il raffreddamento dell'olio.
Course.	rumbo, ruta, derrotero, recorrido.	Route.	Kurs.	Percorso di navigazione.
Course-and-distance calculator.	calculador de vuelos.	Calculateur de route et de distance.	Kurs- und Entfernungs-messer.	Calculatore della rotta e della distanza.
Course, compass.	rumbo conforme a la brújula (aguja).	Route au compas.	Kompasskurs.	Rotta alla bussola.
Course, magnetic.	rumbo conforme a la derivación y declinación magnética.	Route magnétique.	Missweisender Kurs.	Corsa magnetica.
Course, true.	rumbo astronómico.	Route vraie.	Rechtweisender Kurs.	Corsa corretta.
Cowling.	capotaje.	Capotage.	Haube.	Rivestimento.
Crankcase.	cárter (del ciguenal).	Carter.	Kurbelgehäuse.	Scatola.
Crankshaft.	Ciguenal, eje accodado, eje motor, árbol de manivela.	Arbre-vilebrequin.	Kurbelwelle.	Albero a manovella.
Cumulo-nimbus.	nimbo con cúmulo.	Cumulonimbus.	Cumulonimbus.	Cumulo-nembi.
Cumulus.	cúmulo.	Cumulus.	Cumulus.	Cumuli.
Cylinder.	cilindro.	Cylindre.	Zylinder.	Cilindro.
Depression.	depresión.	Dépression.	Unterdruck.	Depressione.
Detonator.	detonador, detonante.	Capsule explosive.	Sprengkapsel.	Capsula esplosiva.
Dihedral angle.	diedro, ángulo diedro.	(Angle de) dièdre.	V-Formwinkel.	(Angolo) diedro.
Directional gyro.	giroscopio de dirección.	Gyroscop de direction.	Richtungskreisel.	Giroscopio di direzione.
Drag.	resistencia al avance.	Résistance.	Widerstand.	Resistenza.

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Drift.	deriva.	Dérive.	Abtrieb.	Deriva.
Drift angle.	ángulo de deriva.	Angle de dérive.	Abtriefwinkel.	Angolo di deriva.
Drizzle.	llovizna.	Bruine.	Sprühregen.	Spruzzatore.
Electrically-heated clothing.	traje con calefacción eléctrica.	Vêtement chauffé électriquement.	Elektrisch geheizte Kleidung.	Vestiti con riscaldamento elettrico.
Electrically-heated goggles.	gafas protectoras con calefacción eléctrica.	Lunettes chauffées électriquement.	Elektrischegeheizte Brille.	Occhiali con riscaldamento elettrico.
Elevator.	timón de profundidad.	Gouvernail de profondeur.	Höhensteuer.	Timone di profondità.
Endurance.	resistencia, duración.	Autonomie.	Flugdauer.	Autonomia (di ore).
Engine, in-line.	motor de cilindros en línea.	Moteur vertical à cylindres en ligne.	Reihenmotor.	Motore fiso a cilindri allineati.
Engine, radial.	motor radial, motor en estrella.	Moteur en étoile.	Sternmotor.	Motore a stella.
Engine speeds.	velocidades del motor.	Vitesse de moteur.	Motorgeschwindigkeiten.	Velocità di motore.
Engine, V.	motor de cilindros en V.	Moteur à V.	V-motor.	Motore a V.
Fabric.	tela.	Toile.	Stoff.	Tela.
Fairing.	miembro reductor de resistencia.	Carénage.	Verkleidung.	Carentura.
Fin.	aleta, empenaje.	Plan fixe vertical.	Seitenflosse.	Piano fiso verticale.
Flaps.	alerones, aletas.	Volets.	Hilfsflügel, Klappe.	Deflettori.
Flare, navigation.	cohete de navegación, bomba de iluminación para la navegación.	Fusée de navigation.	Ortungsluchtkugel.	Palla di navigazione.
Flare, parachute.	cohete de paracaídas.	Fusée éclairante à parachute.	Fallschirmleuchtkugel.	Palla lucente a paracadute.
Flashing light.	luz intermitente, luz de eclipse.	Feu à éclats.	Blinkfeuer.	Fuoco a lampi.
Float, seaplane.	floatador de hidro (de hidrovión).	Floteur d'hydravion.	Schwimmerflugzeug.	Galggiante d'idrovolante.

REFERENCE DATA, ADMINISTRATION

Float, tail.	flotador de cola.	Flotteur de queue.	Schwanzschwimmer.	Gallegiante di coda.
Float, wing-tip.	flotador del punto de ala, f. en el extremo del ala.	Flotteur latéral.	Flügelschwimmer.	Gallegiante ausiliare.
Flutter.	vibración oscilante.	Frémissement ou oscillation.	Flügelerschwingungen.	Tremolio.
Flying boat.	hidroavión, hidro.	Hydravion à coque.	Flugboot.	Idrovolante a scafo.
Flying operation.	servicio acrío.	Service aérien.	Flugbetrieb.	Operazione di volare.
Fog.	niebla, bruma.	Brouillard.	Nebel.	Nebbia.
Fog, sea.	niebla de mar.	Brouillard de mer.	Seenebel.	Nebbia di mare.
Force, Beaufort scale of wind.	escala anemográfica de Beaufort.	Force du vent d'après l'échelle de Beaufort.	Windstärke nach der Beaufortskale.	Forza del vento secondo la scala di Beaufort.
Forecast.	pronóstico, previsión, predicción.	Prévision.	Wettervorhersage.	Previsione.
Frost.	helada, rosada.	Gelée.	Frost.	Brina.
Fuel-contents gage	indicator del consumo de combustible, indicador del nivel de esencia.	Indicateur de niveau de combustible.	Brennstoffvorratsmesser.	Indicatore del livello del combustible.
Fuselage.	fuselaje.	Fuselage.	Rumpf.	Fusoliera.
Gage, pressure.	manómetro.	Manomètre.	Druckmesser, Manometer.	Manometro.
Generator, smoke.	aparato fumígeno, aparato para producir humo.	Pot à fumée.	Rauchofen.	Generatore di fumo.
Glide.	vuelo planeado, planear.	Vol plané.	Gleitflug.	Volo librato.
Glider.	planeador.	Planeur.	Gleitflugzeug.	Libratore.
Gliding angle.	ángulo de planeo.	Angle de vol plané.	Gleitwinkel.	Angolo di volo librato.
Goggles.	gafas, g. protectoras.	Lunettes.	Fliegerbrille.	Occhiali.
Gravity tank.	tanque de alimentación por gravedad.	Réservoir d'essence en charge.	Fallbehälter.	Serbatoio d'alimentazione per gravità.
Gun, fixed.	cañon fijo.	Canon fixe.	Feste Kanone.	Cannone fisso.
Gun, flexible.	cañon doblegable.	Canon mobile.	Frel Kanone.	Cannone mobile.

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Gun heater.	aparato para la calefacción de la ametralladora.	Dispositif de réchauffage du canon.	Gewehrheizvorrichtung.	Dispositivo di riscaldamento del cannone.
Gun mounting.	montaje de cañon.	Affût.	Lafette.	Castello cannone.
Hangar.	hangar.	Hangar.	Schuppen.	tettoia.
Haze.	bruma, niebla.	Brume sèche.	Dunst.	Nebbia (secca), caligine.
Height, cloud.	altura de nubes.	Hauteur du nuage.	Wolkenhöhe.	Altezza della nube.
Helicopter.	helicóptero.	Hélicoptère.	Helicopter, Hubschrauber.	Elicottero.
Horsepower.	caballo de fuerza, caballo de vapor, C. V.	Puissance (chevaux).	Motorleistung.	Potenza.
Hull.	fuselaje, casco.	Coque.	Boot.	Scavo.
Ice formation.	formación de hielo, capa de hielo, corteza de hielo.	Formation de glaces.	Vereisung, Eisansatz.	Formazione de ghiaccio.
Identification light.	alumbreado de identificación, luz de identificación, luz identificadora.	Feu d'identification.	Zusatzfeuer.	Luce di identificazione.
Indicator, rate-of-climb (or descent).	indicator de la velocidad de ascenso (de descenso), variómetro.	Indicateur de vitesse ascensionnelle (ou de descente).	Steiggeschwindigkeitsmesser (Fallgeschwindigkeitsmesser).	Indicatore della velocità di salita (o di discesa).
Instability.	instabilidad.	Instabilité.	Instabilität.	Instabilità.
Instrument flying.	vuelo a ciegas, pilotaje por medio de los instrumentos.	Vol par instrument (vol aveugle).	Blindflug.	Volo strumentale (volo cieco).
Isobar.	línea isobárica.	Isobare.	Isobar.	Isobara.
Lamp, signaling.	señal con linterna.	Lampe de signalisation.	Signallampe.	Lampade di segnalazione.
Land breeze.	brisa de tierra.	Brise de terre.	Landbrise.	Brezza di terra.
Landing area.	zona de aterrizaje.	Zone d'atterrissage.	Rollfeld.	Zona di atterraggio.
Landing field.	campo de aterrizaje.	Terrain d'atterrissage.	Landeplatz.	Campo di atterraggio.

