FM 9-2

DEPARTMENT OF THE ARMY FIELD MANUAL

ORDNANCE CORPS

LOGISTICAL DATA

HEADQUARTERS, DEPARTMENT OF THE ARMY
AUGUST 1959

AGO 236A—Jul

FIELD MANUAL

ORDNANCE CORPS LOGISTICAL DATA

FIELD MANUAL 9–2
CHANGES NO. 1

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., *7 November 1961*

FM 9–2, 12 August 1959, is changed as follows:

1. Purpose

a. (Superseded) This manual is for use as a planning guide only. It provides statistical data and information for use primarily by ordnance staff officers.

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c. (Added) Information which requires security classification is contained in FM 9–2A.

3. Future Revisions

a. (Superseded) Procedures have been established for continuous review of the data contained in this manual to insure that such data are current and accurate.

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29. End Item Densities and Shipping Data for Ordnance Equipment in Combat Divisions

(Superseded)

a. The data listed in tables XII, XII–A, and XII–B were extracted from current TOE's of the infantry, armored and airborne divisions, and obtained from the appropriate ordnance commodity command depots.

b. The tables list the authorized ordnance equipment, and the dimensions, cubes and weights of this equipment.

c. Since these tables are primarily used for reference data to reconstitute the ordnance equipment in these divisions, illustrative problems are not shown.

Table XII. (Superseded) *End Item Densities and Shipping Data for Ordnance Equipment—Infantry Division TOE 7D*

TOE line item number	Nomenclature	Total per division				Individual item or package									Notes
		Quantity	Cubic feet	Short tons	Measurement tons	(a) Quantity per pack	(b) Cubic feet	(c) Short tons	(d) Measurement tons	(e) Dimensions (ft)			Transport data		
										Length	Width	Height	(f) Air	(g) Rail	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	WEAPONS AND VEHICLES														
401076	Bayonet, W/Scabbard	13,044	681.21	9.14	18.27	50	2.61	.035	.07	1.65	1.19	1.33	C-119	40 ft flat	(h)
	Scabbard		565.50	4.5	14.30	100	4.35	.035	.11	2.21	1.48	1.33	C-119	40 ft flat	(h)
401718	Bulldozer, Earth Moving, Tank Mtd	8	1,877.76	40	46.96	1	234.72	5	5.87	13.21	6.68	2.66	C-130	40 ft flat	(h)
405225	Carrier, Personnel FT	180	282,988.80	3,492	7,074		1,572.16	19.40	39.30	17.90	10.75	8.17	C-124	40 ft flat	
405638	Chassis, Trailer 2½ Ton 2W Trailer Generator	1	369.21	1.20	9.23		369.21	1.20	9.23	13.70	7.70	3.50	C-119		
417112	Gun, Machine Cal. 50 HB	100	370	6.40	9	1	3.70	.064	.09	5.79	.75	.85	C-119	40 ft flat	(a)
417125	Gun, Machine 7.62mm Light Wt	561	1,968	20.50	49.24	1	3.51	.028	.11	3	1.16	1	C-119	40 ft flat	(a) (h)
417247	Gun, Submachine Cal. 45	266	102.60	1.70	2.70	10	3.80	.063	.10	1.82	1.55	1.33	C-119	40 ft flat	(a) (h)
417525	*Handling Unit, 762mm Rkt Trl Mtd*	4	9,288.04	16.40	232.2		2,322.01	4.10	58.05	26.70	8.06	10.79	C-124		
417779	Heating & Tie Down Unit, 762 RTM	4	7,786.24	48	194.60		1,946.56	12	48.66	30.80	8	7.90	C-130		
418290	Howitzer, 8 inch on Carriage	4	11,152	63.20	278.80		2,788	15.80	69.70	40	8.20	8.50	C-130	40 ft flat	
418341	Howitzer, 105mm on Carriage	18	13,194.72	45	329.94		733.04	2.50	18.33	19.60	6.80	5.50	C-119	40 ft flat	
418374	Howitzer, 155mm on Carriage	30	38,592	180	964.80		1,286.40	6.0	32.16	21	8	6.70	C-123	40 ft flat	
418420	Howitzer, SP FT 105mm	12	25,501	300	631.60		2,125.09	25	53.13	17.90	10.60	11.20		50 ft flat	
420660	Launcher, 762mm Rkt Trk Mtd	2	5,355.72	33.60	133.90		2,677.86	16.8	66.95	32.40	9.50	8.70	C-119		
420800	Launcher, Rocket 3.5 in	542	1,709.52	9.11	42.16	4	12.57	.067	.31	3.50	2.70	1.33	C-119	40 ft flat	
423525	Mortar, .2 in. on Mount	30	186	3.15	4.50	1	6.20	.105	.15	6.02	1.13	.90	C-119	40 ft flat	(a)
	Mount		798.90	10.80	20.10	1	26.63	.36	.67	5.82	3.98	1.15	C-119	40 ft flat	(a)
423630	Mortar, 81mm on Mount	80	123.20	2.40	3.20	1	1.54	.03	.04	4.58	.58	.58	C-119	40 ft flat	(a) (h)
	Mount		224.80	3.20	5.60	1	2.81		.07	3	1.25	.75	C-119	40 ft flat	(a) (h)
423647	Mortar, SP FT 4.2 in	9	13,587.12	176.40	339.7		1,509.68	19.60	37.74	17.91	10.33	8.16	C-123		
429280	Pistol, Cal .45 Semiauto	1,872	174.75	3.75	4.50	25	2.33	.052	.06	2.94	.90	.88	C-119	40 ft flat	(a) (h)
435950	Rifle, 106mm on Mount	50	2,035	6.00	50.50	1	40.70	.12	1.01	11.71	1.81	1.92	C-119		(a) (h)
	Mount		406	5	10	1	8.12	.10	.20	5.19	.48	3.26	C-119		(a) (h)
435965	Rifle, 7.62mm Semiauto Lt Bar	11,866	9,638.32	118.60	237.20	10	8.12	.10	.20	4.23	1.80	1.07	C-119		(a) (h)
438943	Semitrailer, Low Bed 4 Wheel 25 Ton	14	24,144.40	458.50	603.40		1,724.60	32.75	43.10	33.90	9.60	5.30	C-130	40 ft flat	
438982	Semitrailer, Tank Gas 5000 gal 4 Wheel	5	11,016	30	275.40		2,203.20	6	55.08	30.60	8	9	C-119		
438985	Semitrailer, Tank Transporter 50 Ton 8 Wh	2	5,516	44.46	137.90		2,758	22.20	68.95	39.40	12.50	5.60			
439005	Semitrailer, Van Cargo 6 Ton 2 Wheel	8	8,580	24.80	214.50		1,072.50	3.10	26.81	22	7.50	6.50	C-124	50 ft flat	
439021	Semitrailer, Van Cargo 2 Wh 6 Ton	1	2,053.21	3.40	51.33		2,053.21	3.40	51.33	23	7.90	11.30	C-124	50 ft flat	
444021	Tank, Combat FT Light Gun	33	74,627.85	838.20	1,865.82		2,261.45	25.40	56.54	22.76	10.80	9.20	C-124	40 ft flat	
444061	Tank, Combat FT Medium Gun	92	258,039.76	4,669	6,451.04		2,804.78	50.75	70.12	24.40	12.10	9.50		50 ft flat	
444250	Tank, Recovery Vehicle Medium	17	51,922.08	924.8	1,296.12		3,054.24	54.40	76.36	27	11.20	10.10		50 ft flat	
456870	Tractor, FT High Speed 13 Ton	30	23,175	360	592.80		790.50	12	19.76	15.50	8.50	6	C-130		
457040	Trailer, Ammo 2 Ton 2 Wheel	62	19,096	62	477.40		308	1	7.70	11	7	4	C-119	50 ft flat	
457110	*Trailer, Amphibious Cargo ¼ Ton 2 Wheel*	487	52,596	146.19	1,314.90		108	.30	2.70	9	4	3	C-119	50 ft flat	
457190	Trailer, Cargo ¾ Ton 2 Wheel	489	246,984.12	342.30	6,176.10		505.08	.70	12.63	12.2	6	6.90	C-119	40 ft flat	
457220	Trailer, Cargo 1½ Ton 2 Wheel	341	212,784	409.20	5,319.60		624	1.20	15.60	13	6	8	C-119	50 ft flat	
457495	Trailer, Tank Water 1½ Ton 2 Wheel	91	46,846.80	118.30	1,171.17		514.80	1.30	12.87	13	6.60	6	C-119		
459830	Truck, Ambulance Field ¾ Ton 4 x 4	38	25,536	136.80	638.40		672	3.60	16.80	16	6	7	C-119		
459832	Truck, Ambulance Front Line ¼ Ton 4 x 4	88	26,677.20	132	667.10		303.15	1.50	7.58	12.90	5	4.70	C-119	40 ft flat	
460050	Truck, Cargo ¾ Ton 4 x 4	531	381,406.68	1,593	9,536.76		718.28	3	17.96	15.70	6.10	7.50	C-119	40 ft flat	
460080	Truck, Cargo ¾ Ton 4 x 4 WWN	30	23,141.40	100.50	578.40		771.38	3.35	19.28	16.86	6.10	7.50	C-119	40 ft flat	

460110	Truck, Cargo 2½ Ton 6 x 6 LWB	257	437,876.60	2,287.30	10,948.20		1,703.80	8.90	42.60	22.90	8	9.30	C-119	50 ft flat
460141	Truck, Cargo 2½ Ton 6 x 6 LWB WWN	223	390,183.38	2,062.75	9,979.30		1,790.06	9.25	44.75	24.06	8	9.30	C-119	50 ft flat
460290	Truck, Cargo 5 Ton 6 x 6 LWB	46	88,783.22	455.40	2,219.50		1,930.07	9.90	48.25	25.90	8.10	9.20	C-130	40 ft flat
460320	Truck, Cargo 5 Ton 6 x 6 LWB WWN	66	133,092.30	676.50	3,327.10		2,016.55	10.25	50.41	27.06	8.10	9.20	C-130	40 ft flat
460442	Truck, Cargo 10 Ton 6 x 6 WWN	8	23,556.96	128.80	589		2,944.62	16.10	73.62	28.70	9.50	10.80	C-124	40 ft flat
460740	Truck, Dump 5 Ton 6 x 6	4	5,567.28	45.32	139.20		1,391.82	11.33	34.80	23.50	8.08	7.33	C-130	
460770	Truck, Dump (M51) 5 Ton 6 x 6 WWN	60	87,630	700.80	2,190.60		1,460.50	11.68	36.51	24.66	8.08	7.33	C-119	
461328	Truck, Tank Gas 2½ Ton 6 x 6 W/Kit	37	59,140.80	262.70	1,478.50		1,598.40	7.10	39.96	22.20	8	9	C-119	50 ft flat
461370	Truck Tractor, 2½ Ton 6 x 6 W/WN	2	2,215.84	12.10	55.40		1,107.92	6.05	27.70	21.16	7.70	6.80	C-119	
461400	Truck Tractor, 2½ Ton 6 x 6 SWB	9	9,424.80	51.30	235.60		1,047.20	5.70	26.18	20	7.70	6.80	C-119	
461460	Truck Tractor, 5 Ton 6 x 6 SWB	16	21,275.20	158.40	531.84		1,329.70	9.90	33.24	22.80	8.10	7.20	C-130	50 ft flat
461490	Truck Tractor, 5 Ton 6 x 6 SWB WWN	4	5,589.52	41	139.70		1,397.38	10.25	34.93	23.96	8.10	7.20	C-130	50 ft flat
461640	Truck Tractor, 10T 6 x 6 W/Dual Midship wns	2	5,583.72	28.40	139.60		2,791.86	14.20	69.80	31.60	9.50	9.30	C-124	40 ft flat
461760	Truck Tractor, Wrecker 5 Ton 6 x 6 XLWB WWN.	1	2,610.63	24.40	65.30		2,610.63	24.40	65.27	29.30	8.10	11	C-124	40 ft flat
461790	Truck, Utility ¼ Ton 4 x 4	723	195,390.75	939.90	4,887.50		270.25	1.30	6.76	11.50	5	4.70	C-119	40 ft flat
461793	Truck, Utility ¼ Ton 4 x 4 (M38A1) (Carrier for 106mm Rifle).	50	16,720.50	55	418		334.41	1.10	8.36	10.90	5.20	5.90	C-119	40 ft flat
461834	Truck, Van Shop 2½ Ton 6 x 6	22	42,780.32	165	1,069.64		1,944.56	7.50	48.62	22.30	8	10.90	C-124	50 ft flat
461836	Truck, Van Shop 2½ Ton WWN 6 x 6	2	4,091.62	15.70	102.30		2,045.81	7.85	51.15	23.46	8	10.90	C-124	50 ft flat
461880	Truck, Wrecker Light 2½ Ton 6 x 6 WWN	6	10,722.72	71.40	268.10		1,787.12	11.90	44.68	25.10	8	8.90	C-124	
461885	Truck, Wrecker Medium 5 Ton 6 x 6 WWN	36	89,416.44	817.20	2,235.60		2,483.79	22.70	62.1	29	8.08	8.90	C-124	40 ft flat

TOOLS AND INSTRUMENTS [i]

401225	Binder, Load Lever	6												
401248	Binocular, 6 x 30	858	205.20	2.70	5.13	24	5.70	.075	.14	2.50	1.50	1.50		[h]
401250	Binocular, 7 x 50	351	159.50	2.17	3.99	12	5.50	.075	.14	1.91	1.79	1.62		[h]
401258	Bipod, Rifle 7.62mm	483	55.60	.66	1.40	60	6.95	.083	.17	2.88	2.08	1.15		[h]
401420	Blasting Machine	4	2.40	.04	.06		.60	.012	.02	.84	.84	.84		
401510	Board, Plotting Artillery	44	19.80	.04	.49	1	.45	.001	.01	.83	.83	.62		[h]
401519	Board, Plotting Azimuth Ranging	109	38.00	.39	.95	24	9.5	.097	.01	2.39	2.14	1.85		[h]
405785	Chest, Spare Parts Metal	6	85.56	.08	2.13	1	14.26	.014	.24	2.93	2.09	2.33		[h]
408180	Circle, Aiming	97	310.4	2.91	7.76	1	3.2	.03	.08	4.08	.87	.87		[h]
410625	Compass, Mil Graduations	563	21	.43	.52	40	1.50	.031	.04	1.56	1.18	.79		[h]
411785	Demolition Equip Set, Elec-Non-Elec	80	3,360	2.72	84.00	1	42	.034	1.05	2.73	1.48	1.02		
411787	Demolition Equip Set, Non Elec	55	9.35	.11	.23	1	.17	.002	.01	.67	.50	.50		
417184	Gun, Paint Spraying	1	.22	.01	.01	[k]	.22	.001	.01	.92	.60	.40		
417432	Hammer, Ball Peen 2 LB	9	1.62	.01	.04	[k]	.18	.001	.01	1	.60	.30		
425561	Mount, Tripod .50 cal	100	270.0	4	6.75	1	2.7	.04	.07	4.07	.87	.72		[h]
425565	Mount, Tripod 7.62mm	561	627.20	33.66	15.68	4	4.48	.06	.11	2.88	1.35	1.14		[h]
425700	Mount, Pedestal	72	266.4	3.10	6.66	1	3.7	.04	.09	3.91	.91	1.05		[h]
429705	Pliers, 8 in. w/cutter comb slip Joint	1	.01	.01	.01	[k]	.01	.001	.01	.67	.16	.07		
435350	Regulator, Air 80–200 PSI	1	.25		.01	[k]	.25	.002	.01	.60	.42	.40		
439065	Separator, Oil & Water	1	1.87	.01	.05	[k]	1.87	.008	.05	1.60	1.30	.90		
440502	Shop Set, Fld Maint ARTY	2	232.80	2.58	5.82		116.40	1.288	2.91	2.84	2.67	2.50		[j]
440524	Shop Set, Fld Maint Autmv Fuel	1	158.90	.99	3.97		158.90	.992	3.97	2.67	2	2.50		[j]
440544	Shop Set, Fld Maint Autmv Basic	1	845.20	7.36	21.13		845.20	7.361	21.13	6	2.25	4.82		[j]
440568	Shop Set, Fld Maint Contact & Emerg Repair.	15	2,840.25	15.62	71.00		189.35	1.041	4.73	2.60	2.30	3.20		[j]
440618	Shop Set, Fld Maint Inst & Fire Control Basic.	1	101.20	1.10	2.53		101.20	1.104	2.53	2.84	1.75	2.50		[j]
440638	Shop Set, Fld Maint Mach Basic	1	153.10	1.47	3.83		153.10	1.474	3.83	6	2.84	4		[j]
440682	Shop Set, Fld Maint Small Arms	1	200.70	1.41	5.02		200.70	1.409	5.02	2.67	2	4		[j]
440702	Shop Set, Fld Maint Spare Parts Set Nr 1	16	3321.60	25.14	83.04		207.60	1.571	5.19	4.60	3.30	2		[j]
440704	Shop Set, Fld Maint Spare Parts Set Nr 2	9	1320.93	11.10	33.02		146.77	1.233	3.67	3.60	2.20	2		[j]

See notes at end of table XII–B.

Table XII. (Superseded) *End Item Densities and Shipping Data for Ordnance Equipment—Infantry Division TOE 7D*—Continued

TOE line item number	Nomenclature	Total per division				Individual item or package									Notes
		Quantity	Cubic feet	Short tons	Measurement tons	(a) Quantity per pack	(b) Cubic feet	(c) Short tons	(d) Measurement tons	(e) Dimensions (ft) Length	Width	Height	Transport data (f) Air	(g) Rail	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	TOOLS AND INSTRUMENTS [1]—Continued														
440744	Shop Set, Fld Maint Welding	1	206.90	4.07	5.17		206.90	4.073	5.17	8	4.67	3.50			(j)
441210	Sledge, Blacksmiths 6 Lb	14	6.86	.08	.16	(k)	.49	.006	.01	3.25	.60	.25			
441221	Sledge, Blacksmiths 12 Lb	5	6.65	.04	.16	(k)	1.33	.008	.03	3	.90	.20			
442025	Spray Gun, Paint Non-Bleeder	1	.08	.01	.01	(k)	.08	.001	.01	.75	.60	.17			
443750	Table, Graphical	98	10.40	.01	.26	25	2.60	.001	.065	2.65	1.27	.77			(h)
443753	Table, Graphical 105mm	20	1.80	.01	.04	5	.45	.001	.01	1.40	.65	.48			(h)
443756	Table, Graphical 155mm	20	1.80	.01	.04	5	.45	.001	.01	1.40	.65	.48			(h)
443792	Table, Graphical 4.2 in. mortar	15	1.35	.01	.03	5	.45	.001	.01	1.40	.65	.48			(h)
443800	Table, Graphical Site	54	5.20	.01	.13	25	2.60	.001	.065	2.65	1.27	.77			(h)
449760	Telescope, BC	17	134.30	1.27	3.35	1	7.90	.075	.20	4.42	1.91	1			(h)
449980	Telescope, Observation	67	35.70	.47	.89	10	5.10	.068	.127	2.75	1.62	1.12			(h)
451750	Thermometer, Powder Temp	31	.68	.01	.01	(k)	.02	.001	.01	.65	.19	.17			
453650	Tool Kit, Armorers	65	72.15	1.82	1.80	1	1.11	.028	.03	1.70	.90	1.10			
453654	Tool Kit, Arty Mech 105mm-155mm	10	22	.34	.55	1	2.20	.034	.05	2.10	1.30	.90			
453655	Tool Kit, Arty Mech 8 in. Howitzer	1	1.30	.03	.03	1	1.30	.033	.03	1.60	1.10	.90			
453660	Tool Kit, Arty RPMN Ord	20	28	.58	.70	1	1.40	.029	.03	2	.92	.75			
453670	Tool Kit, Autmv Fuel & Elec	18	19.80	.25	.49	1	1.10	.014	.02	1.40	1.25	.78			
453690	Tool Kit, Canvas & Lthr	4	5.60	.14	.14	1	1.40	.035	.03	2	.92	.75			
453720	Tool Kit, Elec NR 1	1	4.00	.05	.10	1	4.00	.052	.10	3	1.30	1.10			
453725	Tool Kit, Elec NR2	1	.50	.01	.01	1	.50	.005	.01	1	1	.60			
453759	Tool Kit, Fld Maint ARC Weld	1	60.93	.39	1.52	1	60.93	.392	1.52	5.60	3.4	3.20			
453800	Tool Kit, Gen Mech	501	655.20	15.62	16.38	1	1.30	.031	.03	2	.94	.75			
453830	Tool Kit, Inst RPMN	5	7.70	.10	.19	1	1.54	.020	.03	1.67	.88	1.04			
453870	Tool Kit, Metal Body	2	2.60	.06	.06	1	1.30	.031	.03	2	.94	.75			
453890	Tool Kit, Org Maint NR 1	50	4,200	41.55	105.00		84	.831	2.10	5	2.1	4.60			(i)
453895	Tool Kit, Org Maint NR 2	18	2,436.26	39.38	60.90		157.57	2.188	3.93	4	2	4.20			(i)
453905	Tool Kit, Org Maint NR 1 Supp	7	427.70	6.59	10.69		61.10	.942	1.52	4	1.80	3			(i)
453910	Tool Kit, Org Maint NR 2 Supp	12	1,569.60	18.46	39.24		139.80	1.638	3.49	9	3.20	4.90			(i)
453930	Tool Kit Org Maint Nr 7	3	360	1.51	9.00		120	.502	3.00	5	3.60	2.60			(i)
453966	Tool Kit, Spec Wpns Direct Support Atomic Proj Field Arty.	1	6.91	.08	.17		6.91	.075	.17	1.80	1.30	1			(i)
453967	Tool Kit, Spec Wpns Rocket Missile Fld Arty.	1	6.10	.06	.15	1	6.10	.053	.15	2.60	1.80	1.50			
453979	Tool Kit, Spec Wpns US Army Eng	1	3.65	.06	.09	1	3.65	.063	.09	2.10	1.80	1.10			
453995	Tool Kit, SA RPMN	6	9	.13	.22	1	1.50	.022	.03	1.67	.88	1.04			
454008	Tool Kit, Turret Mech	17	25.50	.51	.63	1	1.50	.030	.03	1.40	1.20	1			
454025	Tool Kit, Welders	8	10.88	.13	.27	1	1.36	.016	.03	2	.94	.75			
454273	Tool Set, Airframe A ACFT	4	8.40	.15	.21	1	2.10	.037	.05	1.67	1	1.25			
454420	Tool Set, Elec A ACFT	2	4.20	.06	.10	1	2.10	.030	.05	1.67	1	1.25			
454490	Tool Set, Eng Power Train A ACFT	4	7.60	.16	.19	1	1.90	.041	.04	1.75	.88	1.20			
454820	Tool Set, Gen Mech A ACFT	80	184	3.60	4.60	1	2.30	.045	.05	1.75	1.08	1.25			
454952	Tool Set, Hyd A ACFT	2	3.80	.07	.09	1	1.90	.037	.04	1.75	.88	1.20			
455390	Tool Set, Org 762mm	1	19.43	.18	.48	3	19.43	.176	.48	3	2.60	2			(j)

455416	Tool Set, Org A ACFT Set C	1	1,541.20	7.08	38.53	1	1,541.20	7.076	38.53	11	3.70	10.30			(j)
455615	Tool Set, Propeller & Rotor	2	3.80	.07	.08	1	1.90	.033	.04	1.80	1.30	1			
455690	Tool Set, RKT Mech 762mm	1	2.20	.03	.05	1	2.20	.033	.05	1.67	1	1.25			
455981	Tool Set, Insp A ACFT	4	4.80	.05	.05	1	1.20	.013	.03	1.75	1.25	.58			
456635	Torch Outfit, Cutting Welding Set Nr 2	6	231.60	2.57	5.79	5	38.60	.429	.96	4.50	3	2			(f)
465270	Watch, Navigation	1	.02	.01	.01	(k)	.02	.001	.01	.29	.29	.14			
465330	Watch, Stop	34	.34	.01	.01	(k)	.01	.001	.01	.18	.23	.08			
465380	Watch, Wrist GR H	1,855	19	1.04	.47	100	1	.055	.02	1.33	.91	.83			(h)
465500	Welding Shop, Trlr Mtd 300 Amp	2													

Table XII–A. (Added) *End Item Densities and Shipping Data for Ordnance Equipment—Armored Division TOE 17D*