REFERENCE DATA, ADMINISTRATION

	campo de fortuna, campo para aterrizaje forzado. cobete de aterrizaje para aviones. velocidad al aterrizar, velocidad de aterrizaje. avión de tierra, a. terrestre. borde de ataque, borde de entrada. fuga, fuga de líquido. nivel transversal. nivel de proa a popa. correcter de altura. Palanca de gases. sustentación. alumbrado luz de acercamiento, luz de aproximación. alumbrado de límites (líndero), luz de limitación. alumbrado de la cabina, a. del puesto de pilotaje. luz fija. luz intermitente, luz de eclipse. alumbrado de identificación, luz identificadora. alumbrado de aterrizaje. luz de navegación. coeficiente de carga.	Terrain de secours. Feu d'atterrissage (d'avion). Vitesse d'atterrissage. Avion (terrestre). Bord d'attaque. Fuite. Niveau transversal. Niveau longitudinal. correcteur d'altitude. Manette des gaz. Force ascensionnelle. Feu d'accès. Feu de délimitation. Lampe de poste de pilote. Feu fixé. Feu à éclat. Feu d'identification. Lampe d'atterrissage. Lampe de navigation. Coefficient de charge.	Notlandeplatz. Landebahnfeuer. Landegeschwindigkeit. Landflugzeug. Flugelvorderkante. Leck. Querlevelle. Längslevelle. Hohengashebel. Gashebel. Auftrieb. Anschwebelicht. Umrandungsfeuer. Führersitzlampe. Festes Feuer. Blinkfeuer. Zusatzfeuer. Landeleuchte. Navigationsleuchte. Lastvielfach.	Campo di fortuna. Lampada di atterraggio del velivolo. Velocità d'atterraggio. Velivolo terrestre. Bordo d'attacco. Fuga. Livella trasversale. Livella longitudinale. Levetta di comando d'altezza. Levetta di comando. Forza ascensionale. Foco d'accesso. Fuoco di delimitazione. Lampada del posto di pilotaggio. Fuoco fisso. Fuoco a lampi. Luce di identificazione. Lampada di atterraggio. Lampade di navigazione. Coefficiente di carico.
Landing field, emergency.				
Landing flare, aircraft.				
Landing speed.				
Landplane.				
Leading edge.				
Leakage.				
Level, cross.				
Level, fore-and-aft.				
Lever, altitude control.				
Lever, throttle.				
Lift.				
Light, approach.				
Light, boundary.				
Light, cockpit.				
Light, fixed.				
Light, flashing.				
Light, identification.				
Light, landing.				
Light, navigation.				
Load, factor.				

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Load, pay.	carga de pago.	Charge payante.	Nutzlast.	Carico utile pagante.
Load, useful.	carga útil, carga efectiva.	Charge utile.	Zuladung.	Carico utile.
Longeron.	larguero.	Longeron.	Langsholm.	Lungherone.
Longitudinal.	longitudinal.	Longitudinal.	Langsholm.	Longitudinale.
Longitudinal axis.	eje longitudinal.	Axe longitudinal.	Längsachse.	Asse longitudinale.
Longitudinal stability.	estabilidad longitudinal.	Stabilité longitudinale.	Längsstaabilität.	Stabilità longitudinale.
Loop.	rizo.	Looping.	Überschlag.	Gran volta.
Loop, inverted.	rizo invertido.	Looping à l'envers.	Umgekehrter Überschlag.	Gran volta inversa.
Low clouds.	nubes bajas.	Nuages bas.	Niedrigen Wolken.	Nubi bassi.
Magnets.	magnetos (ferr.).	Magnéto.	Magnet.	Accenditore a magnete.
Main float.	flotador principal.	Flotteur principal.	Hauptschwimmer.	Gallegiante Principale.
Main plane.	plano principal.	Voilure.	Haupttragfläche.	Cellula.
Main tank.	tanque principal.	Réservoir principal.	Hauptbehälter.	Serbatoio principale.
Marker, sea.	marcador marino.	Amer.	Seezeichen.	Segnale marittimo.
Maximum flying speed.	velocidad máxima de vuelo.	Vitesse maxima.	Höchstgeschwindigkeit.	Velocità massima.
Mechanic.	mecánico de aviación, mecánico motorista.	Mecanicien.	Mechaniker.	Ingegnere del campo di aviazione.
Mechanical starters.	iniciadores mecánicos, arranques mecánicos	Démarréur automatique.	Mechanische Anlasser.	Avviatore automatico.
Minimum flying speed.	velocidad mínima de vuelo.	Vitesse minima.	Kleinstgeschwindigkeit.	Velocità minima.
Mist.	niebla, neblina, vapor.	Brume.	Bodennebel.	Nebbia.
Monoplane.	monoplano.	Monoplan.	Eindecker.	Monoplano.
Monoplane, high wing.	Monoplano de ala elevada.	Monoplan à aile surélevée.	Hochdecker.	Monoplano ad ala alta.
Monoplane, low wing.	monoplano de ala baja.	Monoplan à aile basse.	Tiefdecker.	Monoplano ad ala bassa.
Monoplane, mid wing.	monoplano de ala intermedia.	Monoplan à aile moyenne.	Mitteldecker.	Monoplano ad ala sim- bassa.

REFERENCE DATA, ADMINISTRATION

Mooring cone.	cono de amarre.	Cône d'ancrage.	Verankerungskegel.	Cono d'ormeggio.
Mooring guy.	amarre, a. de retenida.	Câble d'ancrage.	Verankerungstau.	Cavo d'ormeggio.
Mooring rope.	cuerda (soga, cable) de marre.	Câble d'amarrage.	Halftleine.	Fune d'ormeggio.
Nimbus.	nimbo.	Nimbus.	Nimbus.	Nimbi.
Normal flight.	vuelo ordinario (normal).	Vol normal.	Normalflug.	Volo normale.
Nose dive, terminal.	velocidad máxima de picado vertical, v. m. de descenso de cabeza.	Piqué limite.	Endsturzflug.	Picchiata limite.
Panacking.	aterrizaje (atterrizamiento) brusco, despiome, aplastarse.	Descendre a plat. Plaque.	Sacken.	Cadere a piatto.
Parachute.	paracaídas.	Parachute.	Fallschirm.	Paracadute.
Parachute flare.	cobete de paracaídas.	Fusée éclairante à parachute.	Fallschirmleuchtkugel.	Palla lucente a paracadute.
Pedals, rudder.	pedales del timón.	Pédales du gouvernail.	Seitenruder Fusshebel.	Pedali del timone di direzione.
Performance.	performance, potencia, funcionamiento.	Performance.	Leistung.	Rendimento.
Pilot.	aviador, piloto.	Pilote.	Flugzeugführer.	Pilota.
Pressure.	presión.	Pression.	Druck.	Pressione.
Propeller.	hélice, hélice aérea.	Hélice.	Luftschraube.	Elica.
Propeller, controllable pitch.	hélice a paso variable, hélice regulable en vuelo.	Hélice à pales réglables.	Einstellluftschrabe.	Elica con pale orientabili.
Propeller, variable pitch.	hélice regulable en tierra.	Hélice à pas variable.	Verstellluftschrabe.	Elica a passo variabile.
Pump, pressure.	bomba de presión.	Pompe foulante.	Druckpumpe.	Pompe a pressione.
R. p. m., maximum permissible.	máximo permisible de revoluciones por minuto.	Régime maximum permissible.	Höchstzulässige Drehzahl.	Numero dei giri massimo permesso (dal motore).
R. p. m., normal.	promedio normal de revoluciones por minuto.	Régime normal. Vitesse de rotation normale du moteur.	Normaldrehzahl.	Numero dei giri normale del motore.
Radiators.	radiadores.	Radiateurs.	Hühlern.	Radiatori.

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Radius of action.	radio de acción.	Rayon.	Flugbereich.	Raggio di azione.
Rain.	lluvia.	Pluie.	Regen.	Pioggia.
Range.	autonomía, esfera de actividad.	Rayon d'action.	Autonomie.	Autonomia (kilométrica).
Report, weather.	boletín meteorológico, información meteorológica.	Avis météorologique (Météo).	Wetterbericht.	Informazioni meteorologiche.
Retractable radiator.	radiador replegable, r. eclipsable.	Radiateur escamotable.	Einziehbarer Kühler.	Radiatore mobile.
Retractable undercarriage.	tren de aterrizaje replegable.	Train d'atterrissage escamotable.	Einziehbares Fahrgestell.	Carrello ritirabile.
Rib.	costilla.	Nervure.	Rippe.	Centina.
Rigging.	jarcia, aparejo.	Corrages.	Seilsystem.	Cordame.
Ring, exhaust.	anillo colector de escape.	Anneau d'échappement.	Auspuffring.	Anello di scappamento.
Rocket, signal.	cobete de señales.	Fusée de signalisation.	Signalleucht patronne.	Razzo di segnalazione.
Roll.	tonel, barrera horizontal.	Tonneau.	Überschlag über den Flügel.	Mulinello.
Rudder.	Timón, gobernalles.	Gouvernail de direction.	Seitenruder.	Timone di direzione.
Rudder pedals.	pedales del timón.	Pedales du gouvernail de direction.	Seitenruderfusshebel.	Pedali del timone di direzione.
Run, landing.	recorrido de aterrizaje.	Roulement à l'atterrissage.	Auslauf.	Corsa di atterraggio.
Run, take-off.	recorrido de despegue.	Roulement au décollage.	Anlauf.	Corsa di decollaggio.
Sandstorm.	tempestad de arena.	Tempête de sable.	Sandsturm.	Tempesta di sabbia.
Seaplane.	hidroavión, hidro.	Hydravion.	Wasserflugzeug.	Idrovolante.
Service load.	carga ordinaria, c. de servicio.	Charge utile.	Zuladung.	Carico utile.
Shutter radiator.	persiana de radiador.	Radiateur à volets.	Jalousiekühler.	Radiatore a gelosia.
Skid, tail.	patín de cola.	Béquille.	(Schwanz) Sporn.	Pattino di coda.