WEAPONS AND VEHICLES

405225	Carrier Personnel, FT	517	812,806.72	10,029.80	20,318.10		1,572.16	19.40	39.30	17.90	10.75	8.17	C-124	40 ft flat	
405638	Chassis Trailer, Gen 2½T	2	738.44	2.40	18.46		369.22	1.20	9.23	13.10	7.70	3.50	C-119		
417112	Gun, Machine, Cal 50 Brg, HB Flex	324	1,198.80	20.74	29.16	1	3.70	.064	.09	5.79	.75	.85	C-119		(h)
417125	Gun, Machine, 7.62-mm, Light Wt, GP	685	2,404	25.00	60.10	1	3.51	.028	.11	3	1.16	1	C-119	40 ft flat	(h)
417247	Gun, Submachine, Cal .45 GP	764	288.80	4.56	7.6	10	3.80	.06	.10	1.82	1.55	1.33	C-110		(h)
418417	Howitzer, SP, Full Track, 8-in	4	14,584.23	180	364.60		3,646.58	45	91.16	27.10	11.60	11.60		50 ft flat	
418420	Howitzer, SP, Full Track, 105-mm	54	114,754.86	1,350	2,869		2,125.03	25	53.13	17.90	10.60	11.20	C-124	50 ft flat	
418423	Howitzer, SP, Full Track, 155-mm	12	25,694.40	372	642.36		2,141.20	31	53.53	20	10.60	10.10	C-124	40 ft flat	
420660	Launcher, 7.62-mm, Rocket Trk Mtd	2	5,355.72	33.60	133.90		2,677.86	16.80	66.95	32.40	9.50	8.70			
423630	Mortar, 81-mm on Mount	48	76.80	1.44	1.92	1	1.60	.03	.04	4.58	.58	.58	C-119		(h)
	Mount		139.20	1.92	3.36	1	2.90	.04	.07	3.00	1.25	.75	C-119		
423647	Mortar, SP, Full Track, 4.2-in	44	66,425.92	862.40	1,660.56	1	1,509.68	19.60	37.74	17.91	10.33	8.16			
429280	Pistol, Cal. 45, Semiautomatic	2,620	244.65	5.25	6.30	25	2.33	.05	.06	2.94	.90	.88	C-119		(h)
401076	Bayonet, Knife w/Scabbard, Carbine	13,930	728.19	9.77	19.53	50	2.66	.035	.07	1.65	1.19	1.33	C-119		(h)
	Scabbard		604.65	4.87	15.29	100	4.35	.035	.11	2.21	1.48	1.33	C-119		(h)
435965	Rifle, 7.62-mm, Auto-Semi	12,039	9,776.48	120.40	240.80	10	8.12	.10	.20	4.23	1.80	1.07	C-119		(h)
438943	Semitrailer, Low Bed, 25T, 4 Wheel	7	12,072.20	229.25	301.70		1,724.60	32.75	43.10	33.90	9.60	5.30	C-130	40 ft flat	
438971	Semitrailer, Stake 12T, 4 Wheel	2	4,230.96	37.50	105.80		2,115.48	18.75	52.90	28.70	8.10	9.10	C-130	40 ft flat	
438981	Semitrailer, Tank, Gas, 5,000 Gal	18	38,268	133.20	955.80		2,162.80	7.40	53.10	29.41	8.10	0.10	C-130	50 ft flat	
438985	Semitrailer, Tank, Transporter 50-Ton, 8 Wheel	6	16,548	133.20	413.70		2,758	22.20	68.95	39.40	12.50	5.60	C-119		
439005	Semitrailer, Van, Cargo, 6-Ton, 2 Wheel	8	8,580.00	24.80	214.48		1,072.50	3.10	26.81	22	7.50	6.50	C-124	50 ft flat	
439021	Semitrailer, Van, Shop, 6-Ton, 2 Wheel	3	6,159.63	10.20	154		2,053.21	3.40	51.33	23	17.90	11.30	C-124	50 ft flat	
444021	Tank, Combat, Full Track, Light Gun	54	122,113.44	1,371.60	2,951.10		2,261.36	25.40	54.65	22.76	10.80	9.20	C-124	40 ft flat	
444061	Tank, Combat, Full Track, Medium, Gun	306	858,262.68	15,529.50	21,456.72		2,804.78	50.75	10.12	24.40	12.10	9.50		50 ft flat	
444250	Tank, Recovery Vehicle, Medium	68	207,088.32	3,699.20	5,192.48		3,054.24	54.40	76.36	27	11.20	10.10		50 ft flat	
456915	Trailer, 762mm, Rocket, Transporter	4	5,216.64	8.80	130.40		1,304.16	2.20	32.60	25.08	8	6.50	C-119		
457040	Trailer, Ammo, 2-Ton, 2 Wheel	51	15,708	51	392.70		308	1	7.70	11	7	4	C-119	50 ft flat	
457110	Trailer, Amphibious, Cargo, ¼-Ton, 2 Wheel	414	44,712	124.20	1,117.80		108	.30	2.70	9	4	3	C-119	50 ft flat	
457190	Trailer, Cargo, ¾-Ton, 2 Wheel	245	123,744.60	171.50	3,094.40		505.08	.70	12.63	12.20	6	6.90	C-119	40 ft flat	
457220	Trailer, Cargo, 1½-Ton, 2 Wheel	658	410,592	789.60	10,264.80		624	1.20	15.60	13	6	8	C-119	50 ft flat	
457235	Trailer, Cargo, Generator, 2-Ton, 4 Wheel	1	360	2.10	9		360	2.10	9	15	8	3			
457495	Trailer Tank, Water, 1½-Ton, 2 Wheel	106	54,568.80	137.80	1,364.22		514.80	1.30	12.87	13	6.60	6	C-119		
459830	Truck, Ambulance, Field, ¾-Ton, 4 x 4	34	22,848	122.40	571.20		672	3.60	16.80	16	6	7	C-119		
459832	Truck, Ambulance, Front Line, ¼-Ton, 4 x 4	19	5,759.85	28.50	144.02		303.15	1.50	7.58	12.90	5	4.70	C-119		
460050	Truck, Cargo, ¾-Ton, 4 x 4	290	214,756.72	897.0	5,370.06		718.28	3	17.96	15.70	6.10	7.50	C-110	40 ft flat	
460080	Truck, Cargo, ¾-Ton, 4 x 4, WWN	50	38,569	167.50	965		771.38	3.35	19.30	16.86	6.10	7.50	C-119	40 ft flat	
460110	Truck, Cargo, 2½-Ton, 6 x 6, LWB	328	558,846.40	2,919.20	13,887.60		1,703.80	8.90	42.60	22.90	8	9.30	C-119	50 ft flat	
460141	Truck, Cargo, 2½-Ton, 6 x 6, LWB, WWN	240	429,614.40	2,220	10,740		1,790.06	9.25	44.75	24.06	8	9.30	C-119	50 ft flat	
460290	Truck, Cargo, 5-Ton, 6 x 6, LWB	180	34,741.26	1,782	8,685.00		1,930.07	9.90	48.25	25.90	8.10	9.20	C-123	40 ft flat	
460320	Truck, Cargo, 5-Ton, 6 x 6, LWB, WWN	90	181,489.50	922.50	4,536		2,016.55	10.25	50.40	27.06	8.10	9.20	C-123	40 ft flat	
460442	Truck, Cargo, 10-Ton, 6 x 6, WWN	8	235,569.96	128.80	570.50		2,944.62	16.10	73.62	28.70	9.50	10.80	C-124	40 ft flat	

See notes at end of table XII-B.

Table XII–A. (Added) *End Item Densities and Shipping Data for Ordnance Equipment—Armored Division TOE 17D*—Continued

TOE line item number	Nomenclature	Total per division				Individual item or package									Notes
		Quantity	Cubic feet	Short tons	Measurement tons	(a) Quantity per pack	(b) Cubic feet	(c) Short tons	(d) Measurement tons	(e) Dimensions (ft) Length	Width	Height	Transport data (f) Air	(g) Rail	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	WEAPONS AND VEHICLES—Continued														
460680	Truck, Dump, 2½-Ton, 6 x 6	17	25,932.48	130.90	648.38		1,525.44	7.7	38.14	22.70	8.0	8.40	C–119	50 ft flat	
460710	Truck, Dump, 2½-Ton, 6 x 6, WWN	20	32,067.80	161	802		1,603.39	8.05	40.10	23.86	8	8.40	C–119	50 ft flat	
461328	Truck, Tank, Gas, 2½-Ton, 6 x 6	70	111,888.0	497	2,797.20		1,598.40	7.10	39.96	22.20	8	9	C–119	50 ft flat	
461370	Truck, Tractor, 2½-Ton, 6 x 6, LWB, WWN	1	1,107.92	6.05	27.70		1,107.92	6.05	27.70	21.16	7.70	6.80			
461400	Truck, Tractor, 2½-Ton, 6 x 6, SWB	10	10,472	57	261.80		1,047.20	5.70	26.18	20	7.70	6.80			
461460	Truck, Tractor, 5-Ton, 6 x 6, SWB	20	26,594	198	664.80		1,329.7	9.90	33.24	22.80	8.10	7.20	C–130	50 ft flat	
461490	Truck, Tractor, 5-Ton, 6 x 6, SWB, WWN	9	12,576.42	92.25	314.37		1,397.38	10.25	34.93	23.96	8.10	7.20	C–130	50 ft flat	
461640	Truck, Tractor, 10-Ton, 6 x 6, w/Dual, Midship W.	6	16,751.16	85.20	418.80		2,791.86	14.20	69.80	31.60	9.50	9.30	C–124	40 ft flat	
461760	Truck, Tractor, Wrecker, 5-Ton, 6 x 6, XLWB, WWN.	1	2,610.63	24.40	65.27		2,610.63	24.40	65.27	29.30	8.10	11	C–124	40 ft flat	
461790	Truck, Utility, ¼-Ton, 4 x 4	875	2,311,604.25	11,114.10	5,793.30		270.25	1.30	6.76	11.50	5.0	4.70	C–119	40 ft flat	
461834	Truck, Van, Shop, 2½-Ton, 6 x 6	46	89,449.76	345	2,236.06		1,944.56	7.50	49.61	22.30	8.0	10.90	C–124		
461836	Truck, Van, Shop, 2½-Ton, 6 x 6, WWN	1	2,045.81	7.85	51.15		2,045.81	7.85	51.15	23.46	8.1	10.90	C–124	50 ft flat	
461880	Truck, Wrecker, Light 2½-Ton, 6 x 6, WWN	1	1,787.12	11.90	44.68		1,787.12	11.90	44.68	25.10	8	8.90	C–130	50 ft flat	
461885	Truck, Wrecker, Medium, 5-Ton, 6 x 6, WWN.	50	124,189.50	1,135	3,105		2,483.79	22.70	62.1	29	8.08	8.90	C–124	50 ft flat	
	TOOLS AND INSTRUMENTS [i]														
401248	Binocular, 6 x 30, Military Reticle	511	119.70	1.57	2.99	24	5.70	.075	.14	2.50	1.50	1.50			(h)
401250	Binocular, 7 x 50, Military Reticle	675	308	4.20	7.70	12	5.5	.075	.14	1.91	1.77	1.62			(h)
401420	Blasting Machine, 30 Cap Capacity	4	2.40	.05	.08		.60	.012	.02	.84	.84	.84			
401510	Board, Plotting, Artillery	42	18.90	.04	.47	1	.45	.001	.01	.83	.83	.62			
401519	Board, Plotting, Azimuth Ranging Inf	60	570	.19	14.25	24	9.50	.097	.23	2.39	2.14	1.85			(h)
401843	Cabinet, Spare Parts, Steel Type III (Class B).	4	119	.76	2.97	1	29.75	.189	.74	4.60	3	1.70			
401848	Cabinet, Spare Parts, Steel Type V	5	71.50	.51	1.78	1	14.30	.102	.35	2.80	2.40	2.40			
401851	Cabinet, Storage, Assy, Tool, Steel, Type 1V	138	5,257.80	29.26	131.89	1	38.10	.212	.95	3.90	3.25	2.00			
405457	Chain Assy, Sgle Leg ⅝-in x 16-ft	229	91.60	5.04	2.29		.40	.022	.01	1.00	.67	.46			
405785	Chest, Spare Parts, Metal, Type I, Class A	21	210.60	.29	5.26		10	.014	.25	2.93	2.09	2.33			
408180	Circle, Aiming	83	265.60	2.49	6.64	1	3.20	.030	.08	4.08	.87	.87			(h)
410625	Compass, Mil Graduations	338	12	.24	.30	40	1.50	.031	.04	1.56	1.18	.70			(h)
411785	Demolition Eqp Set, Explosive Elec-Nonelec.	48	2,016	1.63	50.40	1	42	.034	1.05	2.73	1.48	1.02			
411787	Demolition Eqp Set, Explosive, Nonelec	36	6.12	.07	.36		.17	.002	.01	.67	.50	.50			
411809	Demounter, Pneumatic Tire, 700 x 15-in	1	13	.17	.32	1	13	.170	.32	3.40	3.20	1.20			
413437	Driver, Projectile Unit Powder actuated	4	22	.20	.55	1	5.50	.05	.13	2.60	1.29	1.70			(h)
413950	Extension Lubr Gun, Hydra to Hydra 8-in long.	18													
414940	Gauge, Climbers, Steel 1 1/16-in long	18	.01	.02	.01	(k)	.01	.001	.01	.19	.09	.06			

417042	Gun, Lubr, Hand Lever Operated, High Press.	18	1.80	.04	.04	(*)	.10	.002	.01	1.19	.50	.25		
417062	Gun, Lubr, Push Type, High Pressure, 30-oz Cap.	4	.16	.01	.01	(*)	.04	.001	.01	.6	.50	.20		
417347	Hammer, Carpenters, Claw, Bell-Faced	7	.49	.01	.01	(*)	.07	.001	.01	1.13	.42	.15		
419938	Kit, Cold, Starting Aid	9				10	9.95		.24	.33	5.50	5.50	(a)	
422165	Light, Warning, Veh, Red W/Blinker	18	19.90		.47	1	2.7	.04	.07	4.07	.87	.72	(a)	
425561	Mount, Tripod, MG, Cal .50	324	874.80	12.96	22.68	4	4.48	.001	.11	2.38	1.35	1.14	(a)	
425565	Mount, Tripod, MG, 7.62-mm	682	761.60	.17	18.70	1	3.70	.043	.09	3.91	.91	1.05	(a)	
425700	Mount, Trk, Pedestal for Trk ¼-Ton	166	614.20	7.14	14.94		.01	.001	.01	.67	.16	.07		
429705	Pliers, Comb Slip Joint W/Cutter 18-in long	1	.01	.01	.01	(*)	.03	.002	.01	1.50	.34	.13		
431610	Puller, Nail, 18-in long	6	.18	.01	.01	(*)	.30	.003	.01	1	.60	.60		
439060	Separator, Oil, Water, Spray Gun	1	.30	.01	.01	(*)	1.45	.008	.03	1.60	1.60	1.30	(c)	
439065	Separator, Oil, Water, Spray Gun	3	4.35	.02	.10		116.40	1.288	2.91	2.84	2.67	2.50	(c)	
440502	Shop Set, Fld Maint, Arty	4	465.60	5.15	11.64		158.90	.992	3.97	2.67	2	2.50	(c)	
440524	Shop Set, Fld Maint, AUTMV Fuel	4	635.60	3.97	15.84		845.20	7.381	21.13	6	2.05	4.82	(c)	
440544	Shop Set, Fld Maint, AUTMV Basic	1	845.20	7.36	21.13		187.50	1.041	4.68	2.60	2.30	3.20	(c)	
440568	Shop Set, Fld Maint, Contract and Emerg Repair.	15	2,840	15.62	71.00									
440618	Shop Set, Fld Maint, Inst Fire Control	4	404.80	4.42	10.12		101.20	1.104	2.53	2.84	1.75	2.50	(c)	
440638	Shop Set, Fld Maint, Mech Basic	4	612.40	5.90	15.28		153.10	1.474	3.82	6	2.34	4	(c)	
440682	Shop Set, Fld Maint, Small Arms	1	200.70	1.41	5.01		200.70	1.409	5.00	2.67	2	4	(c)	
440702	Shop Set, Fld Maint, Spare Parts, Storage	20	4,152	31.42	103.80		207.60	1.671	5.19	4.60	3.30	2	(c)	
440704	Shop Set, Fld Maint, Spare Parts, Set #2	10	2,788.63	23.43	69.71		146.77	1.233	3.66	3.60	2.20	2	(c)	
440744	Shop Set, Fld Maint, Welding	1	206.90	4.07	5.17		206.90	4.073	5.17	8	4.67	3.60	(c)	
441210	Sledge, Blacksmiths, Dble Face, 6 Lbs	22	10.56	.13	.26	(*)	.48	.006	.01	3.25	.60	.25		
442020	Spray Gun, Paint, Non-Bleeder, Type 40	1	.05	.01	.01	(*)	.05	.001	.01	.65	.60	.12		
442025	Spray Gun, Paint, Non-Bleeder, Type 7	3	.24	.01	.01	(*)	.08	.001	.01	.75	.60	.17		
443750	Table, Graphical Firing	56	5.20	.01	.13	25	2.60	.001	.06	2.65	1.29	.77	(b)	
443753	Table, Graphical Firing Fan For 105 Howitzer	35	3.64	.01	.08	25	2.60	.001	.06	2.65	1.29	.77	(b)	
443755	Table, Graphical Firing For 155mm Howitzer	8	.90	.01	.02	(*)	.45	.001	.01	1.40	.65	.48		
443790	Table, Graphical Firing, 762mm Rocket	8	.90	.01	.02	(*)	.45	.001	.01	1.40	.65	.48		
443792	Table, Graphical Firing, 4.2-in. Mortar	32	5.20	.01	.13	25	2.60	.001	.06	2.65	1.27	.77	(b)	
443800	Table, Graphical Site	46	.10	.01	.01	25	.05	.001	.01	2.65	1.27	.77	(b)	
449760	Telescope, BC	21	165.90	1.57	4.14	1	7.90	.075	.19	4.42	1.91	1	(c)	
449980	Telescope, Observation	107	58.10	.75	1.40	10	5.10	.068	.12	2.75	1.62	1.12	(c)	
451750	Thermometer, Powder Temp	37	3.74	.11	.09	(*)	.02	.001	.01	.65	.19	.17		
452650	Tool Kit, Armorers	50	84	1.40	2.10	1	1.68	.028	.04	1.70	.90	1.10		
453653	Tool Kit, Arty Mech, 8-in. Gun, 240mm Howitzer.	1	1.46	.03	.03	1	1.46	.027	.03	1.50	1.30	.75		
453654	Tool Kit, Arty Mech, 105mm	11	27.06	.37	.67	1	2.46	.034	.06	2.10	1.30	.90		
453660	Tool Kit, Arty Rpmn Ord	9	12.60	.26	.31	1	1.40	.020	.03	2	.92	.75		
453670	Tool Kit, AUTMV Fuel-Elec Sys	19	26.03	.27	.65	1	1.37	.014	.03	1.40	1.25	.78		
453759	Tool Kit, Fld Maint, Arc Welder	3	174.60	1.13	4.36	1	58.20	.392	1.4	5.60	3.4	3.20		
453800	Tool Kit, Gen Mech	976	1,378.16	30.26	34.40	1	1.41	.031	.03	2	.94	.75		
453830	Tool Kit, Inst Rpmn	9	13.86	.18	.34	1	1.54	.020	.03	1.67	.88	1.04		
453840	Tool Kit, Mach	1	1.37	.02	.03	1	1.37	.021	.03	1.40	1.30	.75		
453870	Tool Kit, Metal Body Rpmn	8	11.28	.25	.28	1	1.41	.031	.03	2	.94	.75		
453890	Tool Kit, Org Maint, #1 Common	83	6,972	68.97	174.30		84	.531	2.10	5	2.1	4.6	(i)	
453895	Tool Kit, Org Maint, #2 Common	20	3,151.40	43.76	78.78		157.57	2.188	3.93	4	2	4.20	(i)	
453905	Tool Kit, Org Maint, #1 Supplemental	13	794.30	12.25	19.85		61.10	.942	1.52	4	1.80	3	(i)	
453910	Tool Kit, Org Maint, #2 Supplemental	11	1,438.40	16.92	35.96		130.80	1.538	3.27	9	3.20	4.90	(i)	
453930	Tool Kit, Org Maint, #7	6	720	3.01	18.00		120	.502	3.00	5	3.00	2.60	(i)	
453950	Tool Kit, Org Maint, Rocket Battery	1	18.60	.16	.46		18.60	.150	.46	2.67	2	1.53	(i)	
453995	Tool Kit, SA Rpmn	12	18	.26	.45	1	1.50	.022	.03	1.67	.88	1.04		
454025	Tool Kit, Welders	31	42.16	.50	1.05	1	1.36	.016	.03	2	.94	.75		
454273	Tool Set, Air Frame Rpmn, A Acft	8	16.80	.30	.42	1	2.10	.037	.05	1.67	1	1.25		

See notes at end of table XII-B.

Table XII–A. (Added) *End Item Densities and Shipping Data for Ordnance Equipment—Armored Division TOE 17D*—Continued

TOE line item number	Nomenclature	Total per division				Individual item or package									Notes
		Quantity	Cubic feet	Short tons	Measurement tons	(a) Quantity per pack	(b) Cubic feet	(c) Short tons	(d) Measurement tons	(e) Dimensions (ft) Length	Width	Height	Transport data (f) Air	(g) Rail	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	TOOLS AND INSTRUMENTS[1]—Continued														
454420	Tool Set, Elec Rpmn, A Acft	4	8.40	.12	.21	1	2.10	.030	.05	1.67	1	1.25			
454490	Tool Set, Eng Power Train Rpmn, A Acft	8	15.20	.33	.38	1	1.90	.041	.04	1.75	.88	1.20			
454820	Tool Set, Gen Mech, A Acft	109	250.70	4.91	6.26	1	2.30	.045	.05	1.75	1.08	1.25			
454952	Tool Set, Hyd Rpmn, A Acft	4	7.60	.15	.19	1	1.90	.037	.04	1.75	.88	1.20			
455414	Tool Set, Org Maint, A Acft, Set B	5	2,437.50	13.72	60.93	----------	487.50	2.743	12.18	8.75	2.50	4.60	----------	----------	(j)
455416	Tool Set, Org Maint, A Acft, Set C	1	1,541.20	7.08	38.53	----------	1,541.20	7.077	38.53	11	3.70	10.30	----------	----------	(j)
455615	*Tool Set, Propeller Rotar Rpmn A Acft*	4	9.36	.13	.23	1	2.34	.033	.05	1.80	1.30	1			
455690	Tool Set, Rkt Mech, 762mm	1	2.20	.03	.05	1	2.20	.033	.05	1.67	1	1.25			
455981	Tool Set, Tech Insp, A Acft	6	7.62	.08	.19	1	1.27	.013	.03	1.75	1.25	.58			
455987	Tool Set, Turret Mech	46	69	1.38	1.72	1	1.50	.030	.02	1.40	1.30	.75			
465270	Watch, Navigation Type	1	.02	.01	.01	(k)	.02	.001	.01	.29	.29	.14			
465270	Watch, Navigation, Master Time Type	1	.02	.01	.01	(k)	.02	.001	.01	.29	.29	.14			
465330	Watch, Stop, Type B, Class 15	29	6.67	.03	.16	(k)	.23	.001	.01	.77	.77	.45			
465380	Watch, Wrist, Grade II	1,886	19	1.04	.47	1	1	.055	.02	1.33	.91	.83	.... ..	----------	(h)
473620	Wrench, Open End	3	.30	.01	.01	(k)	.10	.001	.01	1	.50	.03			

Table XII–B. (Added) *End Item Densities and Shipping Data for Ordnance Equipment—Airborne Division TOE 57D*