REFERENCE DATA, ADMINISTRATION

Slipstream.	corriente de aire impelido hacia atrás por la hélice.	Zone ablayée par l'hélice.	Schraubenstrahl.	Filetti dell'elica.
Slots.	ranuras.	Fentes.	Spalten.	Fessure.
Snap roll.	tonel rápido, barrena lanzada.	Tonneau rapide.	Schnelle Rolle.	Vite veloce.
Snow.	nieve.	Neige.	Schnee.	Nevica.
Span.	envergadura.	Envergure.	Spannweite.	Apertura.
Spark plugs.	bujías de encendido.	Bougie (d'allumage).	(Zünd) Kerze.	Candela d'accensione.
Speed, air.	velocidad con relación al aire.	Vitesse absolue.	Eigengeschwindigkeit.	Velocità assoluta.
Speed, ground.	velocidad efectiva.	Vitesse relative.	Absolute Geschwindigkeit (Grundgeschwindigkeit).	Velocità relativa.
Spin.	barrena, picado muy pronunciado.	Vrille.	Trudeln.	Avvitamento.
Spin, flat.	barrena plana.	Vrille à plat.	Flachtrudeln.	Avvitamento piatto.
Spin, inverted.	barrena invertida.	Vrille à l'envers.	Umgekehrter Trudeln.	Vite inversa.
Stabilizer.	Estabilizador.	Stabilisateur.	Höhenflosse.	Stabilizzatore.
Stagger.	decalaje.	Décalage.	Staffelung.	Decalaggio.
Stall.	período de sustentación, p. de velocidad.	Perte de vitesse.	Uebersogener Flug.	Volo cabrato.
Stalling speed.	velocidad mínima sin pérdida de sustentación.	Vitesse critique.	Kritische Geschwindigkeit.	Velocità critica.
Starter, compressed-air.	arranque neumático, puesta en marcha de aire comprimido.	Démarrreur à air comprimé.	Druckluftanlasser.	Avvitatore ad aria compressa.
Starter, gas.	arranque accionado por gasolina, puesta en marcha accionada por gasolina.	Démarrreur à gaz.	Gasanlasser.	Avvitatore a gas.
Starter, hand.	puesta en marcha a mano, arranque de manivela.	Démarrreur à main.	Handanlasser.	Avvitatore a mano.
Starter, inertia.	arranque (puesta en marcha) de inercia.	Démarrreur à volant.	Anlassermasse, Anlasserwingrad.	Avvitatore a volante.

ARMY AIR FORCE FIELD MANUAL

English	Spanish	French	German	Italian
Stratosphere.	estratósfera.	Stratosphère.	Stratosphäre.	Stratosfera.
Streamline.	forma fuselada.	Carener.	Stromlinie.	Carenatura.
Strut.	montante.	Montant.	Stiel, Strebe.	Asta.
Sump, crankcase.	colector de aceite del cárter.	Carter à huile.	Ölsumpf.	Vasca d'olio.
Supercharged engine.	motor sobrealimentado.	Moteur suralimenté.	Uebercompressionsmotor.	Motore sovraccaricato.
Supercharger.	sobrealimentador.	Surcompresseur.	Kompressor.	Compressore.
Supercharger, centrifugal.	sobrealimentador de acción centrifuga.	Turbocompresseur.	Kreisel oder Zentrifugal-kompressor.	Turbocompressore.
Supercharger, direct-drive.	sobrealimentador de accionamiento directo.	Compresseur à commande directe.	Direkt angetriebener Kompressor.	Compressore preliminare azianoto direttamente.
Supercharger, exhaust-driven.	sobrealimentador accionado por el escape.	Compresseur à échappement.	Abgasurbinekompressor.	Compressore a scappamento.
Swell (sea).	marejada, oleada.	Houle.	Dünung.	Moto ondoso.
Switch, ignition.	interruptor de encendido.	Interrupteur d'allumage.	Magnetschalter.	Interruttore di accensione.
Tachometer.	taquímetro.	Compte tours, Tachymètre.	Drehzahnmesser.	Contagiri; tachimetro.
Take-off.	despegue.	Décollage.	Start.	Decollaggio.
Take-off run.	recorrido de despegue.	Roulement au décollage.	Anlauf.	Corsa di decollaggio.
Tanks.	tanques.	Réservoirs.	Behälter.	Serbatoii.
Taxying.	corrida; de corrida.	Roulement.	Rollen.	Rullare.
Torque.	momento de torsión, par de fuerzas.	Couple moteur.	Drehmoment.	Coppia del motore.
Track.	pista; rieles.	Trajectoire.	Bahn.	Traetoria.
Track angle.	ángulo de rastro.	Angle de route.	Kurswinkel.	Angolo di rotta.
Trade winds.	vientos alisios.	Vents alizés.	Passat.	Venti alisei.
Trailing edge.	borde de salida del ala.	Bord de fuite.	Hinterkante.	Bordo di uscita.

REFERENCE DATA, ADMINISTRATION

Tunnel, wind.	túnel aerodinámico.	Soufflerie.	Windkanal.	Galleria del vento.
Turn indicator.	girocinómetro, indicador de viraje.	Indicateur de virage.	Wendezeiger.	Indicatore di virata.
Turret.	torrecilla, t. blindada.	Tourelle.	Turn.	Torretta.
Unit, tail.	empenaje.	Empennage.	Leitwerk.	Impennagio.
Valve.	válvula.	Soupape.	Ventil.	Valvola.
Visibility.	visibilidad.	Visibilité.	Sicht.	Visibilità.
Warning.	alarma, aviso.	Avertissement.	Warnung.	Avviso.
Weather map.	carta meteorológica.	Carte synoptique.	Synoptische Wetterkarte.	Carta sinottica.
Weather report.	parte de tiempo	Avis météorologique.	Wettermeldung.	Informazioni meteorologiche.
Weight, aerial.	plomada de antena.	Poids d'antenne.	Antennengewicht.	Peso dell'antenna.
Wheel, tail.	rueda de cola.	Route de queue.	Schwanzrad.	Ruota di coda.
Wind, cone.	manga de viento, maugavaleta, cono de viento.	Manche à vent.	Windsack.	Manica a vento.
Wind tunnel.	túnel aerodinámico.	Soufferie.	Windkanal.	Galleria del vento.
Wireless.	radiocomunicación, telegrafo (teléfono) sin hilos.	T. S. F. (Télégraphie sans fil); Radiotélégraphie.	Funkwesen.	Radiotelegrafia.
Zooming.	empinada.	Montée en chandelle.	Hochziehen.	Salita in candella.

SECTION XII
 ARMY AIR FORCE LOADING AND EQUIPMENT TABLES

ARMY AIR FORCE REFERENCE DATA
 ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded :

Normal movement :

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6	7	8	9	10	11	Road movement			
											12	13	14	15
Unit (Use T/O strength for personnel—flying and ground.)	Officers and warrant officers	Enlisted men	Total	Ship tons, 3.75 per man	Number	Weight loaded, long tons 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons 2,240 pounds	Equipment not carried in unit vehicles	Total ship tons, columns 3, 8 and 10	1 1/2-ton cargo trucks +	2 1/2-ton cargo trucks +	1 1/2-ton cargo trucks +	2 1/2-ton cargo trucks +
Headquarters squadron, air force combat command.....														

REFERENCE DATA, ADMINISTRATION

Headquarters squadron air force.....																				
Headquarters bomber command.....																				
Headquarters interceptor command.....																				
Headquarters squadron support command.....																				
Headquarters squadron air wing.....																				
Headquarters squadron bomb group (H).....	15	252	267,1,001.25	13	29	194	48	211	1,406.25											
Headquarters squadron bomb group (M).....	9	255	264,990	13	52.59	420.34	33.5	115.9	1,525.24											
Headquarters squadron bomb group (L).....	16	251	267,1,001.25	13	29.0	194	38.15	264.8	1,460											
Headquarters squadron pursuit (I).....	42	250	292,1,095	13	46.9	351.75	34	189	1,635.75											
Headquarters squadron pursuit (F).....																				
Bomb squadron (H).....	11	200	211,791.25	21	74	472	20	125	1,388.25											
Bomb squadron (M).....	10	206	216,810	21	63	513	34	166	1,489											
Bomb squadron (L).....	9	197	206,772.5	17	65.6	328.35	25.4	92.4	1,193.25											
Pursuit squadron (I).....	17	215	235,881.25	17	65.58	405.2	31.3	155.54	1,443											
Pursuit squadron (F).....																				
Reconnaissance squadron (H).....	12	231	243,911.25	21	73.4	472.1	26.6	89.8	1,473.15											
Reconnaissance squadron (M).....	9	237	246,922.5	24	86	573	26	62	1,557.5											
Headquarters squadron, air base group.....	23	225	248,930	21	37.1	319.1	22.6	68	1,317.1											
Air base squadron.....	13	138	151,566.25	21	37	319	22.6	68	953.25											
Matériel squadron.....	12	315	327,1,226.25	25	102.3	652.7	233.22	1,903.6	3,784.55											
Reconnaissance squadron (L).....	12	238	240,900	20	72.76	423	33	1,512	2,835											
Headquarters and headquarters squadron transport wing.....	2	25	27,101.25	9	29	198	19	170	469.25											
Headquarters and headquarters squadron transport group.....	2	20	22,82.5	10	27	193	21	170	450.5											
Transport squadron.....	2	45	47,176.25	14	64	339	118	2,280	2,845.25											
Headquarters and headquarters squadron air depot group.....	2	23	25,93.75	13	27	181	122	880	1,154.75											
Repair squadron depot group.....	2	23	30,112.5	14	62	339	495	3,309	3,810.5											
Supply squadron depot group.....	2	28	30,112.5	14	64	339	433	1,168	1,669.5											

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	Rail requirements							Maintenance items							
				19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Unit (Use T/O strength for personnel—flying and ground.)	Ship cargo requirements—ship tons			Cars—A.R. 30-935							1 day							
	Stowage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Pullman—1 officer/berth, 26	Tourist—3 enlisted men/sec-tion, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—60', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,268 cubic feet	Total	Gas, Gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, ½ pound per vehicle	Rations—14 cubic feet/ration	Hold cargo	Deck cargo, inflammables	Ship tons
Headquarters squadron, air force combat command				3	7	5	6	6	20		46	230	8	12	451	1.3	0.55	
Headquarters squadron, air force																		
Headquarters bomber command																		
Headquarters interceptor command																		