	WEAPONS AND VEHICLES														
401076	Bayonet-Knife W/Scabbard Carbine	10,984	574.20	7.70	15.40	50	2.61	.035	.07	1.65	1.19	1.33	C-119	40 ft flat	(b)
	Scabbard	----------	479	3.85	12.10	100	4.35	.035	.11	2.21	1.48	1.33	C-119	40 ft flat	(b)
405215	Carrier, Lt Wpns Inf ½ T 4 x 4	476	78,873.75	655.50	1,971.25	----------	166.05	1.38	4.15	9.85	4.12	4.09	C-119	40 ft flat	
417112	Gun, Mach Cal. 50 Brg Hvy Bar Flex	4	14.80	.256	.36	1	3.70	.064	.09	5.79	.75	.85	C-119	40 ft flat	(b)
417125	Gun, Mach 7.62mm Lt Wt Gp	438	1,597	16.00	39.97	1	3.51	.028	.11	3	1.16	1	C-119	40 ft flat	(b)
417220	Gun, SP FT 90mm AT Airborne	30	32,640.90	187.50	816	----------	1,088.03	6.25	27.20	20.14	7.33	7.37			
418341	Howitzer, 105mm on carriage	25	18,326	62.50	458.25	----------	733.04	2.50	18.33	19.60	6.80	5.50		40 ft flat	
420660	Launcher, 762mm RKt Trk Mtd	4	10,711.44	67.20	267.80	----------	2,677.86	16.80	66.95	32.40	9.50	8.70			
42073–	Launcher, Grenade T	765	16.5	.44	.45	50	1.1	.029	.03	1.50	1.05	.70	C-119	40 ft flat	(b)
420800	Launcher, Rkt 3.5 inch	458	----------	7.71	35.65	4	12.57	.067	.31	3.50	2.70	1.33	C-119	40 ft flat	(b)
423630	*Mortar, 81mm on Mount*	75	120.00	2.25	3.00	1	1.60	.03	.04	4.58	.58	.58	C-119	40 ft flat	(b)
	Mount	----------	217.50	3.00	5.25	1	2.90	.04	.07	3.00	1.25	.75	C-119	40 ft flat	(b)
42365–	Mortar, 105mm	40													
429280	Pistol, Cal .45 Semi-Auto	1,964	184.07	3.93	4.74	25	2.33	.05	.06	2.94	.90	.88	C-119	40 ft flat	(b)
435950	Rifle, 106mm on mount	55	2,238.50	6.60	55.55	1	40.70	.12	1.01	11.71	1.81	1.92	C-119	40 ft flat	(b)
	Mount	----------	446.60	5.50	11.16	1	8.12	.10	----------	5.19	.48	3.26	C-119	40 ft flat	(b)
435960	Rifle, 7.62mm Selective Auto-Semi HB	644													
435965	Rifle, 7.62mm Semi-Auto Lt Bar	8,864	7,194.32	88.60	177.20	10	8.12	.10	.20	4.23	1.80	1.07	C-119	40 ft flat	(b)
456915	Trailer, 762mm Rkt Transporter	8	10,433.28	17.60	260.80	----------	1,304.16	2.20	32.60	25.08	8	6.50	C-119		
457110	Trailer, Amph Cargo ¼ T 2 Wh	249	26,892.00	74.70	672.30	----------	108	.30	2.70	9	4	3	C-119	50 ft flat	
457190	Trailer, Cargo ¾ T 2 Wh	156	78,792.48	109.20	1,970.28	----------	505.08	.70	12.63	12.20	6	6.90	C-119	40 ft flat	
457220	Trailer, Cargo 1½ T 2 Wh	73	45,552	87.60	1,138.80	----------	624	1.20	15.60	13	6	8	C-119	50 ft flat	

457495	Trailer, Tank Water 1¼ T 2 Wh	34	17,503.20	44.20	437.60		514.80	1.30	12.87	13	6.6	6	C-119	
45859	Truck, ¾ T 6 x 6 XM408	338	102,170.64	463.06	2,555.28		302.28	1.37	7.56	13.45	5.19	4.33		
45860	Truck, ¾ T 6 x 6 XM408 W/Lit Kit	62	18,741.36	84.94	468.72		302.28	1.37	7.56	13.45	5.19	4.33		
459832	Truck, Ambulance Front Line ¼ T 4 x 4	1	303.15	1.50	7.58		303.15	1.50	7.58	12.90	5	4.70	C-119	40 ft flat
460050	Truck, Cargo ¼ T 4 x 4	10	7,182.28	30	179.80		718.28	3	17.98	15.70	6.10	7.50	C-119	40 ft flat
460110	Truck, Cargo 2½ T 6 x 6 LWB	90	153,342	801	3,834		1,703.80	8.90	42.60	22.90	8	9.30	C-119	50 ft flat
460141	Truck, Cargo 2½ T 6 x 6 LWB WWN	27	48,331.62	832.50	1,208.25		1,790.06	9.25	44.75	24.06	8	9.30	C-119	50 ft flat
460680	Truck, Dump 2½ T 6 x 6	12	18,305.28	92.40	457.70		1,525.44	7.70	38.14	22.70	8	8.40	C-119	50 ft flat
461326	Truck, Tank Gas 2½ T 6 x 6	4	6,393.60	28.40	159.80		1,598.40	7.10	39.96	22.20	8	9	C-119	50 ft flat
461790	Truck, Utility ¼ T 4 x 4	454	122,693.50	590.20	3,064.50		270.25	1.30	6.75	11.50	5	4.70	C-119	40 ft flat
461834	Truck, Van Shop 2½ T 6 x 6	3	5,833.68	22.50	145.80		1,944.56	7.50	48.60	22.30	8	10.90	C-124	50 ft flat
461836	Truck, Van Shop 2½ T 6 x 6 WWN	1	2,045.81	7.85	51.15		2,045.81	7.85	51.15	23.46	8.00	10.90	C-124	50 ft flat
46185	Truck, Wrecker ¾ T 6 x 6 XM408	9	2,932.92	13.05	73.40		325.88	1.45	8.15	14.50	5.19	4.33		
461880	Truck, Wrecker 2½ T 6 x 6 WWN	1	1,787.10	11.90	44.70		1,787.10	11.90	44.68	25.10	8	8.90		
461885	Truck, Wrecker Medium 5 T WWN	5	12,418.95	113.50	310.50		2,483.79	22.70	62.1	29	8.08	10.66		
435655	Repair Shop, Trk Mtd 2½ T 6 x 6	1	1,971.81	15.84	47.24		1,971.81	15.84	47.24	22	8.40	10.67		
	TOOLS AND SETS [1]													
401606	Box, Tool S Loose Tray 7 5/16 x 8½ x 21"	4	5	.02	.12	1	1.25	.006	.03	1.67	.72	.79		
401851	Cabinet, Storage Assy Tool Steel Type IV	98	3,733.80	20.78	93.34	1	38.10	.212	.95	3.90	3.25	2		
405457	Chain, Assy Sgle Leg ⅝ in. x 16 ft	37	15.80	.81	.37		.40	.022	.01	1	.67	.46		
405785	Chest, Spare Parts Type I Class A	4	57	.06	1.42	1	14.26	.014	.35	2.93	2.09	2.38		
411182	Crimper, Lead Seal Wire Type	5	.10	.01	.01	(k)	.02	.001	.01	.67	.19	.08		
411785	Demolition Eqp Set, Elec-Non-Elec	8	33.60	.27	.84	1	4.20	.034	.10	2.73	1.48	1.02		
411787	Demolition Eqp Set, Non-Elec	334	56.78	.67	1.42	1	.17	.002	.01	.67	.50	.50		
413387	Drilling Machine, ⅓ HP 115V 60C Sgle-Ph	2	20.00	.24	.5	1	10	.120	.25	3.25	2.00	1.62		
413824	File, As Flat Bastard Cut 8 in	4	.01	.01	.01	(k)	.01	.001	.01	1.00	.09	.19		
414940	Gauge, Climbers Steel	31	.01	.03	.01	(k)	.03	.001	.01	.19	.09	.06		
416401	Grinding Machine, Util Bench	4	18.40	.23	.46	1	4.62	.057	.01	2.25	1.37	1.50		
417347	Hammer, Carpenters Claw Bell Face 1 lb	24	1.68	.02	.04	(k)	.02	.001	.01	1.13	.42	.15		
422806	Mallet, Rawhide 10 oz	8	.08	.01	.01	(k)	.01	.001	.01	.32	.16	.16		
429705	Pliers, Comb Slip Joint 8 in	8	.06	.01	.01	(k)	.01	.001	.01	.67	.16	.07		
429750	Pliers, Diagonal Cutting 6 in	11	.05	.01	.01	(k)	.01	.001	.01	.50	.16	.05		
430035	Pliers, Rd Nose Long Chain 6 in	6	.02	.01	.01	(k)	.01	.001	.01	.50	.16	.04		
430610	Pot, Glue Elec Dry Type	2	.72	.01	.01	(k)	.01	.006	.01	.72	.72	.72		
431000	Press, Grommet Eyelet & Foot operated single head	2	2.80	.08	.07	1	1.40	.040	.01	2.75	1.00	.50		
431610	Puller, Nail 18 in	5	.15	.01	.01	(k)	.01	.002	.01	1.50	.34	.13		
432322	Punch, Cutting Leather Canvas 5/16 in	2	.01	.01	.01	(k)	.01	.001	.01	.44	.10	.09		
432323	Punch, Cutting Leather Canvas ¾ in	2	.01	.01	.01	(k)	.01	.001	.01	.44	.12	.10		
432325	Punch, Cutting Leather Canvas 1 in	2	.02	.01	.01	(k)	.01	.001	.01	.49	.14	.12		
432330	Punch, Cutting Leather Canvas ⅛ in	2	.01	.01	.01	(k)	.01	.001	.01	.32	.03	.03		
432331	Punch, Cutting Leather Canvas	2	.01	.01	.01	(k)	.01	.001	.01	.32	.03	.03		
432332	Punch, Cutting Leather Canvas ¼ in	2	.01	.01	.01	(k)	.01	.001	.01	.34	.05	.05		
432333	Punch, Cutting Leather Canvas 5/16 in	2	.01	.01	.01	(k)	.01	.001	.01	.38	.05	.05		
432334	Punch, Cutting Leather Canvas ⅜ in	2	.01	.01	.01	(k)	.01	.001	.01	.34	.06	.06		
432415	Punch, Leather or Canvas cutting 7/16 in. diam cut	2	.01	.01	.01	(k)	.01	.001	.01	.42	.07	.06		
432416	Punch, Leather or Canvas cutting ½ in. diam cut	2	.01	.01	.01	(k)	.01	.001	.01	.38	.09	.08		
432420	Punch, Leather or Canvas cutting ⅝ in. diam cut	2	.01	.01	.01	(k)	.01	.001	.01	.34	.05	.05		
437680	Screwdriver, Common Hv Duty	23	.15	.02	.15	(k)	.02	.001	.01	.75	.11	.09		
437682	Screwdriver, Common Hv Duty 11¼ in	6	.06	.01	.06	(k)	.01	.001	.01	1.00	.10	.10		
437684	Screwdriver, Common Hv Duty	6	.12	.01	.12	(k)	.01	.001	.01	1.18	.13	.13		

See notes at end of table XII-B.

Table XII-B. (Added) *End Item Densities and Shipping Data for Ordnance Equipment—Airborne Division TOE 57D*—Continued

TOE line item number	Nomenclature	Total per division				Individual item or package									Notes
		Quantity	Cubic feet	Short tons	Measurement tons	(a) Quantity per pack	(b) Cubic feet	(c) Short tons	(d) Measurement tons	(e) Dimensions (ft) Length	Width	Height	Transport data (f) Air	(g) Rail	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	TOOLS and SETS—Continued														
437750	Screwdriver, Common Normal Duty	6	.12	.01	.12	(k)	.01	.001	.01	1.42	.11	.11			
438546	Screwdriver Set, 4 common 12 offset	8	.32	.01	.32	(k)	.01	.001	.01	1.18	.29	.11			
440502	Shop Set, Fld Maint Arty	1	116.40	1.29	2.91		1.29	1.288	.03	2.84	2.67	2.50			(j)
440524	Shop Set, Fld Maint Autmv Fuel Elec Sys	1	158.90	.99	3.97		.99	.992	.02	2.67	2	2.50			(j)
440544	Shop Set, Fld Maint Autmv Basic	1	845.20	7.36	21.13		7.36	7.361	.18	6	2.25	4.82			(j)
440608	Shop Set, Fld Maint Inst & Fire Control Bench	1	62.16	.51	1.55		.51	.510	.01	6	2.50	.50			(j)
440618	Shop Set, Fld Maint Inst & Fire Control Basic	1	101.20	1.10	2.33		1.10	1.104	.02	2.84	1.75	2.50			(j)
440638	Shop Set, Fld Maint Mach Basic	1	153.10	1.47	3.82		1.47	1.474	.03	6	2.84	4			(j)
440682	Shop Set, Fld Maint Small Arms	1	200.70	1.41	5.01		1.41	1.409	.03	2.67	2	4			(j)
440744	Shop Set, Fld Maint Welding	1	206.90	4.07	5.17		4.07	4.073	.03	8	4.67	3.50			(j)
44076	Shop Set, Preventive Maint (Spec ABN)	3	3,047.43	23.22	76.18		23.22	7.741	.58	7.90	3.75	4.50			(j)
44077	Shop Set, Storage SPC ABN	4	830.40	6.28	20.76		6.28	1.571	.15	4.65	3.25	1.90			(j)
		4	587.08	4.93	14.67		4.93	1.233	.12	3.33	2.33	1.90			(j)
441210	Sledge, Blacksmiths Dble Face 6 lb	1	.42	.01	.42	(k)	.01	.006	.01	3.25	.60	.25			
442025	Spray Gun, Paint 50 to 60 lb pressure	2	.10	.01	.10	(k)	.01	.001	.01	.75	.60	.17			
442183	Square, Carpenters 24 in	2	.12	.01	.12	(k)	.01	.001	.01	2	1.34	.02			
442865	Stone, Sharpening 1 x 2 x 27 in	22	1.54	.04	.03	(k)	.04	.002	.01	2.28	.21	.13			
453660	Tool Kit, Arty Rpmn Ord	2	2.80	.06	.07	1	1.40	.029	.03	2	.92	.75			
453670	Tool Kit, Autmv Fuel & Elec Sys Rpmn	4	4.40	.06	.11	1	1.10	.014	.02	1.40	1.25	.78			
453690	Tool Kit, Canvas and Lthr Rpmn	2	2.80	.07	.07	1	1.40	.035	.03	2	.92	.75			
453800	Tool Kit, Gen Mech	94	122.20	2.91	3.05	1	1.30	.031	.03	2	.94	.75			
453830	Tool Kit, Inst Rpmn	3	4.62	.06	.11	1	1.54	.020	.03	1.67	.88	1.04			
453850	Tool Kit, Maint Qm ABN Eqp No. 1	4													
453870	Tool Kit, Metal Body Rpmn	2	2.60	.06	.01	1	1.30	.031	.03	2	.94	.75			
453950	Tool Kit, Orgn Maint Rkt Bat	2	37.20	.32	.93		18.60	.160	.46	2.67	2	1.58			(j)
453995	Tool Kit, SA Rpmn	8	12	.18	.30	1	1.50	.022	.03	1.67	.88	1.04			
454025	Tool Kit, Welders	1	1.36	.02	.03	1	1.36	.016	.03	2	.94	.75			
454273	Tool Set, Airframe Rpmn A ACFT	4	8.40	.15	.21	1	2.10	.037	.05	1.67	1	1.25			
454420	Tool Set, Elec Rpmn A ACFT	2	4.20	.06	.11	1	2.10	.030	.05	1.67	1	1.25			
454490	Tool Set, Eng Power Train RPMN ACFT	5	9.50	.21	.23	1	1.90	.041	.04	1.75	.88	1.20			
45479	Tool Set, Gen Mach (Lt Weight)	60	48.80	.84	1.22	1	.78	.014	.02	1.08	.84	0.84			
454820	Tool Set, Gen Mach A ACFT	80	184	3.60	4.50	1	2.30	.045	.05	1.75	1.08	1.25			
454952	Tool Set, Hyd Rpn A ACFT	2	3.80	.07	.09	1	1.90	.037	.04	1.75	.88	1.20			
45504	Tool Set, Mech Emergency	13	2,083.90	16.91	52.09		160.30	1.301	4.00	2.50	2.25	3.20			(j)
45505	Tool Set, Mech Emergency Repair Supp	8	83.20	2.90	2.08		10.40	.363	.26	4.67	.80	.80			(j)
455416	Tool Set, Orgn Maint A ACFT Set C	1	1,541.20	7.08	38.53		1,541.20	7.077	38.53	11	3.70	10.30			(j)
45568	Tool Set, SA Repm (Lt Weight)	7	2.43	.02	.07		.29	.003	.01	1.92	1.13	1.13			(j)
455690	Tool Set, Rkt Mechanic 762mm	2	4.40	.07	.11	1	2.20	.033	.05	1.67	1	1.25			
455981	Tool Set, Tech Insp A ACFT	2	2.40	.03	.07	1	1.20	.013	.03	1.75	1.25	.58			
463930	Vise, Mach Bench Swivel Base	4	6	.20	.15	1	1.50	.050	.03	1.92	1.19	.98			
466820	Wrench, ADJ Sgle Open End 8 in	6	.02	.01	.02	(k)	.01	.001	.01	.70	.21	.17			

466840	Wrench, Open End ADJ Sgle Head 12 in	6	.06	.01	.06	(k)	.01	.001	.01	1.04	.29	.23			
466850	Wrench, ADJ Sgle Open End 15 in	6	.14	.01	.14	(k)	.02	.001	.01	1.29	.38	.29			
	INSTRUMENTS														
401248	Binocular, 6 x 30 Military Reticle	764	182.40	2.40	4.56	24	5.7	.075	.14	2.50	1.50	1.50			(b)
401250	Binocular, 7 x 50 Military Reticle	206	93.50	1.27	2.33	12	5.5	.075	.13	1.91	1.79	1.62			(b)
401420	Blasting Mach, 30 cap Capacity	8	4.80	.096	.12	1	.60	.012	.01	.84	.84	.84			
401520	Board, Plotting Flash Ranging	105	2,205.00	18.06	55.12	1	21	.172	.52	4.19	4.01	4.01			(b)
408180	Circle, Aiming	56	179.20	1.68	4.48	1	3.2	.03	.08	4.08	.87	.87			(b)
410625	Compass, Mil Graduations	405	15.00	.31	.37	40	1.50	.031	.03	1.56	1.18	.79			(b)
443750	Table, Graphical Firing	30	2.60	.01	.06	25	2.60	.001	.06	2.65	1.27	.77			(b)
443753	Table, Graphical Firing Fan for 105mm Howitzer	25	2.60	.01	.06	25	2.60	.001	.06	2.65	1.27	.77			(b)
443790	Table, Graphical Firing 762mm RKT	4	.45	.01	.01	5	.45	.001	.01	1.40	.65	.48			(l)
443800	Table, Graphical Site	12	.90	.01	.02	5	.45	.001	.01	1.40	.65	.48			(l)
449760	Telescope, BC	6	47.40	.45	1.18	1	7.9	.075	.19	4.42	1.91	1.00			(b)
449980	Telescope, Observation	26	15.30	.21	.38	10	5.10	.068	.12	2.75	1.62	1.12			(b)
451750	Thermometer, Powder Temp	35	.70	.01	.01	(a)	.02	.001	.01	.65	.19	.17			
463240	Watch, Navigation Type	1	.02	.01	.01	(k)	.02	.001	.01	.29	.29	.14			
465270	Watch, Navigation Master Timer Type	3	.06	.01	.06	(k)	.02	.001	.01	.29	.29	.14			
465330	Watch, Stop Type B Class 15	25	.23	.01	.03	(k)	.01	.001	.01	.18	.23	.08			
465380	Watch, Wrist Grade II	1,413	14	.77	.35	100	1	.055	.02	1.33	.91	.83			(b)

[a] Maximum quantities normally packed in a single pack.

[b] Exterior cube of item. For an item such as a tool set, which is shipped in more than one container, the total cubage of all containers is shown.

[c] Gross weight.

[d] Used in computing space requirements.

[e] Exterior dimensions.

[f] Smallest aircraft capable of transporting item.

[g] Smallest railcar capable of transporting item.

[h] When total quantities exceed quantity per pack, more than one container is used in computing the totals.

[i] All tools and instruments are transportable by aircraft, railcar, and ship.

[j] Dimension for only the largest container in the set.

[k] Authorized quantities less than quantity in standard pack.

[l] Dimensions and cube of intermediate pack.

BY ORDER OF THE SECRETARY OF THE ARMY:

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General, United States Army,
Chief of Staff.

Official:

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Ord Sec, GENDEP (3)
USA Trans Tml Comd (5)
Ord Dep (5)
Ord Arsenal (2)
Ord PG (5)
MTMA (10)
OSA (5)
Ord Proc Dist (2)
Fld Comd, DASA (10)
USAADCEN (5)
USA Msl Comd (20)
USA Ord Tng Comd (5)
USAOMC (25)
USA Ord Tk Autmv Comd (2)
OWC (10)
USA Corps (2)
MAAG (2)
Units organized under following TOE's:
9–12 (2)
9–22 (2)
9–47 (2)
9–76 (2)
9–86 (2)
9–87 (2)
9–227 (1)
9–377 (2)

NG: State AG (2); units—same as Active Army except allowance is one copy to each unit.
USAR: Same as Active Army except allowance is one copy to each unit.
For explanation of abbreviations used, see AR 320-50.

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FIELD MANUAL
No. 9-2

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *12 August 1959*

ORDNANCE CORPS LOGISTICAL DATA

CHAPTER 1
INTRODUCTION

1. Purpose

a. This manual provides statistical data and information for use primarily by ordnance staff officers.

b. New logistical tables and related data contained herein have been developed in order to assist student officers, staff and faculty personnel, and staff officers in performing the following tasks:

(1) Mobilization planning.
(2) Preparation of logistical studies.
(3) Computation of ordnance troop requirements to support tactical forces.
(4) Ordnance staff planning to support large scale maneuvers and command post exercises.
(5) Teaching ordnance logistical courses in reserve officer training and service schools.

2. Scope

a. This manual provides ordnance planning data on the following:

(1) Equipment densities and maintenance requirements.
(2) Supply consumption and replacement rates.
(3) Distribution and storage data for ordnance supplies.
(4) Weight and volume data for ordnance items.
(5) Movement data for ordnance TOE units.
(6) Logistical and reference data for ordnance TOE units.
(7) Conversion tables and other special data.

b. The logistical data contained in this manual have been designed *to assist* in planning ordnance support for both nuclear and nonnuclear combat.

c. Illustrative problems and solutions are provided to demonstrate the application of each table provided in the manual.

d. As a matter of convenience and an aid to facilitate rapid calculations the logistical tables contained in this manual are expressed in such terms as: *pounds of ammunition/1,000 theater troops/day* and *quantities of end items/1,000 theater troops.* All personnel are *cautioned not to confuse TITLES* and *USES* of these logistical tables. ORDNANCE SERVICE IN THE FIELD IS REQUIRED FOR SUPPORT OF MATERIEL—NOT PERSONNEL.

3. Future Revisions

a. Procedures have been established to periodically review all logistical data tables contained in this manual to insure that such data are current and accurate.

b. All personnel are invited to send recommended changes directly to: *Commandant, United States Army Ordnance School, Aberdeen Proving Ground, Md.*

4. Sources of Information

a. Appendix I lists the publications which were used as source material in developing the logistical data and tables presented in this manual. Military publications of *primary importance to ordnance logistical planning* are indicated with an asterisk.

b. Terms and abbreviations used in this manual are in common use; and found in AR 320–5, AR 320–50, AR 711–16, or SB 38–26; or are explained when they are introduced.

c. Data contained herein which are based on TOE's have not been amended to conform with TOE changes published after 1 July 1958.

CHAPTER 2

ORDNANCE SUPPORT FOR BALANCED COMBAT FORCES

5. General

a. Organization and equipment changes in the nuclear era generally have been associated with one or more of the following:

(1) Improved mobility.
(2) Greater firepower.
(3) Better communication.
(4) Battlefield depopulation.
(5) Pooling of equipment at higher echelons.
(6) Increased dispersion between units.
(7) Greater battlefield frontages assigned.
(8) Strong points and mobile striking forces.

b. Since World War II and the Korean Conflict, the need for more effective weapons systems and improved vehicles has resulted in more complicated and expensive equipment. The increased complexity and greater demands for ordnance material is not only costly in dollars, but in ordnance manpower support as well.

6. Ordnance Corps Mission

a. The overall mission of the Ordnance Corps briefly stated is: *to provide the combat forces with sufficient FIREPOWER and GROUND*

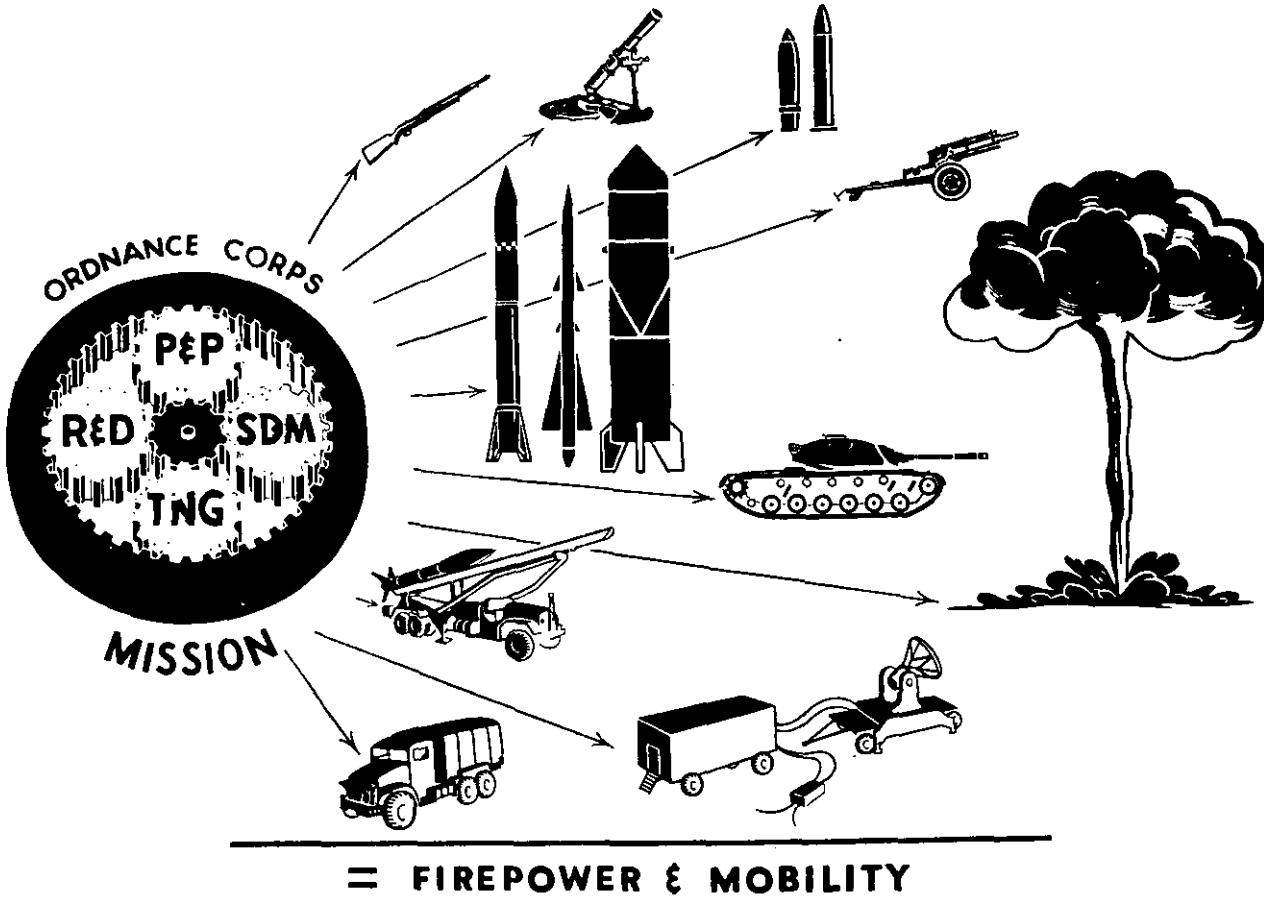


Figure 1. Overall mission of the Ordnance Corps.

MOBILITY to complete assigned military objectives.

b. Within the Ordnance Corps this TOTAL MISSION is accomplished by the coordinated efforts of four major groups (fig. 1), namely: *Research and Development; Industrial* (procurement and production); *Field Service* (supply, distribution, and maintenance); and *Manpower* (personnel and training).

7. Magnitude of Ordnance Logistical Support

a. Modern armies with increased firepower and mobility are extremely expensive to equip and maintain. The ordnance materiel costs to initially equip airborne, infantry, and armored divisions vary between 50 and 150 million dollars per division. In an armored division these costs comprise 97 percent of the total initial costs. Resupply and maintenance requirements would further increase these materiel costs.

b. Staff officers will be concerned with movement of huge tonnages of supplies and equipment to support modern combat forces. Unfortunately some personnel fail to appreciate the magnitude of the ordnance logistical support required for these combat forces. For example, of the theater daily consumption rate of 13,400 short tons, *5,120* short tons are ordnance classes II, IV, and V supplies. Therefore to demonstrate the size of these support requirements let us review some facts concerning an assumed balanced force composed of 548,000 troops:

(1) At least 768,000 ordnance end items (68 principal types) would be required to initially equip this combat force (fig. 2).

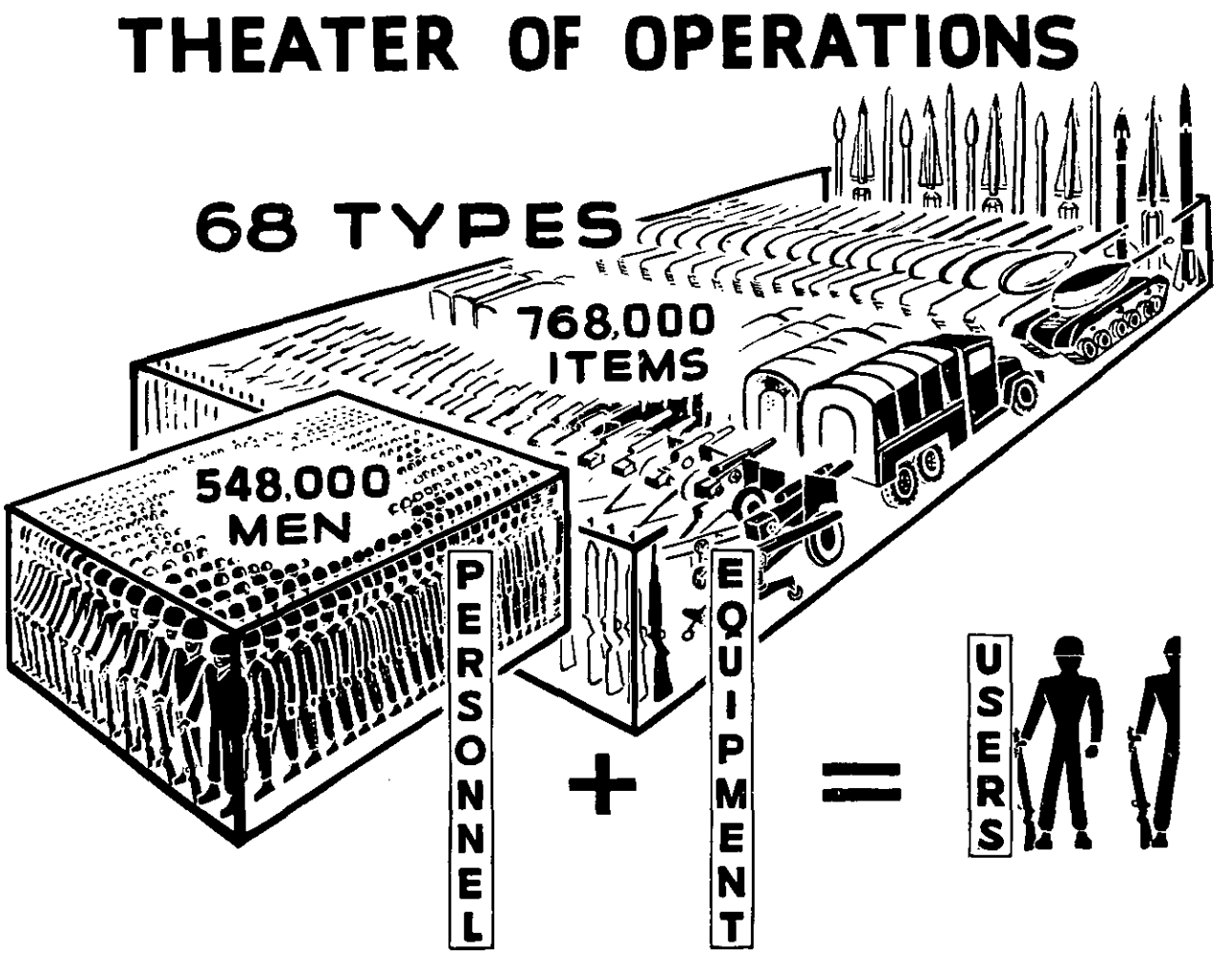


Figure 2. Total ordnance materiel requirements for a balanced combat force (548,000 troops).

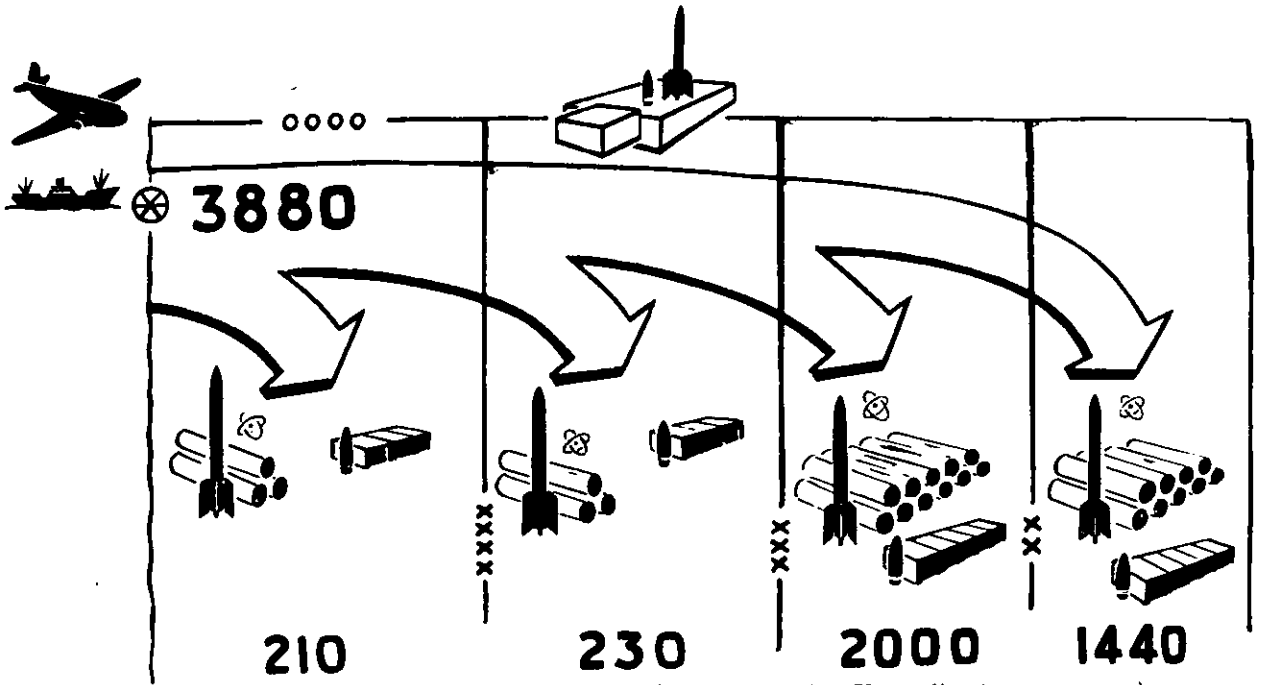


Figure 3. Theater daily consumption (short tons) for ordnance class V supplies (548,000 troops).

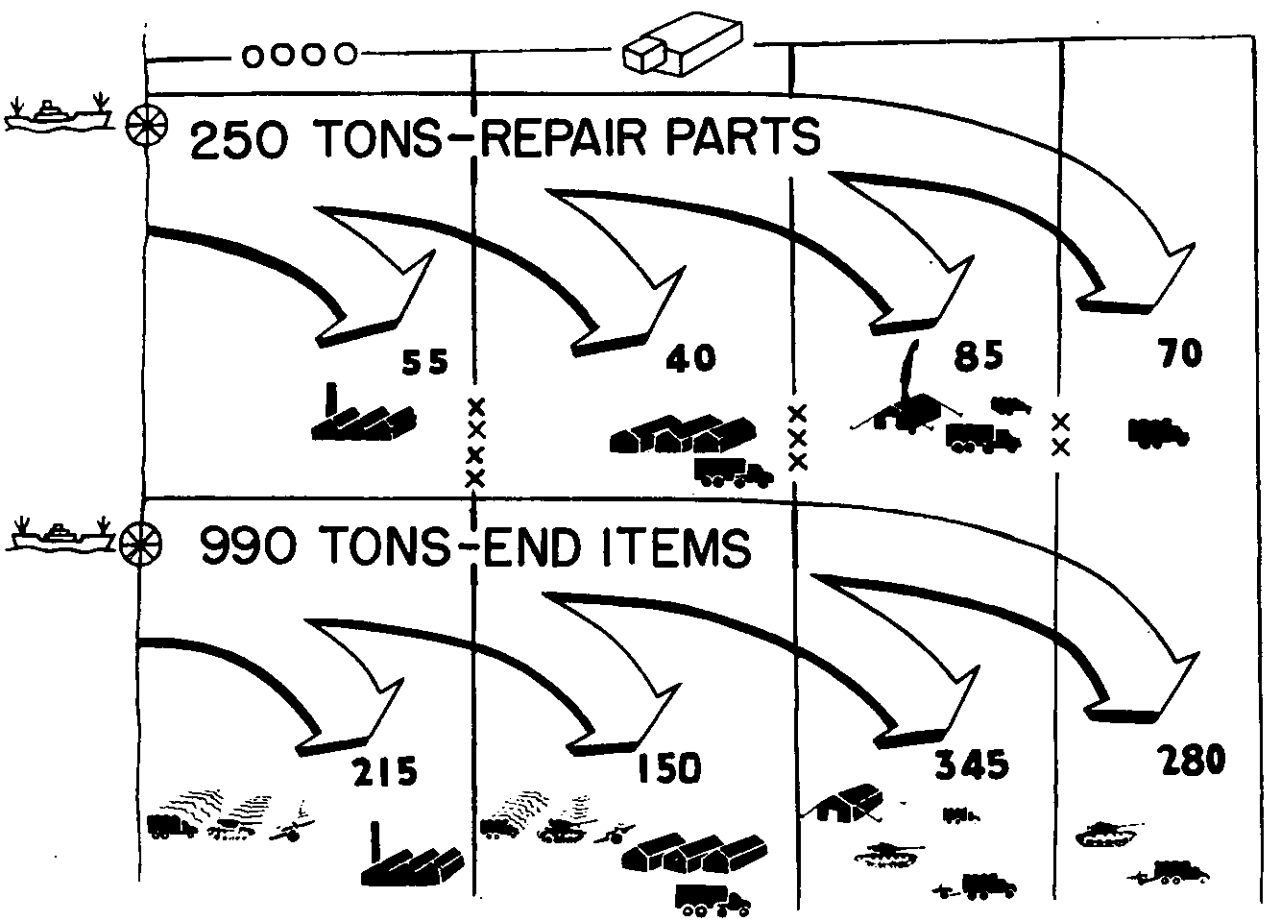


Figure 4. Theater daily consumption (short tons) for ordnance class II and IV supplies (548,000 troops).

(2) The combined volume of all these end items would total approximately 3,445,000 measurement tons.

(3) A minimum of 345 liberty ships each with a capacity of 10,000 measurement tons would be required to transport this materiel overseas.

(4) These 548,000 troops would consume daily an estimated 3,880 short tons of class V supplies computed for NORMAL COMBAT EXPENDITURE RATES (table VIII and fig. 3).

(5) Daily these 548,000 troops would use an estimated 1,200 short tons of ordnance classes II and IV supplies (fig. 4).

(6) If theater supply levels are established at 90 days of supply, 46 liberty ships (10,000 short tons capacity each) would be required to transport these ordnance supplies (fig. 5).

8. Ordnance Support Requirements

a. The traditional ordnance support system *provides for COMPLETE and BALANCED services for all ordnance materiel* to include: supply, maintenance, specialized services, and command echelons. Simplified flow diagrams are used to briefly review the ordnance units required to formulate a *balanced ordnance support* for a corps or larger tactical force. (More detailed information may be obtained from field manuals 9–1 and 9–6.)

b. Ordnance personnel percentage ratios by support category are approximately as follows:

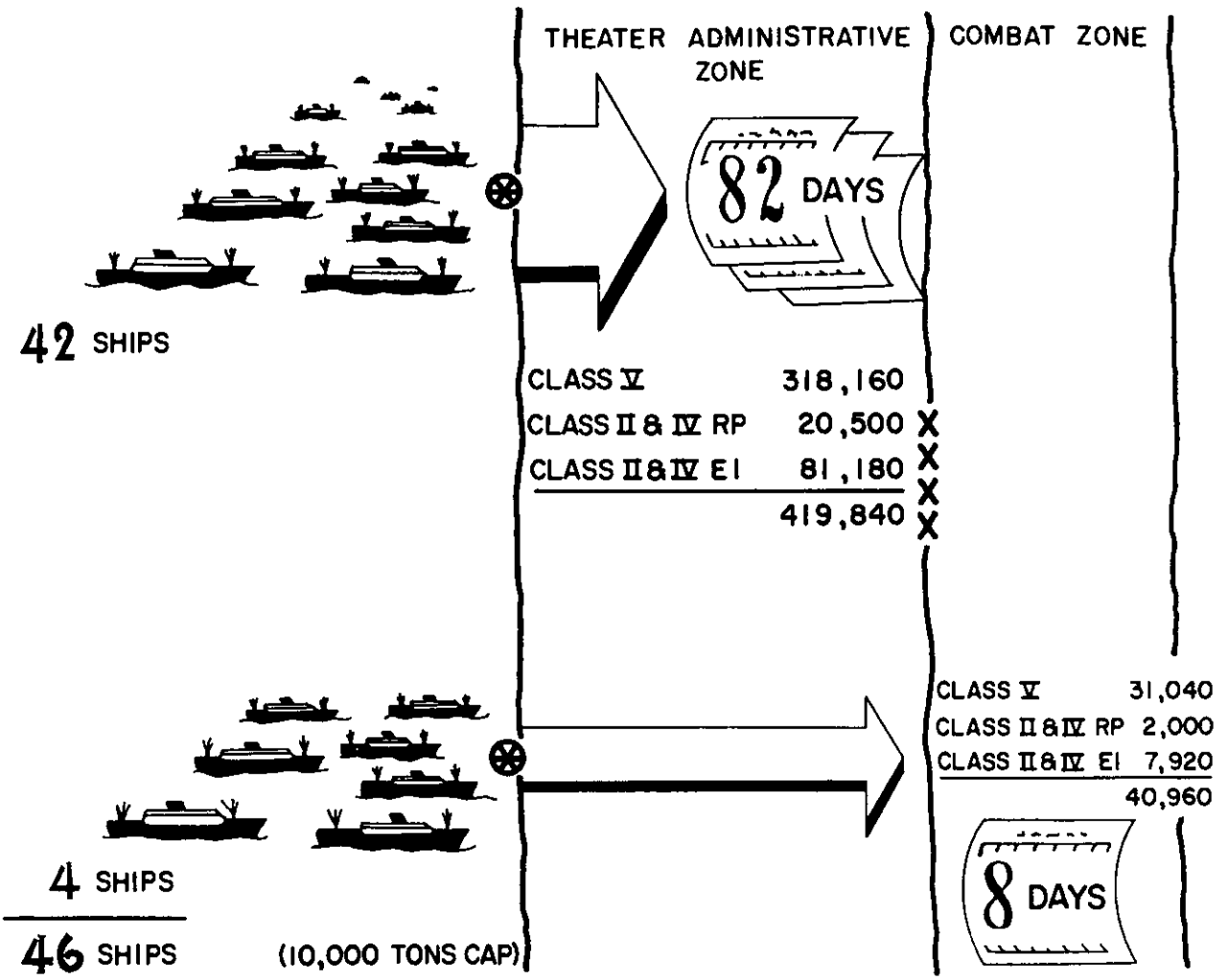


Figure 5. Theater tonnage requirements for ordnance replacement and stock (90-day supply level and 548,000 troops).

Support category	Percentage of theater ordnance slice
(1) Supply (wholesale)	40%
(2) Maintenance and supply (retail)	54%
(3) Command echelons (Bn and Gp)	5%
(4) Specialized services	1%
Total:	100%

c. Supply (wholesale) units.

(1) The bulk of theater ordnance vehicles and artillery items are stored in dispersed areas in the theater administrative zone (TAZ). However, some of these end items may be moved to direct support units in the theater administrative zone or to ordnance units located in the combat zone. Normally, users receive replacement end items from the nearest direct support unit. Theater ordnance will usually authorize direct support units to establish maintenance floats for direct exchange on *high density* end items (fig. 6).

(2) Class II and IV repair parts and end items (less missiles, artillery, and vehicles) normally are first shipped to theater administrative zone ordnance supply depots. The bulk stocks stored in these dispersed depots are issued to theater administrative zone ordnance units and combat zone field supply units. Class II and IV repair parts for missiles and rockets move through these same supply channels. In all cases users of ordnance equipment receive maintenance and supply support from ordnance direct support units (fig. 7).

(3) The present class V supply system *has two parallel and separate channels of flow* in a theater of operation. One

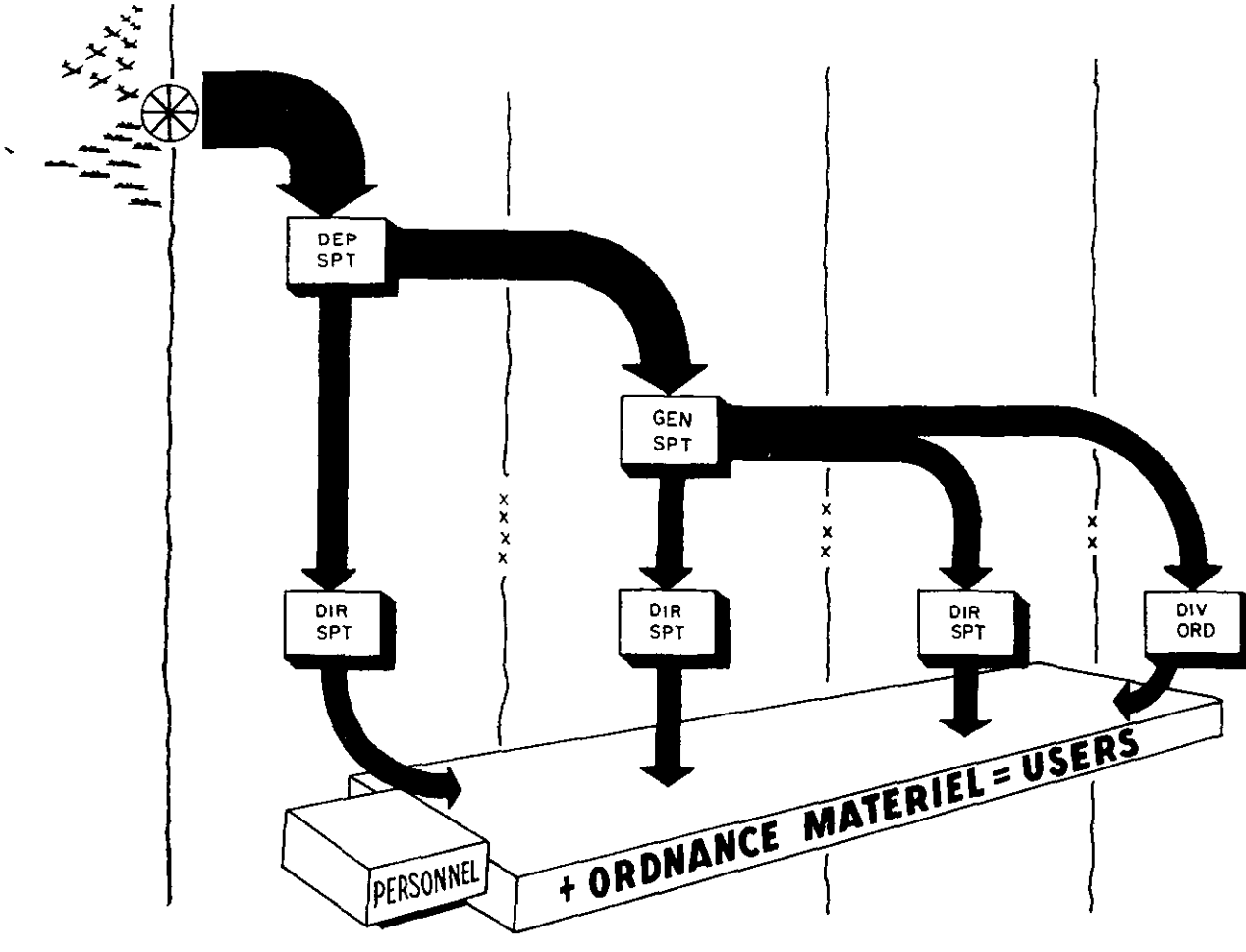


Figure 6. Flow of artillery and vehicle end items.