REFERENCE DATA, ADMINISTRATION

Headquarters squadron support command																			
Headquarters squadron air wing																			
Headquarters squadron bomb group (H)	1,617.19	1,687.5	2,109.38													130	3.25	6.5	
Headquarters squadron bomb group (M)	1,755.18	1,831.49	2,289.36	1	6	2	8		2	19	130	3.25	6.5	297	1.25				.85
Headquarters squadron bomb group (L)	1,679	1,752	2,190	6	6	6	7			19	130	3.25	6.5	254	1				.477
Headquarters squadron pursuit (I)	1,881.11	1,962.9	2,453.63	6	5	7	1	0	10	21	130	3.25	6.5	31.36	.784				.6
Headquarters squadron pursuit (F)																			
Bomb squadron (H)	1,596.49	1,665.9	2,082.38								210		10.5						
Bomb squadron (M)	1,712.35	1,786.8	2,233.5	1	4	2	8		2	17	210	5.25	10.5	306	1.3				1
Bomb squadron (L)	1,372.24	1,431.9	1,789.88	6	0	4	10	0	0	20	170	4.25	8.5	666	2.5				.6
Pursuit squadron (I)	1,659.45	1,731.6	2,164.5	6	5	7	1	0	14	24	170	4.25	8.5	31.36	.784				.6
Pursuit squadron (F)																			
Reconnaissance squadron (H)	1,694.12	1,767.78	2,209.73	1	4	2	0	0	2	10	210	5.25	10.5						
Reconnaissance squadron (M)	1,791.13	1,889	2,336.25	0	7	2	5	0	9	23	240	6	12	341	1.5				1.3
Headquarters squadron air base group	1,514.67	1,580.52	1,975.65	1	3	1	9	0	1	0	210	5.25	10.5	950	1.5				.7
Air base squadron	1,096.23	1,143.9	1,429.88	1	3	1	9		1	15	210	5.25	10.5	151	1.5				.7
Matériel squadron	4,352.23	4,541.46	5,676.83	0	6	3	43	0	4	0	250	6.25	12.5		7				2
Reconnaissance squadron (L)	3,260.25	3,402	4,252.5	2	5	2	0		9	27	200	5	10	284	1				2.7
Headquarters and headquarters squadron transport wing	539.64	563.1	703.88								90	2.25	4.5	73	.031				.575

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	Maintenance items							31	32				
				19	20	21	22	23	24	25			26	27	28	29
Unit (Use T/O strength for personnel—flying and ground.)	Ship cargo requirements—ship tons			Rail requirements							1 day			Ship tons		
	Stowage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Pullman—1 officers/berth, 20 officers/car	Tourist—3 enlisted men/sec-tion, 29 enlisted men/car	Baggage—1 per 200 men	(Fondola—46', 426 square feet	Flat—50', 434 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, ½ pound, ½ pound per vehicle	Rations—14 cubic feet/ration	Hold cargo
Headquarters and headquarters squadron transport group	518.08	540.6	675.75								100	2.5	6	.119	.051	.639
Transport squadron	3,272.04	3,414.3	4,267.88								140	3.5	7	.229	.097	.895
Headquarters and headquarters squadron air depot group	1,327.96	1,385.7	1,732.13								130	3.25	6.5	.183	.077	.447
Repair squadron depot group	4,381.08	4,572.6	5,715.76								140	3.5	7	.199	.085	.895
Supply squadron depot group	1,919.93	2,003.4	2,504.25								140	3.5	7	.142	.063	.895

NOTES

- 1 All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- 2 Normal movement—Ground echelon precedes air echelon to destination.
- 3 Unit vehicles loaded to authorized capacity.
- 4 Show total requirements in each column. Only one size truck will normally be required.
- 5 Inflammables—Include as deck cargo.
- 6 Pullman or tourist.
- 7 One additional needed for feeding, traveling over 48 hours.

ARMY AIR FORCE REFERENCE DATA
AIR-GROUND-WATER MOVEMENT

Normal movement 1

AIR ECHELON

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Remarks
Unit (Use T/O strength for personnel Flying and Ground.)	Officers and warrant officers	Enlisted men	Total	Carried in unit aircraft			Carried in transport aircraft			No. of model transport airplanes required	Weight in pounds	Cubic feet	Carried in unit aircraft		Carried in transport aircraft		No. of model cargo airplanes required		
				Officers	Enlisted men	Total	Officers	Enlisted men	Total				Pounds	Cubic feet	Pounds	Cubic feet			
Headquarters squadron air force combat command	71	380	451	18	44	62	18	44	62		9,984	588	9,934	588					
Headquarters squadron air force																			
Headquarters squadron bomber command																			
Headquarters squadron intercept- tor command																			
Headquarters squadron support command																			
Headquarters squadron air wing																			
Headquarters squadron bomb group (H)	24	287	291	9	16	24	0	0	0	0	0	0	0	0	0	0	0	0	3 airplanes.

REFERENCE DATA, ADMINISTRATION

Headquarters squadron bomb group (M).....	26	273	299	17	18	35	0	0	0	0	3,375	175	675	37.9	0	0	0	5 airplanes.
Headquarters squadron bomb group (L).....	21	261	282	5	10	15	0	0	0	0	3,345	0	3,345	0	0	0	0	5 airplanes.
Headquarters squadron pursuit (I).....	47	230	297	5	0	5	14	3	17	2	1,257	106	0	1,257	106	0	1	5 airplanes.
Headquarters squadron pursuit (F).....																		
Bomb squadron (H).....	38	237	275	27	37	64	0	0	0	0	0	0	0	0	0	0	0	8 airplanes.
Bomb squadron (M).....	52	254	308	42	48	90	0	0	0	0	8,504	493	576	37.9	0	0	0	13 airplanes.
Bomb squadron (L).....	26	219	245	17	22	39	0	0	0	0	8,677	0	8,677	0	0	0	0	13 airplanes.
Pursuit squadron (F).....																		
Pursuit squadron (I).....	42	218	260	25	0	25	23	13	30	4	4,136	286	0	4,136	286	0	2	25 airplanes.
Reconnaissance squadron (H).....	44	271	315	32	40	72	0	0	0	0	6,486	365	6,486	365	0	0	0	8 airplanes.
Reconnaissance squadron (M).....	61	276	337	52	39	91	0	0	0	0	4,524	344	348	214	0	0	0	13 airplanes.
Headquarters squadron air base group.....																		
Air base squadron.....																		
Matériel squadron.....																		
Reconnaissance squadron (L).....	38	241	279	26	13	39	0	0	0	0	8,675	32	8,675	32	0	0	0	13 airplanes.
Headquarters and headquarters squadron transportation wing.....	9	64	73	3	3	6	4	38	42	3	0	0	0	0	0	0	0	
Headquarters and headquarters squadron transportation group.....	10	109	119	3	3	6	5	86	91	7	0	0	0	0	0	0	0	
Transport Squadron.....	41	188	229	39	143	182	6	0	0	0	0	0	0	0	0	0	0	
Headquarters and headquarters squadron air depot group.....	16	167	183	10	8	18	4	136	140	10	0	0	0	0	0	0	0	
Repair squadron depot group.....	10	189	199	0	0	0	8	161	169	12	0	0	0	0	0	0	0	
Supply squadron depot group.....	10	132	142	0	0	0	8	104	112	8	0	0	0	0	0	0	0	

1 Normal movement—Ground echelon precedes air echelon to destination.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded ¹

Normal movement ²

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	Personnel		5	Organization equipment				11	Road movement					
			Officers and warrant officers	Enlisted men		Total	Ship tons, 8.75 per man	Vehicles			Equipment not carried in unit vehicles		Additional vehicles required for equipment		Additional vehicles required for personnel ³	
Unit						Number	Weight ¹ loaded, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons, 2,240 pounds	Ship tons, 40 cubic feet	1 1/2-ton cargo trucks ⁴	2 1/2-ton cargo trucks ⁴	Additional vehicles required for equipment	1 1/2-ton cargo trucks ⁴	2 1/2-ton cargo trucks ⁴	
Quartermaster company troop (trk)																
Company head quarters	1	22	23	86.25	9	35.7	231.4	0	0	0	0	0	0	0	0	
Platoon	1	44	45	172.50	46	191.15	1,238.8	0	0	0	0	0	0	0	0	
Quartermaster company (LM)				258.75		226.85	1,470.2									
Company head quarters	1	24	25	93.75	8	28.5	168.1	0	0	0	0	0	0	0	0	
Supply platoon	1	25	26	97.50	17	67.9	428.1	0	0	0	0	0	0	0	0	
Light maintenance platoon	1	68	69	258.75	13	71.6	377.6	0	0	0	0	0	0	0	0	
Quartermaster company, aviation supply		117			38	168.0	973.8									
									Total ship tons, columns 9, 9c and 10							
										317.7	1,411.3	1,729.0	261.85	525.60	636.3	973.8

REFERENCE DATA, ADMINISTRATION

Company headquarters.....	3	22	25	93.75	3	17.4	24.7	9	19.5	137.95	0	4	1	0
Depot platoons.....	6	85	91	341.25	11	29.4	137.1	23.80	60	538.35	0	10	1	2
Refilling point platoons.....	4	59	63	236.25	12	23.1	187.8	8.3	18.3	442.35	1	3	1	1
Distributing point platoons.....	0	100	100	375	0	0	0	36	78	453	1	14	1	5