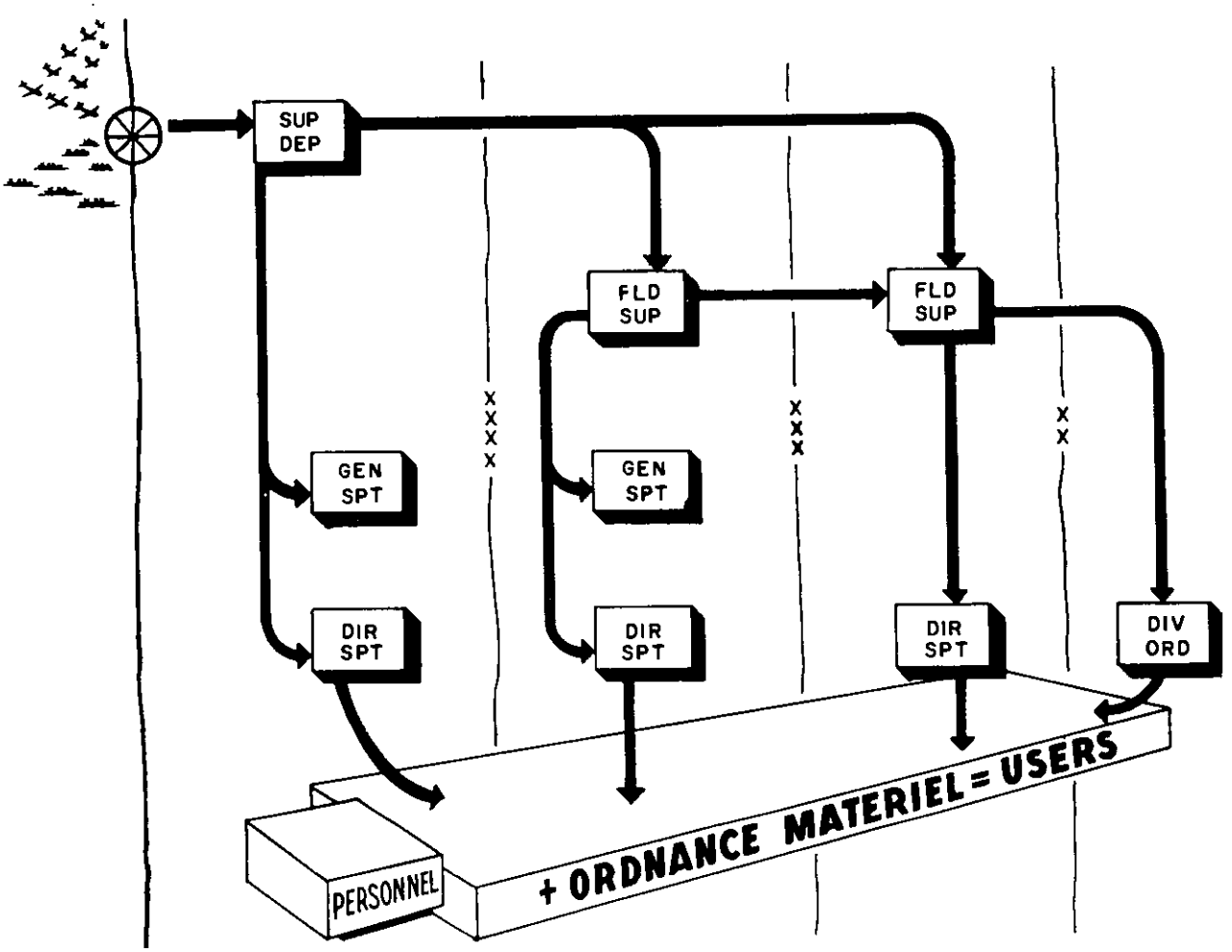


Figure 7. Flow of repair parts and end items (less missiles, artillery, and vehicles).

category of ammunition supply deals with conventional ammunition items and the other category deals with the newer weapons—missiles, heavy rockets, and nuclear weapons. Conventional ammunition items normally move from terminal areas into dispersed theater ordnance depots located in the theater administrative zone. These items then flow either to army depots or corps ammunition supply points (ASP). Approximately 95 percent of all conventional ammunition expended will be issued to users from these corps ammunition supply points. Missiles, heavy rockets, and nuclear weapons move from port areas or air fields to theater administrative zone depot support units. These supplies in turn flow to direct support units (throughout theater of operations) and general support units (normally located in army service area). The direct support units issue complete rounds to firing units from special ammunition supply points (SASP). Several alternate flow routes are shown for ammunition items (fig. 8).

d. Maintenance and supply (retail) units.

(1) The amount of maintenance to be performed on materiel has always been difficult to evaluate. The two extremes are the *modular concept* (repair by replacement of the module) and *complete rebuild* for each ordnance end item. Maintenance studies have shown that for items with relatively low re-

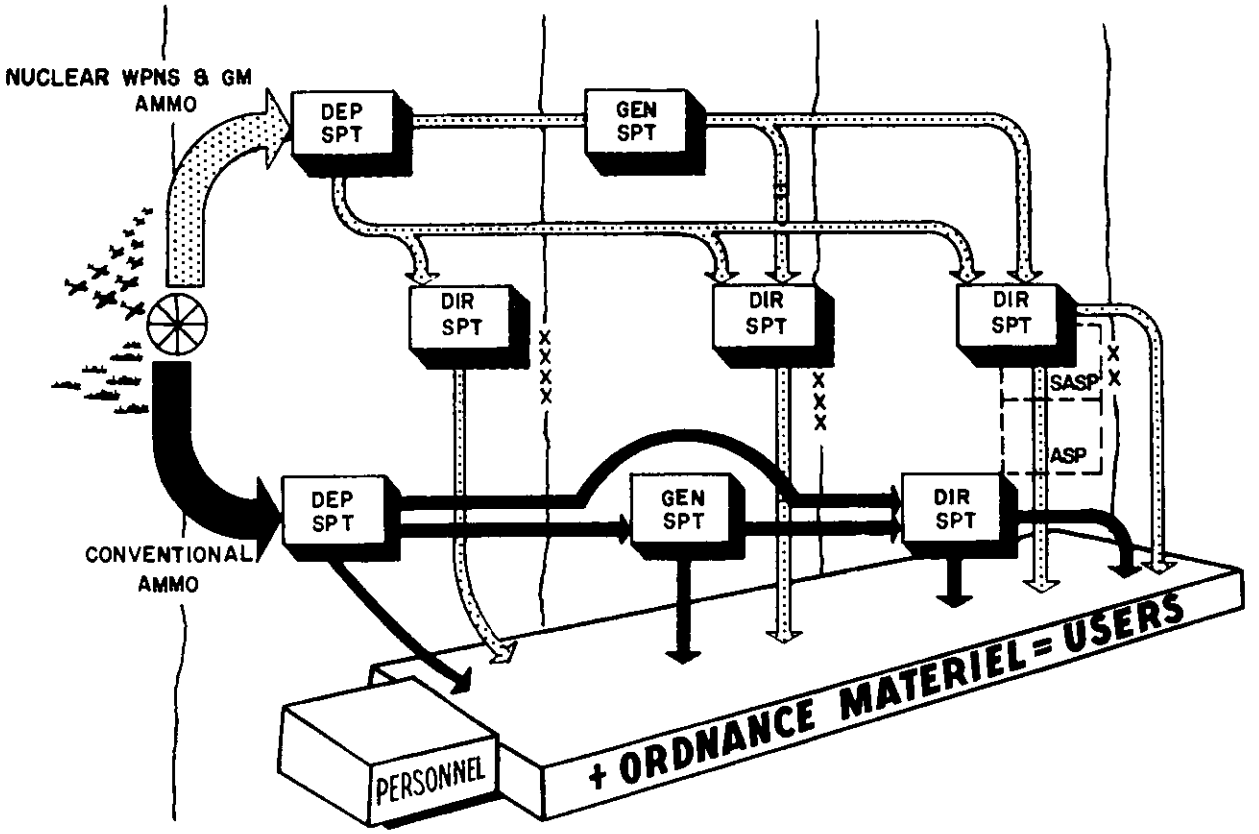


Figure 8. Flow of ammunition items.

placement costs (e.g., watches, selected fire control items, and inexpensive repair part assemblies) maintenance is not justified. End items and repair parts with moderate to high replacement costs will require some field maintenance. Present maintenance trends indicate depot maintenance (end item rebuild) *will be eliminated* in an active theater of operations. Therefore, requirements for rebuild units are *not shown* in this manual.

(2) Most ordnance field maintenance is concerned with direct support (third echelon) and general support (fourth echelon). Direct support maintenance units are frequently referred to as *ordnance to user* service. The general support units (formerly called heavy support) have an *ordnance to ordnance relationship*—in other words, items are repaired or reconditioned and returned to serviceable stock for later reissue to ordnance units and users (fig. 9).

(3) Unserviceable ordnance class II and IV items (less missiles and related equipment) are evacuated by users to direct support maintenance and supply units. The direct support units either repair and return items to the users or issue a replacement item from serviceable stocks on hand. Normally the unserviceable-repairable items and maintenance overflow evacuated from direct support to general support units are repaired and returned to serviceable condition for later reissue to direct support units and users. Unserviceable end items and large assemblies are evacuated from division ordnance, direct, and general support to collection and classification units in the army rear and theater administrative zone. Here these unserviceables are inspected, disassembled and classified. Serviceable items are returned to

	Organizational		Field		Depot
Responsibility of	A command responsibility of unit and organization commanders. Requires coordination with unit and organizational tactics.		A command responsibility of major field commanders and subordinate commanders having a field support mission. Requires coordination with field tactics.		A command responsibility of DA technical chiefs in CONUS and OS theater commanders. Requires coordination with theater strategy.
Echelon	First (individual support).	Second (organizational support).	Third (direct support)	Fourth (general support).	Fifth (depot support)
Under command of	Unit commander	Unit commanders with organizational support mission.	Division, armies, or support commands thereof.	Armies or support commands thereof.	DA in CONUS, and OS theaters or support commands thereof, as authorized by current regulations.
Performed by	User, wearer, operator	Specialized personnel assigned to using units.	Technical service units organic, assigned, or attached to major commands for direct support function.	Technical service units attached or assigned to major commands for general support functions.	Technical facilities
Performed at	Equipment site	Equipment site or in using unit's mobile shop.	Equipment site or in mobile shop.	Equipment site or in semimobile shop.	In depot shop in CONUS and OS when authorized by current regulations.
Action taken	Repair and retention of equipment by individual or using organization.		Repair and return to user.	Repair or recondition and return to stock.	Major repair or rebuild and return to depot stock.
How	Inspecting, cleaning, servicing, preserving, lubricating, adjusting as prescribed, minor replacement, and minor repair.		Inspecting, major replacement, and repair of assemblies, and end items.		Inspecting, major repair, and complete rebuilding.

Figure 9. The Army maintenance system.

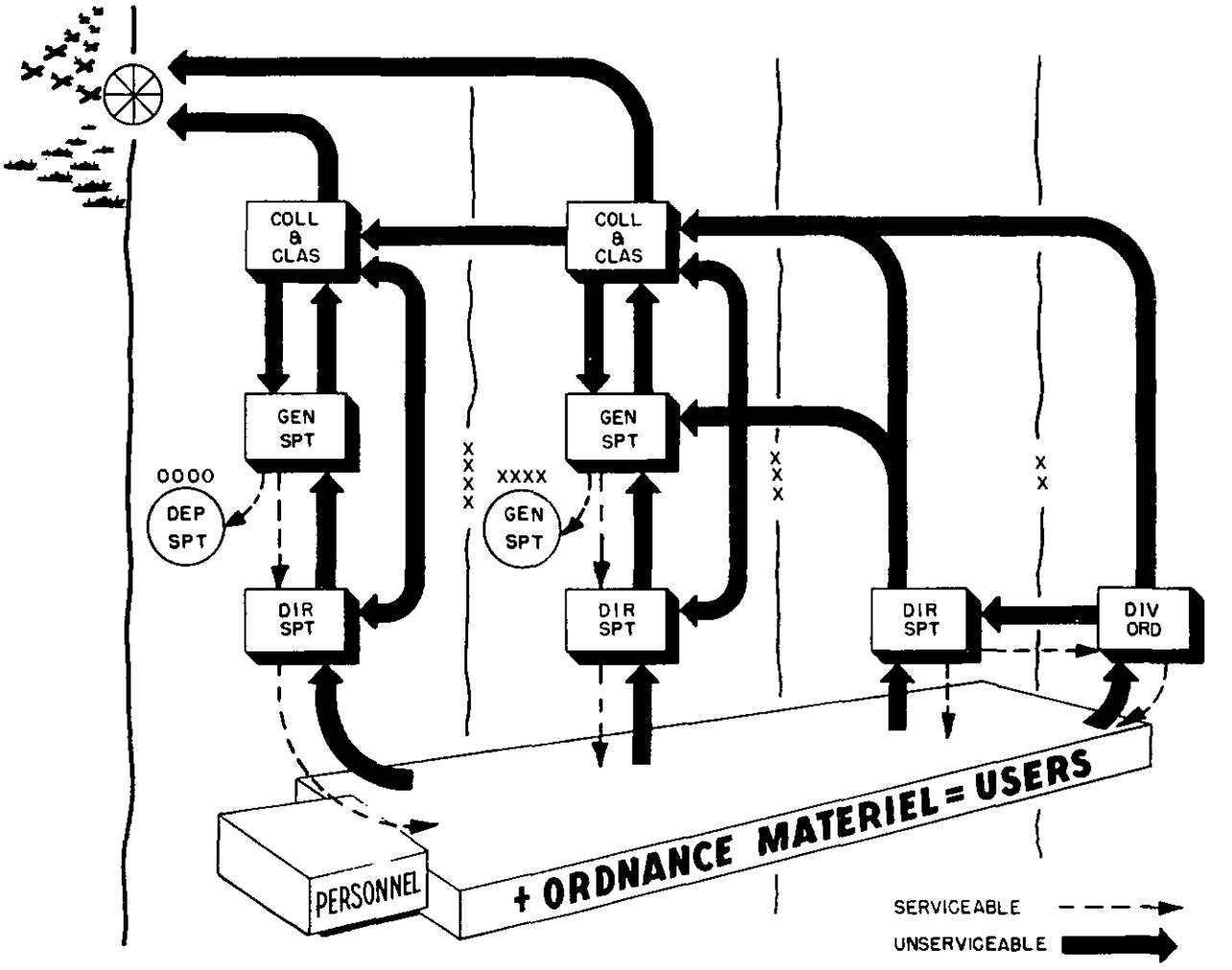


Figure 10. Maintenance and evacuation flow of class II and IV ordnance items (less missiles and related equipment).

stock for later reissue; repairable items are evacuated to general support units for repair and return to stock and remaining unserviceables are either evacuated to the zone of interior, salvaged for recoverable and serviceable repair parts, or scrapped (fig. 10).

(4) Missile direct support detachments operating in the close proximity of firing units will perform repairs on missiles and related equipment. This maintenance will be performed either near firing sites or at the special ammunition supply point (SASP). Missiles requiring maintenance beyond the capability of direct support are normally evacuated to missile general support units *through class V supply units*. Warheads, explosive components, and propellants are removed from missiles at locations designated by the artillery commanders or at the special ammunition supply points prior to repair. Direct support detachments either repair unserviceable missiles at the special ammunition supply points or evacuate missile bodies to the rear for more time consuming repairs. Missiles not repaired at the general support level are either evacuated to the zone of interior or salvaged to recover serviceable repair parts and assemblies. Available serviceable complete rounds are issued to firing units when unserviceable rounds are evacuated for repairs (fig. 11).

(5) Firing units evacuate unserviceable

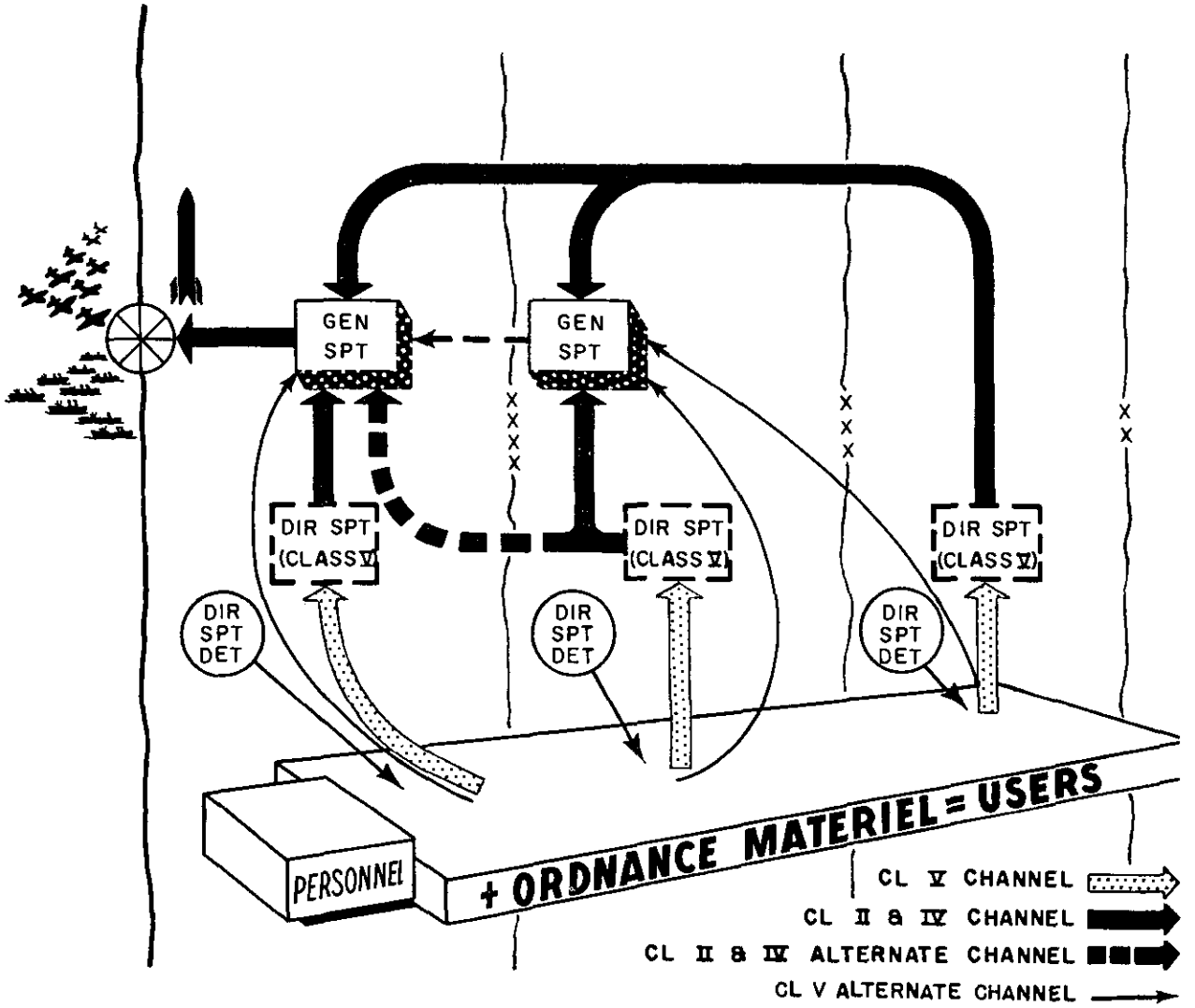


Figure 11. Maintenance and evacuation flow for missiles and related equipment.

nuclear weapons to nuclear ammunition supply points operated by ordnance direct support units (TOE 9–47). Direct support units inspect unserviceable nuclear weapons and evacuate to general support for repairs. General support units (TOE 9–87) in the combat zone or depot support units in the TAZ repair unserviceable items and return to stock for reissue or evacuate to the zone of interior for repairs or salvage. Several alternate flow routes are indicated (fig. 12).

e. Transportability of unit technical supply loads.

(1) Days of supply to be carried organically by Ordnance units will vary, not only among different types of units, but among same type TOE units because of the following factors:

(*a*) Days of supply authorized specific types of units by theater commander.

(*b*) The identity, employment, and activity of the supported organizations.

(2) Although a comparison of the theater daily consumption rate for repair parts (fig. 4) of 250 tons with the lift capacity of all theater ordnance units of 7845.5 tons (fig. 12) indicates that ordnance units collectively can carry

more than 30 days of repair parts, carrying capacities of individual units in days of supply must be individually evaluated on basis of (1) (*a*) above.

(3) The following represents lift capabilities of type ordnance units:

ORDNANCE UNITS' ORGANIC LIFT CAPABILITY
(Short Tons)

Type unit	*Lift capability (*)*	*No. units in theater army*	*Total capability*
Ord Bn, Inf Div	64	9	576
Ord Bn, Armd Div	192.5	3	577.5
Ord Co, DS	60	15	900
Ord Co, DAS	48	30	1,440
Ord Co, GS	30	10	300
Ord Co, GAS	52	14	728
Ord Co, Fld Sup	205	12	2,460
Ord Co Sup Depot	72	12	864
TOTAL			7,845.5

(*) Lift capability is one-time lift at "vehicle rated capacity" of each unit's supply section.

f. Command echelons.

The most important aspects of sound ordnance management are contained in FM 9–1, "Ordnance Service in the Field". However, the ordnance staff planners are cautioned not to overlook the requirement for adequate command echelons at battalion and group level.

g. Specialized services.

(1) Cellular type detachments such as technical intelligence, ballistic and technical service, explosive disposal, and calibration comprise the specialized units required to provide complete ordnance service. The basis of allocation for each cellular unit plus sound judgment on the part of troop plan-

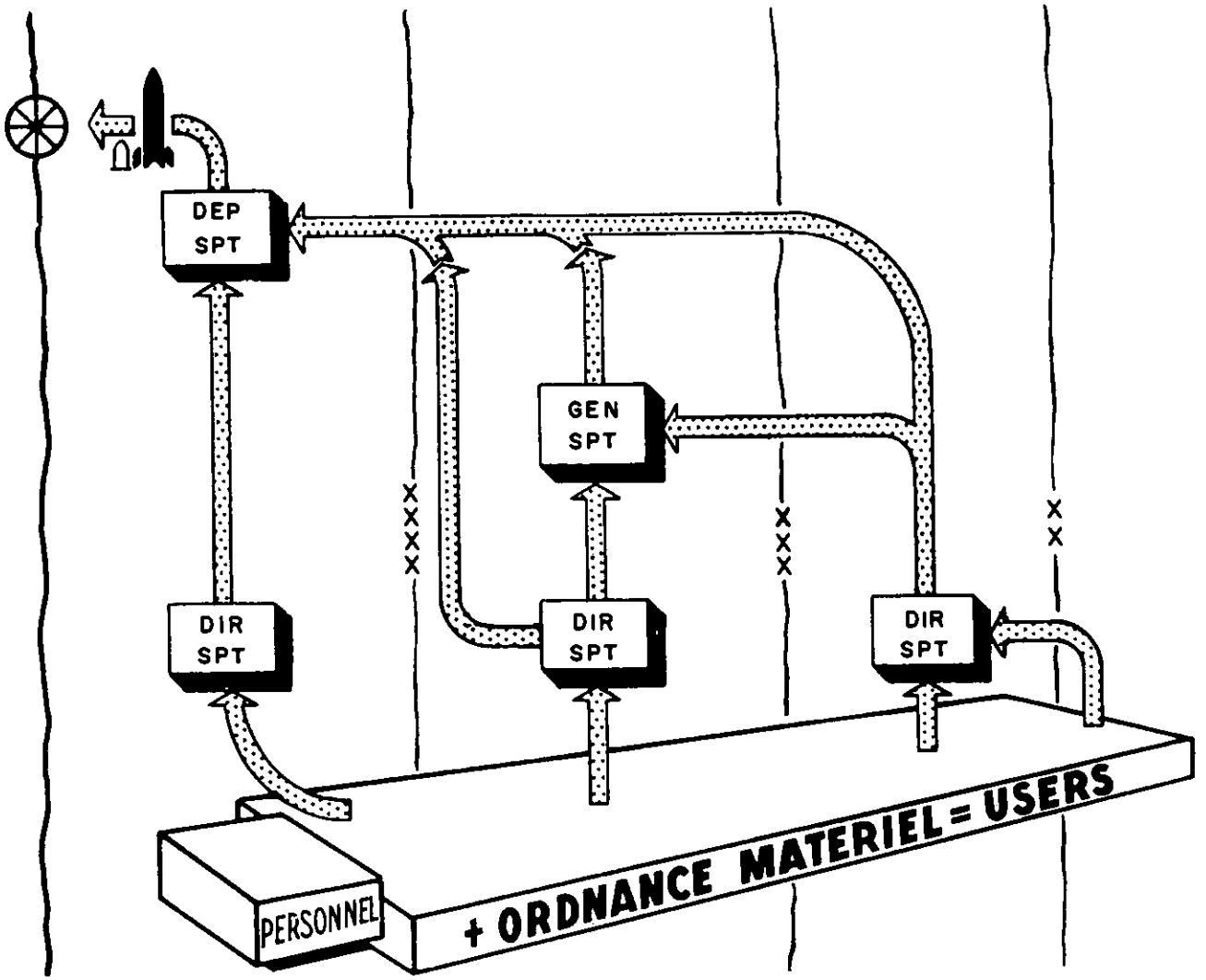


Figure 12. Maintenance and evacuation flow for nuclear weapons.

ners will determine the troop spaces that must be reserved for specialized units.

(2) Ordnance Corps cellular units are listed in TOE's 9–500R and 9–510R. These cellular units range in size from 2 men per team to 65 men per detachment. Whenever possible, cellular units are now designed to contain overhead personnel. These personnel reduce the administrative and logistical burdens imposed upon parent ordnance companies. As a general rule, no more than two cellular units should be imposed upon any one company for administrative and logistical support.

CHAPTER 3
ORDNANCE TROOP PLANNING

9. General

a. The purpose of this chapter is to highlight the more important aspects of overall troop planning and relationships to ordnance troop planning.

b. Good troop planning calls for continuous coordination among the special staff, the general staff, and especially the G3 who has overall staff responsibility for troop planning. This coordination is necessary because the factors affecting troop planning are obtained from different sources and changes in these staff planning factors for the various branches and services may seriously affect the number of ordnance troops required.