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	Rail requirements							Maintenance items						
				19	20	21	22	23	24	25	26	27	28	29	30	31	32
Unit	Ship cargo requirement— ship tons			Cars—AR 30-935							1 day						
	Storage add 13 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Fullman—1 officer/ berth 26 officers est	Tourist—3 enlisted men/ section, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas † gallons 10 gallons per vehicle	Oil † gallons 1 quart per vehicle	Lubricant † pounds † pound per vehicle	Katons—0.14 cubic foot rallon	Hold cargo	Deck cargo in Dammables
Quartermaster company troop (trk)	365.35	381.24	476.55	0	1	(1/8)1	0	10	0	0	0	12	2.25	4 1/2	0.177	0.177	0.85
Company headquarters	1,622.99	1,693.56	2,116.95	0	2	(1/4)1	0	21	0	0	24	11.5	23	.354	.354	3.124	
Platoon	301.12	314.22	392.7	0	1	(1/8)1	0	4	0	0	6	2.00	4	.197	.197	.70	
Quartermaster company (LM)	604.44	630.72	788.4	0	1	(1/8)1	0	9	0	0	11	4.25	8 1/2	.218	.218	1.39	
Company headquarters	731.74	763.6	954.45	0	3	1	0	7	0	0	11	3.25	6 1/2	.534	.534	1.06	
Supply platoon																	
Light maintenance platoon																	
Quartermaster company, aviation supply	158.64	165.54	206.92	0	1	(1/8)1	0	1	1	0	4	.75	1 1/2	.197	.197	.25	
Company headquarters																	

REFERENCE DATA, ADMINISTRATION

Depot platoons.....	619.10	646.02	807.53	0	4	(1/2)1	0	4	1	0	10	110	2.75	5 1/2	.646	.646	.902
Refilling point platoons.....	508.70	530.82	663.52	0	3	(4)1	0	4	1	0	9	120	3	6	.447	.447	.984
Distributing point platoons.....	520.95	543.6	670.5	0	4	(1/2)1	0	0	1	0	6	0	0	0	.76	.76	0

NOTES

1 All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.

2 Normal movement—Ground echelon precedes air echelon to destination.

3 Unit vehicles loaded to authorized capacity.

4 Show total requirements in each column. Only one size truck will normally be required.

5 Inflammables—Include as deck cargo.

ESTIMATED
ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty
Normal movement¹

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Unit	Officers and warrant officers	Enlisted men	Total	Ship tons, 3.75 per man	Number	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons, 2,240 pounds	Ship tons, 40 cubic feet	Total ship tons, columns 5, 8, and 10	Storage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent
	<i>Quartermaster company, troop (Trk)</i>												
Company headquarters	1	22	23	86.25	9	20.43	160.2	63.03	71.2	317.65	365.29	381.18	476.47
Platoon	1	44	45	168.75	45	105.83	929.1	109.22	309.7	1,407.55	1,618.68	1,689.06	2,111.33
Quartermaster company (LM)													
Company headquarters	1	24	25	93.75	8	16.70	126.1	12.5	42	281.85	301.12	314.22	392.77
Supply platoon	1	25	26	97.50	17	38.15	321.1	29.6	107	525.6	604.44	630.72	788.4

REFERENCE DATA, ADMINISTRATION

	1	68	69	258.75	13	44.70	283.2	26.9	94.4	636.35	731.80	763.62	954.53
Light maintenance platoon.....													
Quartermaster company aviation supply.....													
Company headquarters.....	3	22	25	93.75	3	3.87	24.7	9	19.5	137.95	158.64	165.54	206.92
Depot platoon.....	6	85	91	341.25	11	22.11	137.1	32.76	71	549.35	631.75	659.22	824.03
Refilling point platoon.....	4	59	63	238.25	12	23.84	187.8	23	49	473.05	544	567.66	709.57
Distributing point platoon.....	0	100	100	375	0	0	0	36	78	453	520.95	543.6	679.5

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Unit	Rail requirements													
	Cars—A R 30-935													
	Fullman—1 officer/ Berth, 26 officers/ car	Tourist—3 enlisted men/section, 20 en- listed men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gal- lons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, ½ pound per ve- hicle	Rations—¼ cubic feet/ration	Hold cargo	Deck cargo, in- flammables
Quartermaster company, troop (Trk)	0	1 (1/8)1	0	11	0	0	0	13	90	2.25	4½	0.177	0.177	0.85
Company headquarters	0	2 (1/4)1	0	22	0	0	0	25	460	11.5	23	.354	.354	3.124
Platoon	0	1 (1/8)1	0	4	0	0	0	6	80	2.00	4	.197	.197	.70
Quartermaster company (LM)	0	1 (1/8)1	0	9	0	0	0	11	170	4.25	8½	.218	.218	1.39
Company headquarters	0	3	1	7	0	0	0	11	130	3.25	6½	.534	.534	1.06
Supply platoon	0	1	1	4	0	0	0	6	30	.75	1½	.197	.197	.25
Light maintenance platoon	0	1	1	4	0	0	0	6	30	.75	1½	.197	.197	.25
Quartermaster company aviation supply	0	1	1	4	0	0	0	6	30	.75	1½	.197	.197	.25
Company headquarters	0	1	1	4	0	0	0	6	30	.75	1½	.197	.197	.25

REFERENCE DATA, ADMINISTRATION

Depot platoon.....	0	3	1	0	6	0	0	10	110	2.75	5½	.646	.646	.902
Refilling point platoon.....	0	3	1	0	6	0	0	10	120	3	6	.447	.447	.984
Distributing point platoon.....	0	4	1	6	0	2	0	7	0	0	0	.76	.76	0

NOTES

1 Normal movement—Ground echelon precedes air echelon to destination.

2 Inflammables—Include as deck cargo.

ARMY AIR FORCE FIELD MANUAL

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded 1

Normal movement 2

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2		3	4	5	6	7	8	9	10	11	12	13	14	15
	Officers and warrant officers			Personnel		Organization equipment					Road movement				
Unit	Enlisted men	Total	Ship tons, 3.75 per man			Number	Vehicles		Equipment not carried in unit vehicles		Total ship tons, columns 8, and 10	Additional vehicles required for equipment		Additional vehicles required for personnel 3	
							Weight tons 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons 2,240 pounds	Ship tons, 40 cubic feet		1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4
Ordnance company, aviation (air base), T/O.	60	64	240			29	109	630	0.26	1.39	871.39	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4
Ordnance company, aviation (air base), authorized	33	35	131.25			29	109	630	.26	1.39	762.64	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4
Ordnance company, aviation (bombardment), T/O	181	187	701.25			88	204	1,339	.25	1.26	2,041.51	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4	1 1/2-ton cargo trucks 4	3 1/2-ton cargo trucks 4

REFERENCE DATA, ADMINISTRATION

Ordnance company, aviation (bombardment), authorized.....	6	117	122	457.50	88	204	1,339	.25	1.25	1,797.76	-----
Airdrome platoon, ordnance company, aviation (bombardment), T/O.....	1	41	42	157.50	21	49	307	.06	.25	464.75	-----
Ordnance company, aviation (pursuit), T/O.....	5	83	88	330	16	33	270	.23	1.24	601.24	-----
Ordnance company, aviation (pursuit), authorized.....	2	38	40	150	16	33	270	.23	1.24	421.24	-----
Airdrome platoon, ordnance company, aviation (pursuit), T/O.....	1	23	24	90	4	8	53	.06	.31	143.31	-----
Airdrome platoon, ordnance company, aviation (pursuit), authorized.....	1	9	10	37.50	4	8	53	.06	.31	90.81	-----
Airdrome platoon, ordnance company, aviation (bombardment), authorized.....	1	26	27	101.25	21	49	307	.05	.25	408.5	-----

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	Ship cargo requirements— ship tons			Rail requirements							Maintenance items							
Unit	Stowage add 16 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Cars—A.R. 30-935							1 day							
				Pullman—1 officers/berth, 26 officers/car	Tourist—3 enlisted men/sec- tion, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per vehicle	Rations—0.14 cubic foot/ration	Hold cargo	Deck cargo, in-gam-	
	Berths																	
Ordnance company, aviation (air base), T/O	1,002.10	1,045.67	1,307.09		2	1	18				22	200	7.25	14.50	9.10		0.72	
Ordnance company, aviation (air base), authorized	877.04	915.17	1,144	2	2	1	18				21	200	7.25	14.50	4.90		.72	
Ordnance company, aviation (bombardment), T/O	2,347.7	2,449.8	3,062.2	6	6	1	29				36	880	22	44	26.18		1.65	
Ordnance company, aviation (bombardment), authorized	2,067.42	2,157.31	2,696.64	5	4	1	29				34	880	22	44	17.08		1.65	

REFERENCE DATA, ADMINISTRATION

Airdrome platoon, ordnance company, aviation (bombardment), T/O	534.46	557.7	697.13	1	2	1	7	10	210	5.25	10.5	5.88	.37
Ordnance company, aviation (pursuit), T/O	690.26	720.27	900.35	5	3	1	7	11	160	4	8	12.32	.55
Ordnance company, aviation (pursuit), authorized	484.43	505.49	631.86	2	2	1	7	10	160	4	8	5.60	.55
Airdrome platoon, ordnance company, aviation (pursuit), T/O	164.81	171.97	214.97	1	1	1	2	4	40	1	2	3.36	.14
Airdrome platoon, ordnance company, aviation (pursuit), authorized	52.68	54.97	68.72	1	1	1	2	3	40	1	2	1.40	.14
Airdrome platoon, ordnance company, aviation (bombardment), authorized	469.78	480.2	612.75	1	1	1	7	9	210	5.25	10.5	3.78	.37

NOTES

- ¹ All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- ² Normal movement—Ground echelon precedes air echelon to destination.
- ³ Unit vehicles loaded to authorized capacity.
- ⁴ Show total requirements in each column. Only one size truck will normally be required.
- ⁵ Inflammables—Include as deck cargo.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty

Normal movement 1

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6	7	8	9	10	11	12	13	14				
														Personnel			
Unit	Officers and warrant officers		Enlisted men		Total		Ship tons, 3.75 per man		Number	Vehicles		Equipment—excluding vehicles		Total ship tons, col-umns 5, 8, and 10	Stowage add 15 per-cent	Unit loaded add 20 percent	Combat unit loaded add 50 percent
	Officers and warrant officers	Enlisted men	Ship tons, 40 pounds	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Equipment—excluding vehicles		Ship tons, 40 cubic feet							
Ordnance company, aviation (air base), T/O authorized	5	60	65	243.75	29	104	630	4.85	11.27	885.02	1,017.77	1,062.02	1,327.53				
Ordnance company, aviation (air base), authorized	2	33	35	131.25	29	104	630	4.30	10.93	772.18	888	926.62	1,155.27				
Ordnance company, aviation (bombardment), T/O authorized	6	181	187	701.25	88	198	1,339	5.76	7.96	2,048.21	2,355.44	2,457.85	3,072.32				
Ordnance company, aviation (bombardment), authorized	5	117	122	457.5	88	198	1,339	5.59	7.23	1,803.73	2,074.29	2,164.48	2,705.6				

REFERENCE DATA, ADMINISTRATION

Airdrome platoon ordnance company, aviation (bombardment) T/O.....	1	41	42	157.5	21	47	307	1.75	2.37	466.87	536.9	560.24	700.3
Ordnance company, aviation (pursuit), T/O.....	5	83	88	330	16	30	270	2.63	2.01	602.01	692.31	722.41	903
Ordnance company, aviation (pursuit), authorized.....	2	38	40	150	16	30	270	1.97	2.01	422.01	485.31	506.41	633.01
Airdrome platoon, ordnance company, aviation (pursuit), T/O.....	1	23	24	90	4	7	53	.32	.98	143.98	165.68	172.78	215.97
Airdrome platoon ordnance company, aviation (pursuit), authorized.....	1	9	10	37.5	4	7	53	.30	.87	91.37	105	109.64	137.05
Airdrome platoon, ordnance company, aviation bombardment, authorized.....	1	26	27	101.25	21	47	307	1.68	2.09	410.34	471.89	492.41	615.51

ARMY AIR FORCE FIELD MANUAL

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

Unit	Rail requirements										Maintenance items						
	Cars—AR 30-936										1 day						
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Ship tons		
	Pullman—1 officer/berth, 26 officers/car	Tourist—3 enlisted men section, 28 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gal-ions per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per vehicle	Rations—14 cubic feet/ration	Hold cargo	Deck cargo, in-flammables			
Ordnance company, aviation (air base), T/O	5	2	1	18				21	280	7.25	14.5	9.10		0.72			
Ordnance company, aviation (air base), authorized	2	2	1	18				21	290	7.25	14.5	4.90		.72			
Ordnance company, aviation (bombardment), T/O	6	6	1	29				36	880	22	44	26.18		1.65			
Ordnance company, aviation (bombardment), authorized	5	4	1	29				34	880	22	44	17.08		1.65			
Airdrome platoon ordnance company, aviation (bombardment) T/O	1	2	1	7				10	210	5.25	10.5	5.88		.37			
Ordnance company, aviation (pursuit), T/O	5	3	1	7				11	160	4	8	12.32		.55			
Ordnance company, aviation (pursuit), authorized	2	2	1	7				10	160	4	8	5.60		.55			

REFERENCE DATA, ADMINISTRATION

Airdrome platoon, ordnance company, aviation (pursuit), T/O.....	1	1	1	2	4	40	1	2	3.36	.14
Airdrome platoon, ordnance company, aviation (pursuit), authorized.....	1	1	2	2	3	40	1	2	1.40	.14
Airdrome platoon, ordnance company, aviation (bombardment), authorized.....	1	1	7	1	9	210	5.25	10.5	3.78	.37

NOTES

1 Normal movement—Ground echelon precedes air echelon to destination.

2 Inflammables—Include as deck cargo.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded ¹

Normal movement ²

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6				10	11	12-15					
					7	8	9	10			Road movement		Road movement			
Unit	Personnel				Organization equipment				Equipment not carried in unit vehicles	Total ship tons, columns 9, and 10	Additional vehicles required for equipment		Additional vehicles required for personnel ³			
	Officers and warrant officers	Enlisted men	Totals	Ship tons, 3.75 per man	Number	Weight ¹ loaded, long tons 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons 2,240 pounds			Ship tons, 40 cubic feet	1 1/2-ton cargo trucks	2 1/2-ton cargo trucks	1 1/2-ton cargo trucks	2 1/2-ton cargo trucks	
Signal company, aviation.....	6	136	142	532.5	30	87	557	0	0	0	0	0	0	0	0	0
Signal company, air wing.....	3	79	82	307.5	25	69	448	0	0	0	0	0	0	0	0	0
Signal company, depot.....	5	127	132	495	7	20	132	0	0	0	0	0	0	0	0	0
Signal company, aircraft warning.....	12	357	369	1,383.75	35	115	774	0	0	0	0	0	0	0	0	0

ARMY AIR FORCE FIELD MANUAL

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	Ship cargo requirements— ship tons			Rail requirements				Maintenance items					1 day				
Unit	Storage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50	Pullman—1 officer/berth, 28 ton, 29 enlisted men/car	Tourist—3 enlisted men/sec ton, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, ½ pound per vehicle	Rations—.14 cubic feet/ration	Hold cargo	Deck cargo, inflamma- bles
	Signal company, aviation	1,252.93	1,307.4	1,634.25	0	5	1	0	10	0	0	16	300	7.50	15	19.9	0.5
Signal company, air wing	868.83	906.6	1,133.25	0	3	1	0	8	0	0	12	250	6.25	16	12.5	0.3	1.4
Signal company, depot	721	752.4	940.5	0	5	1	0	3	0	0	9	70	1.75	3.5	18.5	0.5	0.4
Signal company, aircraft warn- ing	2,481.41	2,539.3	3,236.63	0	13	2	0	12	0	0	27	350	8.75	17.5	51.6	1.3	2.0
Signal company, operation air- craft warning	2,652.76	2,768.1	3,460.12	0	10	2	0	19	0	0	31	490	12.25	24.5	40.5	1.0	2.7

REFERENCE DATA, ADMINISTRATION

Signal company, maintenance aviation.....	3,464.38	3,615	4,518.75	0	10	2	0	30	0	42	810	20.25	40.5	41.2	1.0	4.5
Signal platoon, maintenance aviation.....	737.73	769.8	962.25	0	2	1	0	7	0	10	160	4	8	8.7	0.2	0.9
Signal platoon, air base.....	304.46	317.7	387.13	0	2	1	0	2	0	5	60	1.5	3	5.2	0.1	0.4

NOTES

- 1 All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- 2 Normal movement—Ground echelon precedes air echelon to destination.
- 3 Unit vehicles loaded to authorized capacity.
Show total requirements in each column. Only one size truck will normally be required.
- 4 Inflammables—Include as deck cargo.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty

Normal movement 1

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6			7			8			9			10			11	12			13	14
					Officers and warrant officers	Enlisted men	Total	Ship tons, \$.75 per man	Number	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Vehicles	Equipment excluding vehicles	Ship tons, 40 cubic feet	Total ship tons, columns 8, 9, and 10	Stowage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent							
Unit	Personnel				Organization equipment			Vehicles			Equipment excluding vehicles			Ship cargo requirements—ship tons											
Signal company, aviation	6	136	142	532.5	30	58	557	29	79	1,168.5	1,343.78	1,402.2	1,752.75												
Signal company, air wing	8	79	82	307.5	25	45	448	24	72	827.5	951.63	993	1,241.25												
Signal company, depot	5	127	132	495	7	14	132	6	17	644	740.6	772.8	966												
Signal company, aircraft warning	12	357	369	1,383.75	35	79	774	36	111	2,268.75	2,609.06	2,722.5	3,403.13												
Signal company, operation, aircraft warning	8	281	289	1,083.75	49	126	1,223	54	184	2,490.75	2,864.36	2,988.9	3,736.12												
Signal company, maintenance aviation	11	283	294	1,102.5	81	201	1,910	80	278	3,290.5	3,784.08	3,948.6	4,935.75												
Signal platoon, maintenance aviation	2	60	62	232.5	16	44	409	14	61	702.5	807.88	843	1,053.75												
Signal platoon, air base	1	36	37	138.75	6	12	126	8	21	285.75	328.61	342.9	428.62												

REFERENCE DATA, ADMINISTRATION

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
	Rail requirements								Maintenance items						
Unit	Cars--AR 30-935								1 day						
	Pullman-1 officer/ car berth, 26 officers/ car	Tourist-3 enlisted men section, 29 en- listed men/car	Baggage-1 per 200 men	Gondola-46', 426 square feet	Flat-60', 454 square feet	Box-40', 3,040 cubic feet	Automobile-40', 3,269 cubic feet	Total	Gas, gallons, 10 gal- lons per vehicle	Oil, 2 gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per ve- hicle	Rations-14 cubic feet/ration	Hold cargo	Deck cargo, in- flammables	
Signal company, aviation.....	0	5	1	0	10	2	0	18	300	7.5	15	19.9	0.5	1.7	
Signal company, air wing.....	0	3	1	0	8	1	0	13	250	6.25	12.5	11.5	0.3	1.4	
Signal company, depot.....	0	5	1	0	3	0	0	9	70	1.75	3.5	18.5	0.5	0.4	
Signal company, aircraft warning.....	0	13	2	0	12	2	0	29	350	8.75	17.50	51.6	1.3	2.0	
Signal company, operation, aircraft warning.....	0	10	2	0	19	3	0	34	480	12.25	24.5	40.5	1.0	2.7	
Signal company, maintenance aviation.....	0	10	2	0	30	4	0	46	810	20.25	40.5	41.2	1.0	4.5	
Signal platoon, maintenance aviation.....	0	2	1	0	7	1	0	11	160	4	8	8.7	0.2	0.9	
Signal platoon, air base.....	0	2	1	0	2	0	0	5	60	1.5	3	5.2	0.1	0.4	

NOTES

1 Normal movement--Ground echelon precedes air echelon to destination.

* Inflammables--Include as deck cargo.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded ¹