10. Factors To Consider

a. Many factors influence the number of ordnance troop spaces required to support any given operation. *The principal factors are*:

(1) Number and types of materiel, missions of units, and the extent of ordnance service to be rendered.
(2) Climate and terrain.
(3) Size of the theater of operations.
(4) Status of industrial development and local resources within the area of operations.
(5) Attitude, availability, and capabilities of local civilians.
(6) Enemy capabilities.

b. Since these factors are variable, all ordnance plans must be flexible to meet the changing situations peculiar to each different theater of operations without compromising the principles of good ordnance service.

c. An ordnance plan includes specific instrucitons for the use of ordnance units. The plan will normally consist of sections dealing with the significant elements of ordnance support, such as—

(1) Requirements and employment of ordnance troops.
(2) Ordnance command echelons.
(3) Ordnance maintenance.
(4) Ordnance classes II, IV, and V supplies.
(5) Reclamation of captured ordnance materiel.
(6) Evacuation and disposal of ordnance materiel.
(7) Ordnance specialized services.

d. Good ordnance troop planning must begin with the selection of units which provide *complete ordnance support and a sound command structure.*

11. Planning Phases

There are *three phases* normally associated with troop requirements planning—*ESTIMATION, CALCULATION,* and *MODIFICATION.* The first planning phase is usually completed with only a few broad overall guidelines. Successive phases are developed with more accurate data and guidance until a balanced and sound troop list is evolved.

a. Phase I Planning—Estimation.

The initial step in formulating troop requirements must be accomplished with very little tangible data—frequently no more than a brief statement of the overall strength of the force to be employed is known. Each planner must employ broad experience factors such as estimated troop slices for each branch or service, equipment density tables, replacement and consumption factors, and related data.

b. Phase II Planning—Calculation.

(1) Phase II planning begins when Phase I estimates are received from all arms

and services in the form of initial tentative troop lists. These lists should be more accurate than the estimates used to initiate planning in Phase I. The margin of error between the initial tentative lists and those finally accepted will depend not only upon the accuracy of planning data, but also upon the experience, aptitude, and judgment of the individual planner.

(2) When the consolidated initial troop list is available, each planner should review the list and decide whether the next revision will increase or decrease troop spaces and to what extent. Normally several revisions are required before the troop lists for all arms and services are brought into proper balance.

c. Phase III Planning—Modification.

(1) The consolidated troop list produced in Phase II should provide a balanced force. Modifications, adaptations, or alterations dictated by policy, by command direction, or by conditions peculiar to the theater under consideration, are usually applied in Phase III planning.

(2) Arbitrary personnel ceilings are often imposed upon the technical and administrative services in this planning phase. Imposed troop ceilings may force the ordnance troop planner into employing type B units in the theater administrative zone. Substitution of non-United States labor for military personnel will throw the combat force troop list out of balance. *However, the impact on ordnance will be relatively small because the change in the equipment density will not be significant.*

(3) Final distribution of troops by battlefield sector (division, corps, army, or theater administrative zone), determination and locations of depots and major installations is accomplished in Phase III planning. However, if planning data is available for determining troop unit dispositions by sector for Phase I or II planning, the final troop unit location for Phase III planning is greatly simplified. Logistical data tables still may be useful for Phase III planning; however, accurate status of equipment reports, estimated type of combat (INTENSE, NORMAL, or REDUCED), study of weather and terrain, and other data will aid in developing a more accurate ordnance troop list.

12. Troop Ceilings

a. During World War II in the European Theater of Operations, the initial overall ordnance troop slice was established at approximately 6.0 percent. However, by 31 August 1944, the ordnance troop slice reached 7.1 percent and eventually rose to 8.8 percent. (These percentage figures do not include the 3 percent non-United States labor forces employed in ordnance units.)

b. It does not appear reasonable that the ordnance slice could go below 7.1 percent and still provide COMPLETE and BALANCED ordnance support for tactical armies because of the following:

(1) Ordnance troop units are required to *provide services for EQUIPMENT—not people.* Review of organization and equipment trends for troop units indicate that *equipment is retained yet troop requirements are reduced.*

(2) Present ordnance materiel as compared with equipment used in World War II is more complicated and requires more maintenance and supply support.

(3) Employing new weapon systems (missiles and nuclear weapons) and still retaining the conventional weapons (perhaps to a lesser degree) increases ordnance manpower requirements.

c. Theater and army planning staffs may impose arbitrary troop ceilings upon all arms and services. If this happens, the ordnance troop planner must attempt to organize type B units in the theater administrative zone in order to reduce military spaces. This assumes that qualified non-United States labor will be available. Normally, only full strength maintenance

and supply units in the theater administrative zone will be considered for conversion to type B units. If qualified non-United States labor is not available, *it may be better to reduce the required number of military spaces to comply with the imposed troop ceiling and make known to higher authority the reduction in ordnance service.*

13. Non-United States Labor

a. During the planning phases, estimates will be made known of available non-United States labor forces. This important source of manpower should be employed whenever possible to augment or replace military personnel in ordnance troop units.

b. However, all ordnance troop planners must recognize the limitations in using non-United States labor. The important limitations associated with these labor troops are as follows:

(1) Increased complexity of ordnance materiel means that labor in most countries generally cannot be used to replace military personnel unless training courses are established.

(2) Language differences, lack of knowledge of ordnance materiel, national customs, fear of nuclear weapons by enemy action, and so forth, all will reduce effectiveness of non-United States labor.

(3) Normally only *selected ordnance units located in the theater administrative zone* can effectively use non-United States labor. These are generally the following companies:

	TOE
(*a*) Ordnance Company (Gen Spt)	9–9D
(*b*) Ordnance Company (Ammo)	9–17D
(*c*) Ordnance Company (Dir Autmv Spt)	9–127D
(*d*) Ordnance Company (Gen Autmv Spt)	9–197D
(*e*) Ordnance Company (Tire Rep)	9–347D
(*f*) Ordnance Company (Fld Maint)	9–357D
(*g*) Ordnance Company (Coll Pt)	9–358R
(*h*) Ordnance Company (Sup Dep)	9–367R

14. Troop Phasing

a. It is very difficult to establish guidance on proper ordnance troop phasing so as to provide adequate support for equipment in the various arms and services. Detailed knowledge of the employment scheduling for other troop units will furnish information for phasing ordnance units into the theater of operations.

b. Normally, organic ordnance battalions for combat divisions and ammunition, field supply, and direct support maintenance units will be phased into the theater early. These units will be followed by general support units, specialized services, and command echelons required to formulate the complete and balanced ordnance support for the combat force.

CHAPTER 4

ORDNANCE LOGISTICAL PLANNING DATA

Section I. DEVELOPMENT, VALIDITY, AND ORGANIZATION OF DATA

15. Development

a. The primary objective of this manual is to make available logistical tables and related data which are *accurate and capable of being rapidly applied* in ordnance planning and logistical studies. The publications listed in appendix I were utilized in the preparation of this manual.

b. A planning troop list for a BALANCED combat force served as a basis for planning and developing the tables found in this chapter and it is approximately equivalent to the organization and troop strengths for the 1957 TYPE FIELD ARMY plus a SUPPORTING THEATER ADMINISTRATIVE ZONE (fig. 13). (Only troop strengths and theater slices by branch or service have been included in this manual. Refer to app. II).

c. Following the development of the planning troop list, the ordnance materiel densities were compiled for all PUBLISHED tables of organization and equipment (by branch or service). For PROPOSED tables of organization and equipment the ordnance materiel was *computed and based upon statistical EQUIPMENT to TROOP STRENGTH RATIOS developed for each branch or service.*

d. Next, ordnance materiel TOTALS were computed for each branch or service (fig. 13). Within each branch or service the TOTALS for materiel and troop strengths were used to compute EQUIPMENT to TROOP STRENGTH RATIOS. These ratios were needed before developing other mathematical relationships required in compiling data for most of the logistical tables presented in this chapter.

16. Validity

a. The troop list used for developing EQUIPMENT to TROOP STRENGTH RATIOS is only *ONE* among *THOUSANDS* which could have been selected.

b. Prior to using the logistical tables I, IV, V, VI, VIII, XI, and XV in this manual the ordnance planner should complete a TROOP STRENGTH COMPARISON TEST. *When using these logistical tables and when applied to ANY troop list (balanced or unbalanced) this test will quickly predict the percentage error.*

c. The *assumptions* for the TROOP STRENGTH COMPARISON TEST are as follows:

(1) A troop list is available and contains theater troop strengths for each branch or service.

(2) The theater troop slices for each branch or service (fig. 13) are used as a STANDARD in this comparison test.

d. An illustrative EXAMPLE (fig. 14) shows the procedures for completing the TROOP STRENGTH COMPARISON TEST.

17. Organization of Data

a. The logistical tables contained in this chapter have been organized into separate sections to correspond with the troop planning phases I to III inclusive (par. 11).

b. A review of the logistical tables in this chapter will reveal the following general observations:

	Chapter Sections		
	II	III	IV
(1) Troop planning phases	I	II	III
(2) Accuracy	LEAST		MOST
(3) Time to use	RAPID		LESS RAPID
(4) Number of tables	3	7	15

	BRANCH OR SERVICE	TOE SERIES	THEATER TOTALS for each Branch or Service		BATTLEFIELD SECTORS and PLANNING TROOP LIST STRENGTHS (a) (b)			
					THEATER ADMINISTRATIVE ZONE	COMBAT ZONE		
						Army Service Area	Corps Service Area	Divisions
					1 each	1 each	3 each	9 ea Inf (ROCID) & 3 ea Armd (ROCAD)
	(1)	(2)	STRENGTHS (3) (c)	SLICE (%) (4)	(5) (c)	(6) (c)	(7) (c)	(8) (c)
1	ARMOR	17	68,239	12.44		(7,090)	(17,298)	(43,851)
2	INFANTRY	7	128,250	23.39		(4,329)	(189)	(123,732)
3	FIELD ARTILLERY	6	37,618	6.86		(817)	(36,801)	
4	AIR DEFENSE ARTILLERY	44	39,193	7.15	(9,348)	(22,976)	(6,869)	
5	CHEMICAL	3	5,712	1.04	(3,479)	(2,233)		
6	ENGINEER	5	50,844	9.27	(17,276)	(16,573)	(16,995)	
7	MEDICAL	8	40,866	7.45	(25,636)	(836)	(14,394)	
8	ORDNANCE	9	39,141	7.14	(17,278)	(12,932)	(8,931)	
9	QUARTERMASTER	10	30,816	5.62	(19,977)	(10,839)		
10	SIGNAL	11	23,016	4.20	(11,418)	(8,901)	(2,697)	
11	MILITARY POLICE	19	17,661	3.22	(13,462)	(3,611)	(588)	
12	TRANSPORTATION	55	44,621	8.14	(30,284)	(10,809)	(3,528)	
13	AVIATION	1	4,393	0.80		(3,379)	(1,014)	
14	ADJUTANT GENERAL	12	4,773	0.87	(3,787)	(986)		
15	FINANCE	14	930	0.17	(465)	(465)		
16	REPLACEMENT UNITS	20	1,151	0.21		(1,151)		
17	MILITARY INTELLIGENCE	30	1,971	0.36	(114)	(915)	(942)	
18	ARMY SECURITY AGENCY	32	3,865	0.71		(1,825)	(2,040)	
19	PSYCHOLOGICAL WARFARE	33	108	0.02		(108)		
20	MILITARY GOVERNMENT	41	2,253	0.41	(1,519)	(137)	(597)	
21	LOGISTICAL COMMAND	54	508	0.09	(508)			
22	ARMY HEADQUARTERS	51	1,237	0.23		(1,237)		
23	CORPS HEADQUARTERS	52	1,020	0.19			(1,020)	
24	MISCELLANEOUS		114	0.02	(114)			
25	TOTALS		548,300	100.00%	(154,665)	(112,149)	(113,903)	(167,583)
					100-400 MILES	100-125 MILES	50-75 MILES	20-30 MILES

120-150 MILES

270-630 MILES

(a) Organic logistical support elements are included with the combat forces.

(b) Statute miles are presented to serve as an INITIAL GUIDE in planning logistical support. MILEAGE DATA IS SUBJECT TO CHANGE WHEN BASED UPON *SPECIFIC MILITARY OPERATIONS.*

(c) Columns 5 + 6 + 7 + 8 = 3.

Figure 13. *Battlefield sectors and BALANCED COMBAT FORCE troop strengths used in developing ordnance logistical planning data.*

	TROOP STRENGTH COMPARISON TEST DATA				
	BRANCH OR SERVICE	TOE SERIES	Theater Slice Data for Troop Lists		
			Under Test (— values)	FM Data (+ values)	% Differences
	(1)	(2)	(3)	(4)	(5)
1	ARMOR	17	—11.79	+12.44	+0.65
2	INFANTRY	7	—23.49	+23.39	—0.10
3	FIELD ARTILLERY	6	— 7.02	+ 6.86	—0.16
4	AIR DEFENSE ARTILLERY	44	— 7.43	+ 7.15	—0.28
5	CHEMICAL	3	— 1.12	+ 1.04	—0.08
6	ENGINEER	5	— 9.45	+ 9.27	—0.18
7	MEDICAL	8	— 7.73	+ 7.45	—0.28
8	ORDNANCE	9	— 6.85	+ 7.14	+0.29
9	QUARTERMASTER	10	— 5.56	+ 5.62	+0.06
10	SIGNAL	11	— 4.46	+ 4.20	—0.26
11	MILITARY POLICE	19	— 2.91	+ 3.22	+0.31
12	TRANSPORTATION	55	— 8.43	+ 8.14	—0.29
13	AVIATION	1	— 0.52	+ 0.80	+0.28
14	ADJUTANT GENERAL	12	— 0.55	+ 0.87	+0.32
15	FINANCE	14	— 0.17	+ 0.17	0.00
16	REPLACEMENT UNITS	20	— 0.32	+ 0.21	—0.11
17	MILITARY INTELLIGENCE	30	— 0.36	+ 0.36	0.00
18	ARMY SECURITY AGENCY	32	— 0.71	+ 0.71	0.00
19	PSYCHOLOGICAL WARFARE	33	— 0.02	+ 0.02	0.00
20	MILITARY GOVERNMENT	41	— 0.48	+ 0.41	—0.07
21	LOGISTICAL COMMAND	54	— 0.19	+ 0.09	—0.10
22	ARMY HEADQUARTERS	51	— 0.23	+ 0.23	—0.00
23	CORPS HEADQUARTERS	52	— 0.18	+ 0.19	+0.01
24	MISCELLANEOUS		— 0.03	+ 0.02	—0.01
25	TOTALS		—100.00%	+100.00%	±1.92% (*)

INSTRUCTIONS for Completing the TROOP STRENGTH COMPARISON TEST

1. Compile a list of theater troop strengths for the troop list UNDER TEST. (*SIMILAR TO* fig. 13, col. 3).
2. Add the theater troop strength values to obtain the theater strength TOTAL. (*SIMILAR TO* line 25 and col. 3 in fig. 13).
3. Convert branch or service troop strengths to theater slices (lines 1–24 inclusive and col. 3 above). ASSIGN A NEGATIVE (—) VALUE TO EACH COMPUTED THEATER SLICE.
4. Transpose theater slice data for the Planning Troop List and use as a STANDARD for the comparison test (figure 13, column 4 and column 4 above) ASSIGN A POSITIVE (+) VALUE TO EACH THEATER SLICE.
5. Compute the theater slice DIFFERENCE (%) for each branch or service and include the negative (—) or positive (+) sign (col. 5 above).
6. *ADD all positive values* to determine the theater slice TOTAL DIFFERENCES and CHECK the total by adding all negative values. Record these values (+) or (—) (line 25 and col. 5 above).
7. Use the total theater strength and the theater slice TOTAL DIFFERENCES to determine the PREDICTED ERRORS for using the important logistical tables in this manual. (ASSUME the theater troop list totaled 300,000 troops: (*) then the *predicted error for this specific troop list is found to be less than ± 4.8 percent:* (line 25 and column 5 above and figure 15, line 3, column 4.)

Figure 14. Procedures for completing a TROOP STRENGTH COMPARISON TEST.

(1)	(2)	(3)	(4)	(5)
	TOTAL SLICE (%) DIFFERENCES for Theater	PREDICTED PERCENTAGE ERROR for THEATER STRENGTHS			
		100,000	200,000	300,000	400,000
1	±1.0	± 8.0	± 4.0	± 2.5	± 1.5
2	±1.5	±11.5	± 5.3	± 2.9	± 1.6
3	±2.0	±19.0	± 8.7	± 4.8	± 2.6
4	±2.5	±26.5	±12.1	± 6.6	± 3.7
5	±3.0	±34.0	±15.6	± 8.7	± 4.7
6	±3.5	±41.5	±19.0	±10.4	± 5.8
7	+4.0	±49.0	±22.5	±12.3	± 6.8

Legend:  ERRORS may be considered EXCESSIVE—even for PHASE I PLANNING.

Figure 15. Predicted percentage errors in using logistical tables I, IV, V, VI, VIII, XI, and XV when applied to ANY TROOP LIST (balanced or unbalanced).

c. Logistical problems are solved by applying the simple RATIO VALUES selected from these tables. Therefore, complex formulae are not required in solving problems.

d. Personnel using this manual are encouraged to carefully review the illustrative problems and solutions prior to using the data tables. The RATIO VALUES selected from tables and staff planning factors used in these problems have been "LABELED" to insure that users set up problems correctly and obtain answers expressed in the desired logistical terms.

Section II. PHASE I LOGISTICAL TABLES

18. Ordnance TOE Unit Requirements To Support Balanced Combat Forces

a. Frequently in phase I planning the ordnance staff officer will be furnished few guidelines—perhaps only the total strength of the combat force will be known. Table I has been designed to furnish the ordnance planner with quantities of units and numbers of ordnance personnel required to provide the approximate ordnance support required for balanced combat forces. *Computations are based upon multiples of 50,000 THEATER TROOPS.*

b. Illustrative problems (Table I).

(1) *Question No. 1:* How many Direct Support Companies, TOE 9–7D, are required to support 150,000 theater troops?

(2) *Solution No. 1:* (line 5, col. 5).

? Dir Spt Cos. = 150,000 theater troops $\times \frac{1.368 \text{ Cos.}}{50{,}000 \text{ theater troops}}$ = *4.1 or 4.0 Dir Spt Cos.* (ANSWER)

(3) *Question No. 2:* How many ordnance troops will be assigned to Direct Support Companies, TOE 9–7D, for the support of 150,000 theater troops?

(4) *Solution No. 2:* (line 5, col. 9)

? ord troops (TOE 9–7D) = 150,000 theater troops $\times \frac{247.61 \text{ ord troops (TOE 9–7D)}}{50{,}000 \text{ theater troops}}$ = 742.8 or *743 ord troops (TOE 9–7D)* (ANSWER).

Note. If 4.0 Cos. were finally selected instead of 4.1 Cos. the answer would be 4.0 × 181 = 724 ord troops (line 5, col. 4).

Table I. Ordnance TOE Unit Requirements To Support Balanced Combat Forces

	Ordnance units		TOE data			Ordnance support for 50,000 theater troops				
			No.	Date	Full strength	Total theater units	Units-Sector totals			Total theater personnel
							Corps	Army	TAZ	
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	COMMAND UNITS (CLASS II & IV)									
1	Hq & Hq Det Maint & Sup Gp		9–12D	Feb 58	58	0.547		0.365	0.182	31.74
2	Hq & Hq Det Bn		9–76R	Feb 55	35	2.462	0.547	0.912	1.003	86.18
	COMMAND UNITS (CLASS V)									
3	Hq & Hq Det Ammo Gp		9–22D	Jul 58	93	0.182		0.091	0.091	17.02
4	Hq & Hq Det Bn		9–86D	Jul 58	72	0.639	0.274	0.091	0.274	46.01
	COMPANIES, NONDIVISIONAL (CLASS II & IV)									
5	Dir Spt		9–7D	Aug 58	181	1.368	1.094	0.274		247.61
6	Dir Autmv Spt[d]		9–127D	Aug 58	123	5.472	1.094	1.642	2.736[e]	673.06
7	Gen Spt[b]		9–9D	Mar 59	223	1.186		0.912	0.274	264.39
8	Gen Autmv Spt[e]		9–197D	Mar 59	227	2.462		1.277	1.185	558.87
9	Recov & Clas[a]		9–167D		175	0.638		0.365	0.273	111.69
10	Park		9–137D	Jan 58	165	0.182		0.091	0.091	29.18
11	Fld Sup		9–57R	Apr 55	160	1.094	0.547	0.547		175.04
12	Sup Dep		9–367R	Apr 55	253	1.094			1.094	276.88
13	Tire Rep[a] [f]		9–347D		149	0.182		0.091	0.091	27.18
	COMPANIES NONDIVISIONAL (CLASS V)									
14	Ammo[g]		9–17D	Jul 58	263	2.366	0.821	0.274	1.271	622.26
15	SW & Msl Dir Spt		9–47D	Jul 58	246	0.456	0.274	0.091	0.091	112.18
16	SW & Msl Gen Spt		9–87D	Jul 58	184	0.091		0.091		16.78
17	SW & Msl Dep Spt		9–377D	Jul 58	293	0.274			0.274	80.28
	CELLULAR UNITS (TEAMS & DETACHMENTS)									
18	NIKE Gen Spt[a]	Team FA	9–500		44	0.274		0.274		12.06
19	CORPORAL Gen Spt[a]	Team FB	9–500		44	0.638		0.273	0.365	28.09
20	MR Stk Acct	Team FA	29–500D	Feb 58	14	0.182		0.091	0.091	2.56
21	EOD	Det AA	C–3, 9–510R	Apr 57	10	1.459		0.730	0.729	14.59
22	EOD (Aug)	Det AB	C–3, 9–510R	Apr 57	14	0.182		0.182		2.55
23	EOD Con	Det AC	C–3, 9–510R	Apr 57	8	0.182		0.091	0.091	1.46
24	Ball & Tech Svc	Det BA	9–510R	Apr 55	7	0.273		0.182	0.091	1.92
25	Tech Intel	Det BB	9–510R	Apr 55	6	0.638	0.547	0.091		3.83
26	Tech Intel Con	Det BC	9–510R	Apr 55	11	0.182		0.091	0.091	2.00
27	Hv AAA Rep[i] [j]	Det CA	9–510R	Apr 55	9	0.730	0.547	0.183		6.57
28	IFC Rep T33[i]	Det CC	9–510R	Apr 55	13	0.365	0.274	0.091		4.74
29	IFC Rep T38[j]	Det CD	9–510R	Apr 55	11	1.186	0.821	0.365		13.04
30	Hv Arty Mat Rep	Det CF	9–510R	Apr 55	9	0.091		0.091		0.82
31	Ammo Renv	Det DA	C–1, 9–510R	Feb 56	65	0.274			0.274	17.78
32	Ammo Stk Con (Manual)[h],	Det EA	9–510R	Apr 55	21	0.182			0.182	3.82
33	Stk Con (Cl II & IV)[h]	Det EB	9–510R	Apr 55	34	0.182		0.091	0.091	6.20
34	NIKE Dir Spt	Det FA	C–2, 9–510R	Apr 55	46	1.368		0.547	0.821	62.93
35	CORPORAL Dir Spt	Det FB	C–2, 9–510R	Apr 55	24	0.274	0.274			6.57
36	HAWK Dir Spt	Det FE	9–510T	Oct 58	40	[k]				[k]
37	LACROSSE Dir Spt	Det FD	9–510R	Mar 59	35	[k]				[k]
38	SW Calbr Secd Ref	Det GA	C–4, 9–510R	Jul 58	3	0.091			0.091	0.27
39						[l]GRAND TOTAL THEATER PERSONNEL				3568.15

See footnotes at end of table.

Table I. Ordnance TOE Unit Requirements To Support Balanced Combat Forces—Continued

	Ordnance units	TOE data			Ordnance support for 50,000 theater troops				
		No.	Date	Full strength	Total theater units	Units-Sector totals			Total theater personnel
						Corps	Army	TAZ	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	ORGANIC SUPPORT UNITS[1] [a] (FOR INFORMATION ONLY)								
40	Hq & Rear Spt (ROCID)	9–26T	Dec 56	160	1.094	1.094			175.04
41	Fwd Spt (ROCID)	9–27T	Dec 56	167	1.094	1.094			182.70
42	Hq & Rear Spt (ROCAD)	9–66T	Dec 56	300	0.273	0.273			81.90
43	Fwd Spt (ROCAD)	9–67T	Dec 56	102	0.273	0.273			27.85
44	Amph Spt Maint (Brig)	9–97R	Apr 55	111	(p)				(p)
45	REDSTONE[m]	9–217T	Mar 58	179	0.091		0.091		16.29
46	Abn Div Maint Bn	29–55D	Jul 58	437	(o)				(o)
47	Ord Sec Hq Army	C–2, 51–1C	Nov 57	70	0.091		0.091		6.37
48	Ord Sec Hq Corps	C–2, 51–1C	Nov 57	20	0.273	0.273			5.46
49	Ord Sec Log Comds	54 Series	Apr 55	(q)	(p) (q)				(p) (q)

(a) TOE being processed for publication.
(b) Will replace Heavy Maintenance Company, TOE 9–9R, Apr 55.
(c) Will replace Heavy Automotive Maintenance Company, TOE 9–197R, Apr 55.
(d) Capable of replacing Motor Vehicle Assembly Company, TOE 9–348D, Oct 57.
(e) Capable of replacing Field Maintenance Company, TOE 9–357D, Jan 58.
(f) Will replace Tire Rebuild Company, TOE 9–347R, Apr 55.
(g) Computations based upon 12 handlings in theater and limited to NORMAL COMBAT EXPENDITURE RATES (SB 38–26); 1 each company required for each 100 short tons of ammunition consumed.
(h) Employed with Machine Records Stock Accounting Team (FA), TOE 29–500D, Feb 58.
(i) Not required if 90-mm ADA Gun Battalions are eliminated from active army.
(j) Not required if 75-mm ADA Gun Battalions are eliminated from active army.
(k) To be added later when missile system is included in planning troop lists.
(l) Military spaces charged to parent combat units (Armd, Arty, Inf, etc.).
(m) May be employed with United States Army Missile Command (Heavy), TOE 39–71T, Jun 57 and Field Artillery Missile Group (Heavy). TOE 6–610T, Jun 57, and field artillery missile group, Redstone TOE 6–630.
(n) Ordnance support required for United States Army Missile Command (Air-Transportable), TOE 39–51T, Jun 57 and United States Army Missile Command (Medium), TOE 39–61T, Jun 57.
(o) FUNCTIONAL Ordnance Support required for Airborne Division TOE 57D, will be included as required in troop planning.
(p) Employed as required in troop planning.
(q) Ordnance support depends upon size of Logistical Command employed.

19. Gross Ordnance Storage and Tonnage Data

a. During phase I planning the ordnance staff officer may be required to estimate the theater storage and tonnage requirements for ordnance supplies. In the absence of other planning data the factors shown in table II may also be used in phases II and III planning. Normally, the data contained in table II will be used in computing ordnance logistical estimates at army or theater level.

b. Prior to using this table it will be necessary for the ordnance planner to become familiar with storage terms and their relationships (fig. 16).

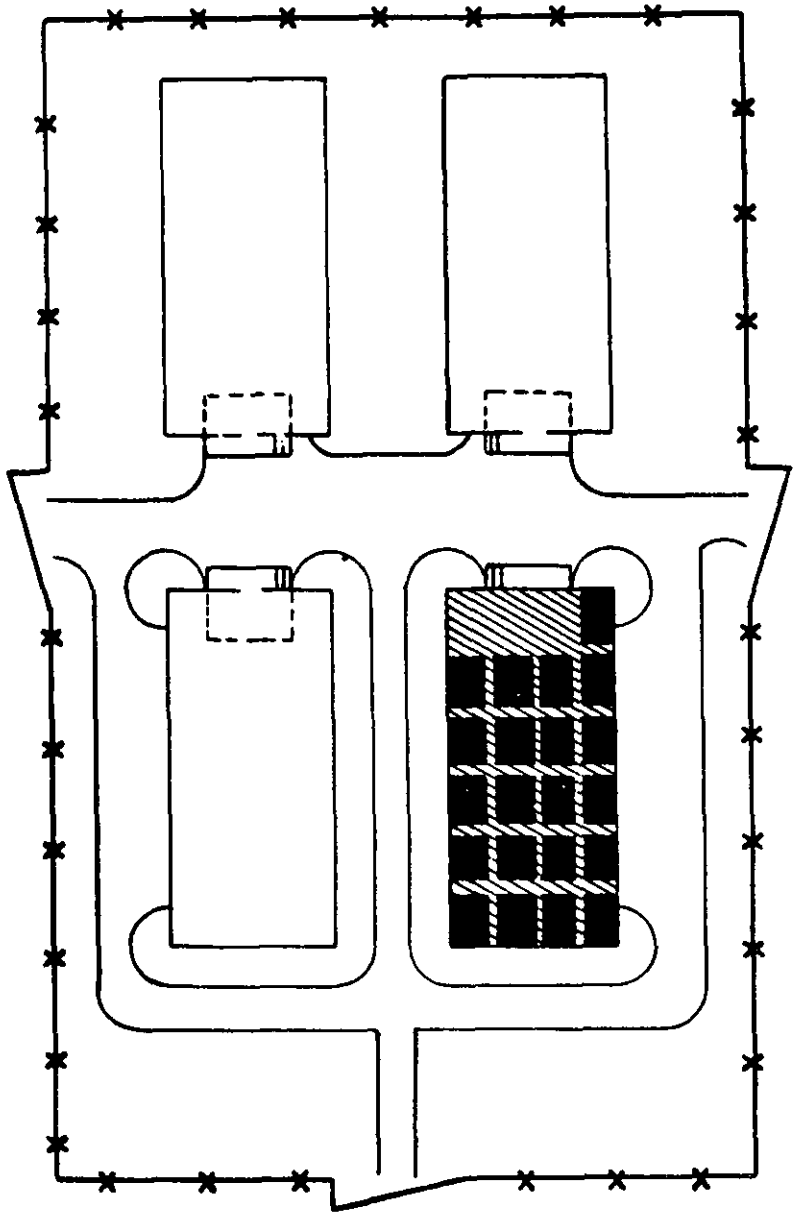
c. Illustrative problems (Table II)

(1) *Question No. 1:* Assume that 100 DAYS of SUPPLY will be phased into a *future* theater of operations in equal increments during the next 20 days. Supply support is required for 200,000 theater troops. How much NET USABLE covered storage space (square feet) will be required EACH DAY for class II and IV repair parts during this supply build up?

(2) *Solution No. 1:* (line 1, col. 3, and stated assumptions)

? NET USABLE covered storage space (sq ft)/day = 200,000 theater troops $\times$ $\frac{1.5 \text{ sq ft}}{1{,}000 \text{ theater troops}} \times \frac{100 \text{ days of supply}}{1 \text{ day of supply}} \times \frac{1}{20 \text{ day}}$ = *1,500 sq ft/day* (ANSWER)

(3) *Question No. 2:* How much ROADSIDE STORAGE (mile of road) will be required for 10 days of class V



LEGEND

■ = Net usable storage area.

■ + ▨ = Gross storage area (in covered storage, the buildings).

■ + ▨ + ⊡ = Site area.

Figure 16. Storage terms and relationships.

supplies for a theater of 150,000 troops? Assume that NORMAL COMBAT EXPENDITURE RATES are used in these computations.

(4) *Solution No. 2:* (line 6 and 7, col. 5, and assumptions)

? ROADSIDE STORAGE (mile of road) =

$$150{,}000 \text{ theater troops} \times \frac{6.7 \text{ tons}}{1{,}000 \text{ theater troops}} \times \frac{10 \text{ days of supply}}{1 \text{ day of supply}} \times \frac{1 \text{ mile of road}}{1{,}000 \text{ tons}}$$

= *10.05 miles of road* (ANSWER)

Table II. Gross Ordnance Storage and Tonnage Data

Type data	Consumption per 1,000 theater troops for 1 day of supply				
	Classes of supply				
	II and IV		V and rates of combat		
	End items	Repair parts	Intense	Normal	Reduced
(1)	(2)	(3)	(4)	(5)	(6)
STORAGE AREAS REQUIRED					
NET USABLE					
1 Covered (sq ft)		1.5	7.0	4.7	2.3
2 Open (sq ft)	30.0[a]	6.3	99.0	66.0	33.0
GROSS[b]					
3 Covered (sq ft)		3.0	8.8	5.9	2.9
4 Open (sq ft)	60.0	12.6	123.8	82.5	41.3
SITE[c]					
5 Covered (sq ft)		9.0	985.6	660.8	324.8
6 Open (sq ft)	180.0	37.8	[d]	[d]	[d]
TONNAGE REQUIREMENTS					
7 SHORT TONS	1.9	0.5	10.0	6.7	3.3
8 MEAS TONS	5.3				

[a] 25 percent estimated for IMPROVED (hard stand) space, balance will be SEMI-IMPROVED and UNIMPROVED SPACE.

[b] *Increase by factor of 3* for all DAYS OF SUPPLY stored in the combat zone.

[c] EXCEPT FOR CLASS V SUPPLIES, *increase by factor of 5* for all DAYS OF SUPPLY stored in the combat zone.

[d] 1,000 short tons stored per *mile of road* for ROADSIDE STORAGE; 5,000 short tons stored per square mile.

20. Gross Ordnance Maintenance and End Item Requirements

a. The ordnance planner may want to know the magnitude of the maintenance and end item requirement in phase I planning. These requirements and the resultant data have been converted into specific requirements for the different TOE units listed. However, the data contained in table III may be used to check or modify the data shown in table I when applied to specific logistical problems.

b. The data shown in table III were created

by adding together DIFFERENT end item equivalent totals found in tables X, XI, and XIV and grouped in the four categories as listed (lines 1 to 4 inclusive). *The data in this table must be used with the information contained in table X if the planner desires to convert maintenance equivalent data to specific numbers of maintenance units.*

c. Illustrative problem (Table III)

(1) *Question:* What are the TOTAL maintenance equivalents for small arms weapons for a theater of 250,000 troops?

(2) *Solution:* (line 1, col. 2)

? small arms maint equiv = 250,000 theater troops $\times \frac{\text{51,000 small arms maint equiv}}{\text{50,000 theater troops}}$ =*255,000 small arms maint equiv* (ANSWER)

Table III. Gross Ordnance Maintenance and End Item Requirements

	Item category	50,000 theater troops	
		Maintenance equivalents (a)	End items (b)
	(1)	(2)	(3)
1	Small Arms Weapons	51,000	52,400
2	Artillery Weapons (Towed and SP)	820	700
3	Wheeled Vehicles	11,280	15,420
4	Tracked Vehicles	3,545	1,015

(a) MAINTENANCE EQUIVALENTS provide the ordnance logistical planner with a *COMMON BASE POINT* for determining the numbers of ordnance TOE maintenance units required to SUPPORT tactical forces (Table XIV).

(b) *For reference and information only.*

Section III. PHASE II LOGISTICAL TABLES

21. End Item Densities for 1,000 Troops

a. Table IV lists those end items which are most frequently included in ALL United States Army tables of organization and equipment. Specific makes and models for materiel are not included, but are listed in table XXIV for information.

b. Computing the end item densities (by type) for a theater of operations is necessary before the ordnance staff officer can develop the proper maintenance and supply support required for any known tactical force. The data in table IV should expedite these required computations. However, the *user of this data is CAUTIONED* that data shown in this table are based upon a specific combat force (par. 15 and fig. 13). The ordnance planner should complete a TROOP STRENGTH COMPARISON TEST in order to estimate the accuracy of data when applied to a given troop list.

c. Illustrative problems (Table IV)

(1) *Question No. 1:* How many 4.2-inch mortars are found in a theater composed of 300,000 troops?

(2) *Solution No. 1:* (line 10, col. 6)

? 4.2-inch mortars = 300,000 theater troops $\times \frac{\text{1.24 ea 4.2-inch mortars}}{\text{1,000 theater troops}}$ = *372 ea 4.2-inch mortars* (ANSWER)

(3) *Question No. 2:* How many 4.2-inch mortars are found in a DIVISION SECTOR with a strength of 150,000 division troops?

Note. The end item densities by battlefield sector should be used as an *initial guide in planning.* Actual disposition of forces in a theater will determine the location of ordnance materiel.

(4) *Solution No. 2:* (line 10, col. 2)

? 4.2-inch mortars (DIV SECTOR) = 150,000 division troops $\times \frac{\text{2.86 ea 4.2-inch mortars}}{\text{1,000 division troops}}$ = 429 ea 4.2-inch mortars (located in DIVISION SECTOR) (ANSWER)

Table IV. End Item Densities for 1,000 Troops

	Ordnance materiel	Division	Corps SVC Area	Army SVC Area	TAZ	Theater
	(1)	(2)	(3)	(4)	(5)	(6)
	SMALL ARMS AND LIGHT MORTARS					
1	CARBINE, caliber .30	237.27	415.41	493.21	528.80	408.01
2	GUN, machine, caliber .30	45.16	22.22	11.01	5.14	22.24
3	GUN, machine, caliber .50	46.98	40.38	27.68	22.21	34.76
4	GUN, submachine, caliber .45	73.59	90.17	56.73	43.60	65.28
5	LAUNCHER, rocket, 3.5-inch	42.40	40.77	21.80	14.69	30.14
6	PISTOL, caliber .45	162.03	70.60	55.68	38.90	86.89
7	RIFLE, automatic, caliber .30	41.99	4.46	3.89	0.59	14.82
8	RIFLE, US, caliber .30	515.45	396.98	332.82	294.17	391.75
9	MORTAR, 81-mm	4.65	0.43	0.34		1.59
	ARTILLERY AND HEAVY MORTARS					
10	MORTAR, 4.2-inch	2.86	1.04	0.68		1.24
11	RIFLE, recoilless, 106-mm	2.15		0.24		0.71
12	GUN, tank, 76-mm	2.73	1.91	1.36		1.52
13	GUN, tank, 90-mm[a]	11.50	7.14	0.91		5.22
14	GUN, ADA, 90-mm[b]				0.87	0.24
15	GUN, ADA, 75-mm[b]			1.21	0.90	0.50
16	GUN, ADA, 40-mm		8.03	3.83		2.47
17	HOWITZER, 105-mm	2.57	0.96	0.34		1.06
18	HOWITZER, 155-mm	0.84	3.83			1.06
19	HOWITZER, 8-inch	0.29	2.19			0.55
20	GUN, 155-mm		0.33			0.07
21	GUN, 280-mm			0.05		0.01
22	LAUNCHER, rocket, 762-mm[c]	0.13				0.04
	WHEELED VEHICLES					
23	AUTOMOBILE, sedan		0.19	0.48	1.09	0.44
24	MOTORCYCLE		0.24	1.36	3.71	1.36
25	SEMITRAILER, alcohol					[d]
26	SEMITRAILER, gasoline, 2-wheel					[d]
27	SEMITRAILER, van, cargo, 6-ton	0.46	0.86	4.71	3.17	2.17
28	SEMITRAILER, cargo, 12-ton		0.14	1.60	1.23	0.70
29	SEMITRAILER, gasoline, 12-ton	0.26	0.05	2.96	5.63	2.26
30	SEMITRAILER, low bed, 25-ton	0.72	1.77	0.87	0.62	0.94
31	SEMITRAILER, transporter, 45-ton	0.10		1.31	1.19	0.63
32	TRAILER, cargo, ¼-ton	28.23	36.72	36.00	35.24	33.55
33	TRAILER, generator, light			0.10	0.07	0.04
34	TRAILER, cargo, ¾-ton	26.57	13.59	9.44	8.07	15.20
35	TRAILER, generator, medium			0.10	0.07	0.04
36	TRAILER, 1½-ton[e]	31.73	56.40	79.88	99.39	65.55
37	TRAILER, generator, heavy		0.87	0.54	0.68	0.48
38	TRAILER, ammunition, 2-ton	3.19	29.07	1.96	0.55	7.62
39	TRAILER, 762-mm rocket	0.20				0.07
40	TRAILER, flat bed, guided missile			0.10	0.07	0.04
41	TRUCK, utility, ¼-ton	52.20	57.48	48.31	49.77	51.83
42	TRUCK, cargo, ¾-ton	34.74	35.83	20.73	23.80	29.07
43	TRUCK, civilian models, ½ to 1½-ton		1.48	0.38	2.88	1.19

See footnotes at end of table.

Table IV. End Item Densities for 1,000 Troops—Continued

	Ordnance materiel	Division	Corps SVC Area	Army SVC Area	TAZ	Theater
	(1)	(2)	(3)	(4)	(5)	(6)
44	TRUCK, cargo, 2½-ton[e]	32.41	57.99	89.91	112.47	71.78
45	TRUCK, dump, 2½-ton	2.40	7.17	6.98	5.53	5.21
46	TRUCK, tank, gasoline, 2½-ton	2.63	0.81	0.48	0.11	1.11
47	TRUCK TRACTOR, 2½-ton	0.45	0.29	1.75	1.08	0.86
48	TRUCK, wrecker, 2½-ton	0.26	0.10	0.10	0.14	0.16
49	TRUCK, cargo, 5-ton[f]	8.45	11.25	2.52	1.11	5.78
50	TRUCK, dump, 5-ton		3.16	3.16	2.45	1.99
51	TRUCK TRACTOR, 5-ton	0.98	1.81	9.03	13.21	6.20
52	TRUCK, wrecker, 5-ton	2.24	2.20	4.85	3.57	3.14
53	TRUCK TRACTOR, 10-ton		0.76	0.78	0.58	0.48
54	TRUCK TRACTOR, 12-ton	0.10		0.34	0.65	0.28
55	TRUCK TRACTOR, 15-ton		0.04	0.97	0.54	0.36
56	TRUCK, van, expansible, 2½-ton			0.11		0.02
57	TRUCK, gun lifting, heavy			0.11		0.02
	TRACKED VEHICLES					
58	CARRIAGE, motor, heavy mortar	0.72	1.00	0.49		0.53
59	CARRIAGE, motor, twin 40-mm gun		4.02	1.89		1.23
60	CARRIAGE, motor, 105-mm howitzer	0.97	0.96	0.29		0.56
61	CARRIAGE, motor, 155-mm howitzer	0.14	2.48			0.56
62	CARRIAGE, motor, 8-inch howitzer	0.07	1.24			0.28
63	CARRIAGE, motor, 90-mm gun	1.07	0.10			0.35
64	TANK, 76-mm gun	2.73	1.91	1.36		1.52
65	TANK, 90-mm gun	10.30	6.94	0.91		4.87
66	TRACTOR, cargo, light	0.61	1.77			0.56
67	TRACTOR, cargo, medium	0.84	2.11			0.70
68	VEHICLE, infantry, armored	19.17	7.73	2.54		8.04
69	VEHICLE, recovery, medium	1.95	1.77	1.02		1.18

[a] Includes gun, 90-mm, self-propelled, M56.
[b] Lines 14 and 15 may eventually be replaced with surface-to-air missiles.
[c] Line 22 is truck mounted. Vehicle requirement is included in line 49.
[d] Quantities are less than 0.01.
[e] Includes all 2½-ton cargo trucks plus 2½-ton special purpose trucks not otherwise listed.
[f] Includes all 5-ton cargo trucks plus 5-ton special purpose trucks not otherwise listed.
[g] Includes all 1½-ton trailers (cargo and water).

22. Theater End Item Replacement Data

a. The consumption of end items during combat are difficult to estimate because of the following variables:

(1) Type and severity of combat.
(2) Weather and terrain.
(3) Theater supply and maintenance policies.
(4) Materiel transport losses.
(5) World-wide production capabilities.

b. The data contained in Table V may be used to estimate end item replacements until more accurate staff planning factors become known to the staff officer.

c. Illustrative problems (Table V)

(1) *Question No. 1:* Assume that the theater supply level has been established at 120 days of supply. How many replacement ¼-ton trucks will be required in an active theater composed of 200,000 troops?

(2) *Solution No. 1:* (line 41, column 5, and assumptions)

? ¼-ton trucks (replacements) = 200,000 theater troops $\times \frac{1.036 \text{ ea } ¼\text{-ton trucks}}{1{,}000 \text{ theater troops}} \times \frac{120 \text{ days of supply}}{30 \text{ days of supply}}$ = 828.8 or *829 ea ¼-ton trucks* (replacements for 120 days of supply) **(ANSWER)**

(3) *Question No. 2:* What is the estimated quantity of ¼-ton trucks consumed in 120 days for the THEATER ADMINISTRATIVE ZONE?

(4) *Solution No. 2:* (line 41, col. 4, and question No. 1 above)

? ¼-ton trucks (consumed in TAZ) = 200,000 theater troops $\times \frac{0.275 \text{ ea } ¼\text{-ton trucks}}{1{,}000 \text{ theater troops}} \times \frac{120 \text{ days of supply}}{30 \text{ days of supply}}$ = *220 ea ¼-ton trucks* (consumption in 120 days in TAZ) (ANSWER)

Table V. Theater End Item Replacement Data[a]

	Ordnance materiel	Replacement data in 30 days for 1,000 theater troops									
		Wartime					Peacetime				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Sector totals				Total	Sector totals				Total
		Div	Corps	Army	TAZ	Theater	Div	Corps	Army	TAZ	Theater
	SMALL ARMS AND LIGHT MORTARS										
1	CARBINE, caliber .30	1.098	1.305	1.525	2.192	6.120	0.146	0.174	0.203	0.292	0.815
2	GUN, machine, caliber .30	1.669	0.558	0.271	0.171	2.669	0.042	0.014	0.007	0.004	0.067
3	GUN, machine, caliber .50	0.434	0.253	0.172	0.184	1.043	0.043	0.025	0.017	0.018	0.103
4	GUN, submachine, caliber .45	1.133	0.944	0.583	0.604	3.264	0.045	0.038	0.023	0.024	0.130
5	LAUNCHER, rocket, 3.5-inch	0.652	0.427	0.225	0.203	1.507	0.026	0.017	0.009	0.008	0.060
6	PISTOL, caliber .45	1.747	0.516	0.401	0.377	3.041	0.050	0.015	0.011	0.011	0.087
7	RIFLE, automatic, caliber .30	1.357	0.097	0.084	0.018	1.556	0.052	0.004	0.003	0.001	0.060
8	RIFLE, US, caliber .30	1.428	0.745	0.618	0.734	3.525	0.159	0.083	0.069	0.082	0.393
9	MORTAR, 81-mm	0.150	0.009	0.008		0.167	0.003	(b)	(b)		0.003
	ARTILLERY AND HEAVY MORTARS										
10	MORTAR, 4.2-inch	0.079	0.019	0.012		0.110	0.002	(b)	(b)		0.002
11	RIFLE, recoilless, 106-mm	0.053		0.004		0.057	0.001		(b)		0.001
12	GUN, tank, 76-mm	0.067	0.032	0.022		0.121					(c)
13	GUN, tank, 90-mm[d]	0.319	0.134	0.017		0.470					(c)
14	GUN, ADA, 90-mm				0.024	0.024				(b)	(b)
15	GUN, ADA, 75-mm			0.005	0.005	0.010			(b)	(b)	(b)
16	GUN, ADA, 40-mm		0.017	0.008		0.025					(c)
17	HOWITZER, 105-mm	0.024	0.006	0.002		0.032	0.001	(b)	(b)		0.001
18	HOWITZER, 155-mm	0.005	0.016			0.021	(b)	0.001			0.001
19	HOWITZER, 8-inch	0.001	0.007			0.008	(b)	(b)			(b)
20	GUN, 155-mm		0.001			0.001		(b)			(b)
21	GUN, 280-mm			(b)		(b)					(c)
22	LAUNCHER, rocket, 762-mm[e]	0.001				0.001	(b)				(b)
	WHEELED VEHICLES										
23	AUTOMOBILE, sedan		0.001	0.003	0.009	0.013		0.001	0.001	0.004	0.006
24	MOTORCYCLE		0.002	0.011	0.041	0.054		0.001	0.006	0.021	0.028
25	SEMITRAILER, alcohol			(b)		(b)			(b)		(b)
26	SEMITRAILER, gasoline, 2-wheel.		(b)			(b)		(b)			(b)
27	SEMITRAILER, van, cargo, 6-ton.	0.002	0.003	0.014	0.013	0.032	(b)	0.001	0.003	0.003	0.007

See footnotes at end of table.