Normal movement ²

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2		3	4	5	6	7	8	9	10	11	12	13	14	15
	Officers and warrant officers		Enlisted men	Totals	Ship tons, 3.75 per man	Number	Weight loaded, long tons 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons 2,240 pounds	Ship tons 40 cubic feet	Total ship tons, columns 9, 8, and 10	1½-ton cargo trucks ⁴	2½-ton cargo trucks ⁴	1½-ton cargo trucks ⁴	2½-ton cargo trucks ⁴
Unit			Personnel		Organization equipment					Road movement					
Headquarters chemical company, service (avn.).	2		7		7.50				0.5		34.75			1	
				9	26.25					1					
Headquarters chemical platoon, chemical company, service (avn.).	1		4		3.75	1	1.8	16.0			34.75				
				5	15.00										
				5	18.75										

REFERENCE DATA, ADMINISTRATION

1-squad section chemical platoon ⁶	24	24	24	90.00	5	13.5	119.4	.25	.5	209.9	
	2			7.50							
Supply section, air force	24	24	26	90.00	2	6.6	65.2			162.7	
				97.50							
Decontamination detachment ⁷	4	4	4	16.00	1		44.3	.5	8.4	67.7	1

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	Rail requirements						Maintenance items					Ship tons			
	Ship cargo requirements— ship tons			Cars—AR 30-935						1 day								
	Storage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Pullman—1 officer/berth, 26 officer/car	Tourist—3 enlisted men/sec-ton, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,369 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per vehicle		Rations—.14 cubic feet/ration	Hold cargo	Deck cargo, in lbm-mbles
Unit	39.96	41.7	52.13	2/26	7/29	9/20	---	1/2	0.25	---	---	10	0.25	0.5	1.26	---	0.1	
Headquarters chemical company, service (avn.)	39.96	41.7	52.13	1/26	4/29	5/200	---	1/2	.25	---	---	10	.26	.5	.7	---	.1	
Headquarters chemical platoon, chemical company, service (avn.)	241.39	251.88	314.85	---	24/29	24/20	---	2	.25	---	---	50	1.25	2.5	3.36	---	.3	
1-squad section chemical platoon	187.11	196.24	244.05	2/26	26/29	26/20	---	1	.25	---	---	20	.5	1	3.64	---	.2	
Supply section, air force	77.86	81.24	101.55	---	4/29	42/100	---	1/2	.25	---	---	10	.25	.5	.5	---	.1	
Decontamination detachment																		

NOTES

- 1 All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- 2 Normal movement—Ground echelon precedes air echelon to destination.
- 3 Unit vehicles loaded to authorized capacity.
- 4 Show total requirements in each column. Only one size truck will normally be required.
- 5 Inflammables—Include as deck cargo.
- 6 Normally 4-squad section per chemical platoon.
- 7 Normally five decontamination detachments per matériel squadron.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty

Normal movement ¹

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	Personnel				Organization equipment			Ship cargo requirements— ship tons						
	2	3	4	5	6	7	8	9	10	11	12	13	14	
Unit	Officers and warrant officers	Enlisted men	Total	Ship tons, 3.75 per man	Number	Weight empty, long tons, 2,240 pounds	Vehicles	Equipment excluding vehicles	Weight long tons, 2,240 pounds	Ship tons, 40 cubic feet	Total ship tons, col- umns 8, 9, and 10	Storage add 15 per- cent	Unit loaded add 20 percent	Combat unit loaded add 50 percent
Headquarters, chemical company, service (aviation).	2	7	9	7.5 26.25 33.75			None				33.75	38.81	40.5	50.62
Headquarters, chemical platoon, chemical com- pany service (aviation).	1	4	5	3.75 15.00 18.75	1	1.8	16.5				35.25	40.63	42.3	52.87
1-squadron section, chemical platoon ²		24	24	90.00	5	10.8	118.9	.25		.5	209.4	240.81	251.26	314.1

REFERENCE DATA, ADMINISTRATION

Supply section, air force	2	24	26	7.50	2	6.8	65.2	162.7	187.1	195.24	244.05
Decontamination detachment †	4	4	4	90.00	1	5	44.3	67.7	77.85	81.24	101.56
				97.50							
				15.00							

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

Unit	Rail requirements								Maintenance items							
	Cars—AR 30-935								1 day							
	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Headquarters, chemical company, service (aviation).	Fullman—1 officer/ car	Tourist—3 enlisted men section, 29 en- listed men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gal- lons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per ve- hicle	Rations—14 cubic feet/ration	Hold cargo	Ship tons		
	2/26	7/29	9/200		1/4	1/4			10	.25	1/2	1.26				
	1/26	4/29	5/200		1/2	1/4			50	1.25	2 1/2	3.36		.1		
	2/26	24/29	24/200		2	1/4			20	.5	1	3.64		.3		
Supply section, air force		24/29	26/20		1	1/4								.2		
		4/29	4/20		1/2	1/4			10	.25	1/2	.56		.1		
Decontamination detachment 4																

NOTES

¹ Normal movement—Ground echelon precedes air echelon to destination.

² Inflammable—Include as deck cargo.

³ Normally 4 squadron sections per chemical platoon.

⁴ Normally 5 decontamination detachments per materiel squadron.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded¹

Normal movement¹

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	Organization equipment				10	11	Road movement				
					Vehicles		Equipment not carried in unit vehicles				Additional vehicles required for equipment		Additional vehicles required for personnel ²		
Unit	Personnel				Ship tons, 3.75 per man	Number	Weight loaded, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight long tons, 2,240 pounds	Ship tons 40 cubic feet	Total ship tons, columns 5, 9, and 10	1 ½-ton cargo trucks ³	2 ½-ton cargo trucks ³	1 ½-ton cargo trucks ³	2 ½-ton cargo trucks ³
	Officers and warrant officers	Enlisted men	Total												
Headquarters and headquarters squadron, wing air force.....	1	8	9	33.75	1	2.24	16			49.75					
Headquarters and headquarters squadron, group (air force combat command or air force).....	2	16	18	67.5	2	4.59	32			89.5					

REFERENCE DATA, ADMINISTRATION

Squadron.....	1	8	9	33.75	2	4.26	32	65.75		
Aviation medical supply platoon.....	2	19	21	78.75	7 4	8.59	63.55	142.30		
Group headquarters and headquarters squadron plus 1 squadron ⁶	3	24	27	101.25	4	8.85	64	165.25		

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Maintenance items						
																		1 day						
Unit	Ship cargo requirements— ship tons			Cars—A.R. 30-935												Ship tons								
	Storage add 15 percent	Unit loaded add 20 percent	Combat unit loaded add 50 percent	Fullman—1 officer/berth, 26 officers/car	Tourist—3 enlisted men/sec- tion, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—48', 428 square feet	Flat—60', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per vehicle	Rations—0.14 cubic foot/ration	Hold cargo	Deck cargo, in-barn-mables	Gas, gallons, 10 gallons per vehicle	Qt., 1/4	Lb., 1/2	Rations—0.14 cubic foot/ration	Cu.ft., 1.26	Cu.ft., 1.26	Cu.ft., 2
Headquarters and headquarters squadron, wing air force.	38.82	40.5	50.63	Berth 1	3 9/200			1/4				10	1/4	1/2	1.26	1.26		20	1	1.26	2.52	1.26	1.26	2
Headquarters and headquarters squadron, group (air force combat command or air force)	77.63	81.0	101.25	Berth 2	6 18/200		3/8					20	1/2	1	2.52	2.52		20	1	1.26	2.52	1.26	1.26	4
Squadron	38.82	40.5	50.63	Berth 1	3 9/200		3/8					20	1/2	1	1.26	1.26		20	1	1.26	1.26	1.26	1.26	4

REFERENCE DATA, ADMINISTRATION

Aviation medical supply platoon.....	90.56	94.6	118.13	2	7	21	1	40	1	2	2.94	2.94	8
Group headquarters and headquarters squadron plus 1 squadron ¹	116.44	121.6	151.88	4	8	135	1½	40	1	2	3.78	3.78	8

NOTES

- 1 All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- 2 Normal movement—Ground echelon precedes air echelon to destination.
- 3 Unit vehicles loaded to authorized capacity.
- 4 Show total requirements in each column. Only one size truck will normally be required.
- 5 Inflammables—Include as deck cargo.
- 6 Ambulance field, cross country.
- 7 1 Motorcycle with side car. 1 Truck, ½-ton pick-up. 2 Trailers, 1½-ton cargo.
- 8 Smallest unit which may be sent with an expeditionary force.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty

Normal movement¹

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2		3		4		5		6		7		8		9		10		11		12		13		14		
	Officers and warrant officers		Enlisted men		Total		Ship tons, 3.75 per man		Personnel		Vehicles		Equipment—excluding vehicles		Organization equipment		Total ship tons, columns 5, 8, and 10		Storage add 15 percent		Unit loaded add 20 percent		Combat unit loaded add 50 percent				
Unit	Number	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Weight empty, long tons, 2,240 pounds	
Wing headquarters and headquarters squadron	1	8	9	33.75	41	2.03	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16	2.04	16
Group headquarters and headquarters squadron (air force combat command or air force)	2	16	18	67.5	85	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32	4.06	32

REFERENCE DATA, ADMINISTRATION

Squadron.....	8	9	33.75	42	4.06	32	.204	.504	66.25±	38.82	40.5	50.63
Aviation medical supply platoon.....	19	21	78.75	54	7.12	59.6	1.465	3.95	142.3	90.56	94.5	118.13
Group headquarters and headquarters squadron plus 1 squadron 2.....	24	27	101.25	44	8.12	64	.731	1.894	167.14	116.44	121.5	151.88

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

Unit	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Rail requirements									Maintenance items				
	Cars—A.R. 30-935									1 day				
	Pullman—1 officer/berth, 26 officers/car	Tourist—3 enlisted men/section, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, 10 gallons, 10 gal-tons per vehicle	Oil, 1 quart per vehicle	Lubricant, pounds, ½ pound per vehicle	Rations—14 cubic feet/ration	Hold cargo	Deck cargo, in-Returnables
	Berth	Sec-tion				Cubic feet		Separate shipment need not be considered.	Gal-tons	Oil, 1 quart per vehicle	Lubricant, pounds, ½ pound per vehicle	Rations—14 cubic feet/ration	Cubic feet	Cubic feet
Wing headquarters and headquarters squadron.	1	3	.045		½	56			10	¼	½	1.26	1.26	2
Group headquarters and headquarters squadron (air force combat command or air force.)	2	6	.09		¾	56			20	½	1	2.52	2.52	4
Squadron	1	3	.045		¾	21			20	¾	1	1.26	1.26	4
Aviation medical supply platoon	2	7	.105		1	180			40	1	2	2.94	2.94	8
Group headquarters and headquarters squadron plus 1 squadron ²	3	8	.135		1 ¼	77			40	1	2	3.78	3.78	8

NOTES

- 1 Normal movement—Ground echelon precedes air echelon to destination.
- 2 Inflammables—Include as deck cargo.
- 3 Smallest unit which may be sent with an expeditionary force.
- 4 Ambulance, field, cross country.
- 5 1 motorcycle; 1 ½-ton truck; 2 1½-ton trucks.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles loaded ¹

Normal movement ²

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

Unit	2	3	4	5	6	7	8	9	10	11	12		13	14
	Personnel				Organization equipment				Road movement		Road movement			
	Officers and warrant officers	Enlisted men	Totals	Ship tons, 3.75 per man	Number	Weight loaded, long tons 2,240	Ship tons, 40 cubic feet	Weight, long tons, 2,240 pounds	Ship tons, 40 cubic feet	Total ship tons, columns 8, and 10	8-ton trailer ³	16-ton trailer ⁴	Additional vehicles required for equipment	Additional vehicles required for equipment ⁵
Lettered company, regiment (avn.)	4	176	180	675	25	100	604	10	39	1,318	0	0	0	0
Headquarters and headquarters company, regiment (avn.)	6	106	112	420	36	304	1,374	72	474	2,268	7	8	8	2
Battalion, regiment (avn.)	18	634	652	2,445	111	607	3,186	102	591	6,222	7	8	8	2
H. and S. company, regiment (avn.) ⁶	25	305	330	1,237.5	74	457	1,987	70	486	3,719.5	0	1	1	3
Regiment (avn.) ⁶	79	2,207	2,286	8,572.5	407	2,300	11,545	379	227	20,344.5	11	14	14	8

REFERENCE DATA, ADMINISTRATION

Company, separate (avn.)	5	176	181	678.75	46	323	1,352	68	465	2,495.75	0	3	1
Lettered company battalion, separate (avn.)	4	176	180	675	25	100	604	13	54	1,333	0	0	0
Headquarters and headquarters company bat-													
tallon, separate (avn.) 7	12	159	171	641.25	73	590	2,566	96	744	3,951.25	1	6	5
Battalion, separate (avn.) 7	24	687	711	2,666.25	148	891	4,378	134	905	7,949.25	1	6	5

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	15	16	17	Rail requirements						Maintenance items							
				18	19	20	21	22	23	24	25	26	27	28	29	30	31
Unit	Ship cargo requirements— ship tons			Combat unit loaded add 50 percent	Cars—A.R. 30-935						1 day						
	Storage add 15 percent	Unit loaded add 20 percent			Pullman—1 officer/berth, 26 officers/car	Tourist—3 enlisted men/sec- tion, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,269 cubic feet	Total	Gas, gallons, 10 gallons per vehicle	Oil, gallons, 1 quart per vehicle	Lubricant, pounds, 1/2 pound per vehicle	Rations—0.14 cubic foot/ration	Hold cargo
Lettered company, regiment (avn.)	1,515.7	1,581.6	1,977	1	6	1	0	12	1	1	22	250	6.25	12.5	25	0.6	1
Headquarters and headquarters company, regiment (avn.)	2,608.2	2,721.6	3,402	1	3	1	0	22	1	1	29	360	9	18	16	.4	2
Battalion, regiment (avn.)	7,155.3	7,466.4	9,333	1	22	4	0	58	2	2	89	1,110	17.75	55.5	91	2	6
H. and S. company, regiment (avn.) ^b	4,277.43	4,463.4	5,579.25	1	11	2	0	44	1	3	62	740	18.50	37	46	1	4
Regiment (avn.) ^c	23,396.18	24,413.4	30,516.75	3	76	12	0	203	6	8	308	4,070	101.75	203.5	320	3	22

REFERENCE DATA, ADMINISTRATION

Company, separate (avn.)	28,701.12	29,949	37,436.25	1	6	1	0	12	1	1	22	460	11.5	23	25	.6	3
Lettered company, battalion, separate (avn.)	1,532.95	1,599.5	1,999.5	1	6	.1	0	12	1	1	22	250	4.25	12.5	25	.6	1
Headquarters and headquarters company, battalion, separate (avn.) ¹	4,543.94	4,741.5	5,926.88	1	5	1	0	45	1	1	54	730	18.25	36.5	24	.6	4
Battalion, separate (avn.) ²	9,141.64	9,539.1	11,923.88	1	24	4	0	77	2	1	109	1,480	37	74	100	3	8

NOTES

- ¹ All unit cargo vehicles loaded with organization equipment. Gasoline, oil, and water servicing vehicles empty.
- ² Normal movement—Ground echelon precedes air echelon to destination.
- ³ Unit vehicles loaded to authorized capacity.
- ⁴ Show total requirements in each column. Only one size truck will normally be required.
- ⁵ Inflammables—Include as deck cargo.
- ⁶ Includes band, medical detachment and warrant officers and 1 chaplain.
- ⁷ Includes medical detachment.

ARMY AIR FORCE REFERENCE DATA
ROAD-RAIL-WATER MOVEMENT

Unit vehicles empty

Normal movement¹

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

1	2	3	4	5	6	7	8	9	10	11	12			13	14
											Ship cargo requirements— ship tons				
Unit	Personnel				Organization equipment				Total ship tons, columns 9, 8, and 10	Storage add 15 percent	Unit loaded, add 20 percent	Combat unit loaded, add 50 percent			
	Officers and warrant officers	Enlisted men	Total	Ship tons, 3.76 per man	Vehicles	Equipment excluding vehicles		Total ship tons, columns 9, 8, and 10							
						No.	Weight empty, long tons, 2,240 pounds		Ship, tons, 40 cubic feet	Weight long tons, 2,240 pounds	Ship tons, 40 cubic feet				
Lettered company, regiment (avn.)	4	176	180	675	25	72	604	18	53	1,332	1,531.8	1,598.4	1,998		
Headquarters and headquarters company, regiment (avn.)	6	106	112	420	36	243	1,374	76	500	2,294	2,638.1	2,752.8	3,441		
Battalion, regiment (avn.)	18	634	652	2,445	111	459	3,186	130	659	6,290	7,233.5	7,548	9,435		
H. & S. company, regiment (avn.) ²	25	305	330	1,237.5	74	368	1,987	74	503	3,727.5	4,286.63	4,473	5,591.25		
Regiment (avn.) ³	79	2,207	2,286	8,572.5	407	1,745	11,545	464	2,480	22,597.5	25,987.13	27,117	33,896.25		

REFERENCE DATA, ADMINISTRATION

Company, separate (avn.)	5	176	181	678.75	46	267	1,352	77	481	2,511.75	2,888.51	3,017.1	3,767.63
Lettered company, battalion, separate (avn.)	4	176	180	675	25	72	604	20	69	1,348	1,550.2	1,617.6	2,022
Headquarters and headquarters battalion, separate (avn.) ¹	12	159	171	641.25	73	412	2,566	100	758	3,965.25	4,560	4,758.3	5,947.88
Battalion, separate (avn.)	24	687	711	2,666.25	148	628	4,378	160	965	8,009.25	9,210.64	9,611.1	12,013.88

GROUND UNITS OR GROUND ECHELON OF AIR UNITS

Unit	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Rail requirements							Maintenance items						
	Cars—AR 30-935							1 day						
	Fullman—1 officer/berth, 26 officers/car	Tourist—3 enlisted men/ section, 29 enlisted men/car	Baggage—1 per 200 men	Gondola—46', 426 square feet	Flat—50', 454 square feet	Box—40', 3,040 cubic feet	Automobile—40', 3,289 cubic feet	Total	Gas, ¹ gallons, 10 gallons per vehicle	Oil, ² gallons, 1 quart per vehicle	Lubricant, ² pounds, $\frac{3}{8}$ pound per vehicle	Rations—14 cubic feet/ ration	Hold cargo	Deck cargo, inflam- mables
1														
Lettered company, regiment (avn.)	1	6	1	0	12	1	1	22	250	6.25	12.5	25	0.63	1
Headquarters and headquarters company, regiment (avn.)	1	3	1	0	22	1	1	29	360	9	18	16	.4	2
Battalion, regiment (avn.)	1	22	4	0	58	2	2	89	1,110	27.75	55.5	91	2	6
H. & S. company, regiment (avn.) ²	1	11	2	0	44	1	3	62	740	18.5	37	46	1	4
Regiment (avn.) ²	3	76	12	0	203	6	8	308	4,070	101.75	203.5	320	8	22
Company, separate (avn.)	1	6	1	0	12	1	1	22	460	11.5	23	25	.6	3
Lettered company, battalion, separate (avn.)	1	6	1	0	12	1	1	22	460	11.5	23	25	.6	3
Headquarters and headquarters battalion, sep- arate (avn.) ⁴	1	6	1	0	12	1	1	22	250	6.25	12.5	25	.6	1
Battalion, separate (avn.)	1	5	1	0	45	1	1	54	730	18.25	36.5	24	.6	4
	1	24	4	0	77	2	1	109	1,480	37	74	100	3	8

NOTES

¹ Normal movement—Ground echelon precedes air echelon to destination.

² Includes band, medical detachment, 1 warrant officer and 1 chaplain.
³ Inflammables—Include as deck cargo.

⁴ Includes medical detachment.