Table V. Theater End Item Replacement Data[a]—Continued

	Ordnance materiel	Replacement data in 30 days for 1,000 theater troops									
		Wartime					Peacetime				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Sector totals				Total	Sector totals				Total
		Div	Corps	Army	TAZ	Theater	Div	Corps	Army	TAZ	Theater
28	SEMITRAILER, cargo, 12-ton		(b)	0.005	0.005	0.010		(b)	0.001	0.001	0.002
29	SEMITRAILER, gasoline, 12-ton.	0.001	(b)	0.009	0.023	0.033	(b)	(b)	0.002	0.005	0.007
30	SEMITRAILER, low bed, 25-ton.	0.006	0.009	0.005	0.004	0.024	0.001	0.001	0.001	0.001	0.004
31	SEMITRAILER, transporter, 45-ton.	0.001		0.007	0.008	0.016	(b)		0.001	0.001	0.002
32	TRAILER, cargo, ¼-ton	0.087	0.077	0.074	0.098	0.336	0.017	0.015	0.015	0.020	0.067
33	TRAILER, generator, light			(b)	(b)	(b)			(b)	(b)	(b)
34	TRAILER, cargo, ¾-ton	0.082	0.028	0.019	0.022	0.151	0.016	0.006	0.004	0.004	0.030
35	TRAILER, generator, medium			(b)	(b)	(b)			(b)	(b)	(b)
36	TRAILER, 1½-ton[b]	0.098	0.118	0.164	0.276	0.656	0.020	0.024	0.033	0.055	0.132
37	TRAILER, generator, heavy		0.002	0.001	0.002	0.005		(b)	(b)	(b)	(b)
38	TRAILER, ammunition, 2-ton	0.020	0.122	0.008	0.003	0.153	0.001	0.006	(b)	(b)	0.007
39	TRAILER, 762-mm rocket	0.002				0.002	(b)				(b)
40	TRAILER, flat bed, guided missile.			(b)	(b)	(b)			(b)	(b)	(b)
41	TRUCK, utility, ¼-ton	0.321	0.241	0.199	0.275	1.036	0.080	0.060	0.050	0.069	0.259
42	TRUCK, cargo, ¾-ton	0.214	0.150	0.086	0.132	0.582	0.043	0.030	0.017	0.026	0.116
43	TRUCK, civilian models, ½ to 1½-ton.		0.006	0.002	0.016	0.024		0.004	0.001	0.011	0.016
44	TRUCK, cargo, 2½-ton[c]	0.199	0.242	0.370	0.624	1.435	0.050	0.061	0.093	0.154	0.358
45	TRUCK, dump, 2½-ton	0.011	0.022	0.022	0.023	0.078	0.004	0.007	0.007	0.008	0.026
46	TRUCK, tank, gasoline, 2½-ton	0.016	0.003	0.002	0.001	0.022	0.004	0.001	(b)	(b)	0.005
47	TRUCK TRACTOR, 2½-ton	0.003	0.001	0.007	0.006	0.017	0.001	(b)	0.002	0.002	0.005
48	TRUCK, wrecker, 2½-ton	0.001	(b)	(b)	(b)	0.001	(b)	(b)	(b)	(b)	0.001
49	TRUCK, cargo, 5-ton[f]	0.052	0.047	0.010	0.006	0.115	0.008	0.007	0.002	0.001	0.018
50	TRUCK, dump, 5-ton		0.010	0.010	0.010	0.030		0.002	0.002	0.002	0.006
51	TRUCK, TRACTOR, 5-ton	0.006	0.008	0.037	0.073	0.124	0.002	0.002	0.009	0.018	0.031
52	TRUCK, wrecker, 5-ton	0.014	0.009	0.020	0.020	0.063	0.002	0.001	0.003	0.003	0.009
53	TRUCK TRACTOR, 10-ton		0.003	0.003	0.003	0.009		(b)	(b)	(b)	0.001
54	TRUCK TRAILER, 12-ton	0.001		0.001	0.004	0.006	(b)		(b)	0.001	0.001
55	TRUCK TRACTOR, 15-ton		(b)	0.004	0.003	0.007		(b)	0.001	0.001	0.002
56	TRUCK, van, expansible, 2½-ton.			(b)		(b)			(b)		(b)
57	TRUCK, gun lifting, heavy			(b)		(b)					(c)
	TRACKED VEHICLES										
58	CARRIAGE, motor, heavy mortar.	0.013	0.006	0.005	0.002	0.026	0.001	(b)	(b)	(b)	0.001
59	CARRIAGE, motor, twin 40-mm gun.		0.017	0.008		0.025					(c)
60	CARRIAGE, motor, 105-mm howitzer.	0.009	0.006	0.002		0.017	(b)	(b)	(b)		0.001
61	CARRIAGE, motor, 155-mm howitzer.	0.001	0.010			0.011					(c)
62	CARRIAGE, motor, 8-inch howitzer.	(b)	(b)			(b)					(c)
63	CARRIAGE, motor, 90-mm gun	0.017	0.001			0.018	0.001	(b)			0.001

See footnotes at end of table.

Table V. Theater End Item Replacement Data[a]—Continued

	Ordnance materiel	Replacement data in 30 days for 1,000 theater troops									
		Wartime					Peacetime				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Sector totals				Total	Sector totals				Total
		Div	Corps	Army	TAZ	Theater	Div	Corps	Army	TAZ	Theater
64	TANK, 76-mm gun	0.067	0.032	0.022		0.121					(c)
65	TANK, 90-mm gun	0.289	0.132	0.017		0.438					(c)
66	TRACTOR, cargo, light	0.005	0.011			0.016	(b)	0.001			0.001
67	TRACTOR, cargo, medium	0.009	0.015			0.024	0.001	0.001			0.002
68	VEHICLE, infantry, armored	0.236	0.065	0.021		0.322	0.006	0.002	0.001		0.009
69	VEHICLE, recovery, medium	0.018	0.011	0.006		0.035					(c)

(a) Ordnance End Item Replacement factors are based on End Item Requirements per Table IV and information contained in Supply Bulletins 9–101 (OUO) dated 19 July 1956 and 9–107 dated 30 August 1956.
(b) Quantities are less than 0.001.
(c) No replacement factors established for peacetime.
(d) Includes Gun, 90-mm, self-propelled, M56.
(e) Includes all 2½-Ton Cargo Trucks plus 2½-Ton Special Purpose Trucks not otherwise listed.
(f) Includes all 5-Ton Cargo Trucks plus 5-Ton Special Purpose Trucks not otherwise listed.
(g) Item is truck mounted. Vehicle requirement is included in line 49.
(h) Includes all 1½-ton trailers (cargo and water).

23. Weight and Volume Data for Replacement End Items

a. Staff officers at times may desire to estimate the storage and transport requirements for ordnance replacement end items. Therefore, the weight and volume data listed in table VI should prove useful.

b. Illustrative problems (Table VI)

(1) *Question No. 1:* What are total short tons for replacement of 76-mm gun tanks for 250,000 theater troops and 60 days of supply during wartime?

(2) *Solution No. 1:* (line 64, column 2)

? short tons (replacement 76-mm gun tanks) $= 250{,}000 \text{ theater troops} \times \frac{3.078 \text{ short tons}}{1{,}000 \text{ theater troops}} \times \frac{60 \text{ days of supply}}{30 \text{ days of supply}} = 1{,}539 \text{ short tons}$ (replacement 76-mm gun tanks) (ANSWER)

(3) *Question No. 2:* How many measurement tons would be equal to all ordnance end items for 120 days of supply for 500,000 theater troops?

(4) *Solution No. 2:* (line 71, col. 1)

? measurement tons (all ord end items) $= 500{,}000 \text{ theater troops} \times \frac{5.214 \text{ measurement tons}}{1{,}000 \text{ theater troops}} \times \frac{120 \text{ days of supply}}{1 \text{ day of supply}} = 312{,}840 \text{ measurement tons}$ (all ord end items) (ANSWER)

Table VI. Weight and Volume Data for Replacement End Items

	Ordnance materiel	Replacement data in 30 days for 1,000 theater troops						Remarks
		Wartime			Peacetime			
		Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SMALL ARMS AND LIGHT MORTARS							
1	CARBINE, caliber .30	0.073	0.030	2.938	0.010	0.004	0.392	crated 10 per box
2	GUN, machine, caliber .30	0.107	0.068	4.270	0.010	0.002	0.392	crated 2 per box
3	GUN, machine, caliber .50	0.344	0.191	13.764	0.034	0.019	1.376	includes mount M63 crated
4	GUN, submachine, caliber .45	0.023	0.018	0.914	0.001	0.001	0.037	crated 10 per box

Table VI. Weight and Volume Data for Replacement End Items—Continued

	Ordnance materiel		Replacement data in 30 days for 1,000 theater troops						Remarks
			Wartime			Peacetime			
			Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)
5	LAUNCHER, rocket, 3.5-inch		0.094	0.016	3.767	0.004	0.001	0.151	crated 4 per box
6	PISTOL, caliber .45		0.055	0.008	2.190	[a]	[a]	0.063	crated 25 per box
7	RIFLE, automatic, caliber .30		0.030	0.022	1.182	0.001	0.001	0.045	crated 5 per box
8	RIFLE, US, caliber .30		0.048	0.026	1.939	0.005	0.003	0.215	crated 10 per box
9	MORTAR, 81-mm		0.019	0.012	0.753	[a]	[a]	0.014	1 mortar w/equipment packed in 2 boxes.
	ARTILLERY AND HEAVY MORTARS								
10	MORTAR, 4.2-inch		0.075	0.052	3.013	0.002	0.001	0.067	1 mortar w/equipment packed in 2 boxes.
11	RIFLE, recoilless, 106-mm		0.024	0.013	0.945	0.001	[a]	0.024	
12	GUN, tank, 76-mm		0.070	0.066	2.812				[b], crated 1 gun
13	GUN, tank, 90-mm[e]		0.892	0.649	35.693				[b]
14	GUN, ADA, 90-mm[d]		1.499	0.380	59.974	0.015	0.004	0.612	
15	GUN, ADA, 75-mm[d]		0.491	0.097	19.626	0.005	0.001	0.195	crated 1 gun
16	GUN, ADA, 40-mm		0.033	0.053	1.316				[b], packed in box
17	HOWITZER, 105-mm	towed	0.567	0.079	22.694	0.019	0.003	0.758	traveling position, uncrated
		S–P	0.117	0.015	4.698	0.004	0.001	0.157	
18	HOWITZER, 155-mm	towed	0.677	0.134	27.085	0.034	0.007	1.357	traveling position, uncrated
		S–P	0.029	0.045	1.164	0.001	0.002	0.058	1 howitzer crated.
19	HOWITZER, 8-inch	towed	0.777	0.211	31.070	0.052	0.014	2.066	1 howitzer crated
		S–P	0.035	0.047	1.389	0.002	0.003	0.092	
20	GUN, 155-mm	towed	0.042	0.010	1.683	0.004	0.001	0.179	2 crates
		S–P	0.003	0.003	0.115	[a]	[a]	0.012	crated
21	GUN, 280-mm		0.012	0.005	0.462				[b], crated 1 gun
22	LAUNCHER, rocket, 762-mm[e]		0.031	0.001	1.220	0.005	[a]	0.184	
	WHEELED VEHICLES								
23	AUTOMOBILE, sedan		0.182	0.021	7.283	0.085	0.010	3.401	1 vehicle, uncrated
24	MOTORCYCLE		0.131	0.015	5.220	0.065	0.008	2.609	uncrated
			0.041	0.020	1.631	0.020	0.010	0.815	crated
25	SEMITRAILER, alcohol		0.001	[a]	0.058	0.001	[a]	0.021	
26	SEMITRAILER, gasoline, 2-wheel		0.002	[a]	0.098	[a]	[a]	0.018	1 vehicle, uncrated
27	SEMITRAILER, van, cargo, 6-ton		1.593	0.122	63.713	0.318	0.024	12.727	1 vehicle, uncrated
28	SEMITRAILER, cargo, 12-ton		0.304	0.003	12.151	0.061	0.001	2.426	1 vehicle, uncrated
29	SEMITRAILER, gasoline, 12-ton		1.811	0.250	72.458	0.362	0.050	14.483	1 vehicle, uncrated
30	SEMITRAILER, low bed, 25-ton		0.748	0.182	29.928	0.090	0.218	3.590	
31	SEMITRAILER, transporter, 45-ton		1.363	0.332	54.528	0.164	0.040	6.546	
32	TRAILER, cargo, ¼-ton		1.191	0.092	47.630	0.238	0.018	9.525	1 vehicle, uncrated
33	TRAILER, generator, light		0.004	0.001	0.175	[a]	[a]	0.018	
34	TRAILER, cargo, ¾-ton		1.975	0.102	79.004	0.395	0.020	15.803	bows in place, 1 vehicle, uncrated.
35	TRAILER, generator, medium		0.004	0.001	0.175	[a]	[a]	0.018	
36	TRAILER, 1½-ton[f]		6.963	0.695	278.532	1.393	0.139	55.705	bows removed, 1 vehicle, uncrated.
37	TRAILER, generator, heavy		0.054	0.010	2.173	0.005	0.001	0.215	
38	TRAILER, ammunition, 2-ton		2.305	0.358	92.208	0.115	0.018	4.610	

See footnotes at end of table.

Table VI. Weight and Volume Data for Replacement End Items—Continued

	Ordnance materiel	Replacement data in 30 days for 1,000 theater troops						Remarks
		Wartime			Peacetime			
		Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	Measurement tons (40 cu ft)	Short tons	Volume (cu ft)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
39	TRAILER, 762-mm rocket	0.061	0.002	2.430	0.009	(a)	0.368	
40	TRAILER, flat bed, guided missile	0.036	0.003	1.454	0.006	0.001	0.227	
41	TRUCK, utility, ¼-ton	7.204	1.461	288.150	1.801	0.365	72.038	1 vehicle, uncrated
42	TRUCK, cargo, ¾-ton	7.442	1.730	297.677	1.488	0.346	59.535	
43	TRUCK, civ models, ½ to 1½-ton	0.384	0.040	15.355	0.269	0.028	10.749	1½-ton vehicle, uncrated
		0.848	0.077	33.920	0.594	0.054	23.745	1½-ton vehicle, uncrated
44	TRUCK, cargo, 2½-ton(g)	38.902	9.144	1,556.060	9.725	2.286	389.015	
45	TRUCK, dump, 2½-ton	2.575	0.338	103.016	0.858	0.113	34.334	
46	TRUCK, tank, gasoline, 2½-ton	0.682	0.100	27.289	0.171	0.025	6.825	
47	TRUCK, TRACTOR, 2½-ton	0.442	0.030	17.663	0.110	0.020	4.411	
48	TRUCK, wrecker, 2½-ton	0.072	0.020	2.866	0.037	0.010	1.488	
49	TRUCK, cargo, 5-ton(h)	4.331	1.138	173.239	0.650	0.171	25.993	
50	TRUCK, dump, 5-ton	1.016	0.136	40.642	0.203	0.037	8.131	
51	TRUCK TRACTOR, 5-ton	4.096	1.184	163.830	1.024	0.296	40.951	
52	TRUCK, wrecker, 5-ton	3.381	1.091	135.228	0.507	0.164	20.291	
53	TRUCK TRACTOR, 10-ton	0.345	0.197	13.785	0.052	0.030	2.064	
54	TRUCK TRACTOR, 12-ton	0.376	0.140	15.059	0.057	0.020	2.268	
55	TRUCK TRACTOR, 15-ton	0.495	0.177	19.787	0.124	0.044	4.947	
56	TRUCK, van, expansible, 2½-ton	0.018	0.002	0.729	0.006	0.001	0.243	
57	TRUCK, gun lifting, heavy	0.018	0.004	0.714				(b)
	TRACKED VEHICLES							
58	CARRIAGE, motor, heavy mortar	0.367	0.104	14.696	0.015	0.004	0.583	
59	CARRIAGE, motor, twin 40-mm gun.	1.173	0.531	46.911				(b)
60	CARRIAGE, motor, 105-mm howitzer.	0.591	0.371	23.621	0.020	0.012	0.785	
61	CARRIAGE, motor, 155-mm howitzer.	0.418	0.239	16.073				(b)
62	CARRIAGE, motor, 8-inch howitzer	0.188	0.112	7.505				(b)
63	CARRIAGE, motor, 90-mm gun	0.859	0.582	34.379	0.052	0.035	2.067	
64	TANK, 76-mm gun	7.207	3.078	288.261				(b)
65	TANK, 90-mm gun	32.197	20.390	1,287.864				(b)
66	TRACTOR, cargo, light	0.561	0.251	22.458	0.037	0.017	1.492	
67	TRACTOR, cargo, medium	0.776	0.387	31.029	0.044	0.022	1.774	
68	VEHICLE, infantry, armored	12.217	6.221	488.680	0.306	0.156	12.221	
69	VEHICLE, recovery, medium	2.317	1.664	92.671				(b)
70	TOTALS for 30 days/1000 troops	156.434	55.499					
71	TOTALS for 1 day/1000 troops	5.214	1.850					

(a) Quantities are less than 0.001.
(b) No replacement factors established for peacetime.
(c) Includes Gun, 90-mm, Self-propelled, M 56.
(d) May eventually be replaced by missiles.
(e) Vehicle requirement included with line 49.
(f) Includes all 1½-ton trailers (cargo and water).
(g) Includes all 2½-ton cargo trucks plus 2½-ton special purpose trucks not otherwise listed.
(h) Includes all 5-ton cargo trucks plus 5-ton special purpose trucks not otherwise listed.

24. Fast Moving Repair Parts Weight and Volume Data for 1,000 Theater Troops

a. The weight and volume data for ordnance fast moving repair parts are based upon the processing of 15,000 different recurring demand data cards. Specific end items currently in use by SEVENTH U. S. ARMY were selected in order to obtain the most reliable repair parts demand data. These logistical data are compiled and listed in tables VII and XIX.

b. These data are based upon repair parts usage during PEACETIME. However, these data may be used in *estimating* repair parts consumption for WARTIME planning until reliable issue experience becomes available.

c. Illustrative problems (Table VII)

(1) *Question No. 1:* What is the repair parts weight (pounds) required for the light tank (M41) for 90 days of supply and 150,000 theater troops?

(2) *Solution No. 1:* (line 20, col. 1)

? lbs. light tank parts (M41) = 150,000 theater troops $\times \frac{765 \text{ lbs. light tank parts (M41)}}{1{,}000 \text{ theater troops}} \times \frac{90 \text{ days of supply}}{15 \text{ days of supply}}$ = 688,500 lbs. light tank (M41) repair parts (ANSWER)

(3) *Question No. 2:* What is the estimated tonnage required for all ordnance class II and IV repair parts for 90 days of supply for 150,000 theater troops?

(4) *Solution No. 2:* (line 49, col. 1)

? total short tons repair parts = 150,000 theater troops $\times \frac{6.67 \text{ short tons repair parts}}{1{,}000 \text{ theater troops}} \times \frac{90 \text{ days of supply}}{15 \text{ days of supply}}$ = *6,003 short tons* repair parts (ANSWER)

Table VII. Fast Moving Repair Parts Weight and Volume Data for 1,000 Theater Troops

	Item(a)	Requirements for 15 days of supply	
		Weight (lbs)	Volume (cu ft)
		(1)	(2)
	SMALL ARMS AND LIGHT MORTARS		
1	CARBINE, caliber .30, M2	8	0.4
2	GUN, machine, caliber .30, M1919A4	23	0.5
3	GUN, machine, caliber .50, M2 (HB flex)	122	1.8
4	GUN, submachine, caliber .45, M3A1	20	0.7
5	LAUNCHER, rocket, 3.5-inch, M20A1	4	0.3
6	PISTOL, caliber .45, M1911A1	8	0.3
7	RIFLE, automatic, caliber .30, M1918A2	22	0.2
8	RIFLE, US, caliber .30, M1	51	0.5
9	MORTAR, 81-mm, M29 w/MOUNT, M23A1	10	0.4
	TOWED ARTILLERY AND HEAVY MORTARS		
10	MORTAR, 4.2-inch, M30 w/MOUNT, M24	7	0.1
11	RIFLE, recoilless 106-mm, M40 w/MOUNT, M79	1	0.1
12	HOWITZER, 105-mm, M2A2 w/CARRIAGE, M2A2	120	1.8
13	HOWITZER, 155-mm, M1, w/CARRIAGE, M1A2	56	1.1
14	HOWITZER, 8-inch, M2 w/CARRIAGE, M1	51	0.7
15	LAUNCHER, rocket, 762-mm, M289	27	1.4
	SELF-PROPELLED ARTILLERY AND TRACKED VEHICLES		
16	HOWITZER, 105-mm, self-propelled, M52	160	4.4
17	HOWITZER, 155-mm, self-propelled, M44	113	2.1
18	HOWITZER, 8-inch, self-propelled, M55	80	2.1

Table VII. Fast Moving Repair Parts Weight and Volume Data for 1,000 Theater Troops—Continued

	Item[a]	Requirements for 15 days of supply	
		Weight (lbs)	Volume (cu ft)
		(1)	(2)
19	GUN, 155-mm, self-propelled, M40	3	0.1
20	TANK, M41 w/GUN, tank, 76-mm	765	25.0
21	TANK, M48A1 w/GUN, tank, 90-mm	1,801	39.0
22	CARRIAGE, motor, twin 40-mm gun, M42	121	3.4
23	TRACTOR, cargo, light M5A4	216	5.6
24	TRACTOR, cargo, medium, M8A1	271	9.5
25	VEHICLE, infantry, armored, M59	702	19.6
26	VEHICLE, recovery, medium, M74	137	2.6
	WHEELED VEHICLES		
27	SEMITRAILER, van, cargo, 6-ton, M119	101	5.8
28	SEMITRAILER, gasoline, 12-ton, M131	23	1.1
29	SEMITRAILER, low bed, 25-ton, M172	12	0.6
30	SEMITRAILER, transporter, 45-ton, M15A1	17	0.5
31	TRAILER, cargo, ¼-ton, M100	83	1.3
32	TRAILER, cargo, ¾-ton, M101	38	1.0
33	TRAILER, cargo 1½-ton, M104	516	12.4
34	TRAILER, ammunition, 2-ton, M10	18	1.1
35	TRAILER, 762-mm rocket, M329	data included w/ line 15	
36	TRUCK, utility, ¼-ton, M38	1,950	88.1
37	TRUCK, cargo, ¾-ton, M37	612	25.0
38	TRUCK, cargo, 2½-ton, M34	2,805	117.0
39	TRUCK, dump, 2½-ton, M59	202	9.2
40	TRUCK, tank, gasoline, 2½-ton, M49	57	3.0
41	TRUCK TRACTOR, 2½-ton, M48	70	2.6
42	TRUCK, cargo, 5-ton, M54	631	31.6
43	TRUCK, dump, 5-ton, M51	217	10.9
44	TRUCK, TRACTOR, 5-ton, M52	694	28.3
45	TRUCK, wrecker, 5-ton, M62	314	13.8
46	TRUCK TRACTOR, 10-ton, M123	70	2.4
47	TRUCK TRACTOR, 12-ton, M26A1	19	0.7
48	TRUCK, gun lifting, heavy, M249 (front) and M250 (rear)	(b)	(b)
49	TOTAL WEIGHT AND VOLUME FOR 1,000 THEATER TROOPS	13,348 (6.67 tons)	480.1

(a) Repair part logistical planning for end items not listed may be estimated by using the data shown for SIMILAR MODELS.
(b) Repair and part data for the 280-mm gun system were not available. Limited data were available for prime movers, but is not sufficient to be included in this table.

25. Theater Ammunition Weight and Estimated Consumption Data

a. Class V supply support is a very important commodity—insufficient support in wartime could be the difference between failure or success in combat. Inexperienced logistical planners have a tendency to underestimate the consumption rate and to overestimate the resupply capabilities for ammunition units in the field.

b. Combat armies expend huge tonnages and reflect a fast turnover on ammunition items. Further, most of these tonnages must be transported to the forward combat zone before the ammunition is consumed. Logistical studies have shown that at least 90 percent of all class V tonnages will be issued from the forward corps ammunition supply points.

c. Variations in the intensities of combat (INTENSE, NORMAL, or REDUCED) plague the logistical planner. The staff officer must provide adequate ammunition troops (both United States and non-United States personnel) to physically handle and move these supplies to the

forward combat zones. A detailed review of the combat histories for United States armies in Europe and Korea showed that *overall consumption for ammunition for long periods of combat were approximately NORMAL COMBAT EXPENDITURE RATES* (par. 40 and table XXIII). *However, for short periods of time (60 days or less) expenditure rates exceeded INTENSE COMBAT requirements for ammunition items.* The class V supply support provided must sufficiently flexible to allow for the fluctuations in the combat intensities.

d. Logistical data for nuclear weapons, missiles, and heavy rockets *have not been included* in this table. Class V support required for these class V items must be computed separately based upon the guidelines furnished the staff officer for specific combat forces.

e. Illustrative problems (Table VIII).

(1) *Question No. 1*: What is the estimated quantity (short tons) of class V supplies which will be consumed in 10 days for a theater force totaling 300,000 troops? *Expenditure rates for NORMAL COMBAT prevail.*

(2) *Solution No. 1*: (TOTALS: below line 18, col. 2, and assumptions)

$$\text{? tons ammo} = 300{,}000 \text{ theater troops} \times \frac{9.99 \text{ tons ammo}}{1{,}000 \text{ theater troops}} \times \frac{100\% \text{ (NORMAL COMBAT RATE*)}}{150\% \text{ (INTENSE COMBAT RATE*)}} \times \frac{10 \text{ days}}{1 \text{ day}} = 19{,}980 \text{ short tons of ammo}$$

(consumed in 10 days time @ *NORMAL COMBAT RATE*) (ANSWER).

(3) *Question No. 2:* What is the total estimated tonnage consumed in the corps service areas for the answer to question number 1 above?

(4) *Solution No. 2:* (consumption data: below line (18) ? ammo tons consumed in corps = 53% × 19,980 ammo tons = *10,589.4 tons* (ANSWER)

**Table VIII has been computed for INTENSE COMBAT RATES.* NORMAL COMBAT AND REDUCED COMBAT RATES are ⅔ and ⅓ of INTENSE respectively.

Table VIII. Theater Ammunition Weight and Estimated Consumption Data

	Category	Pounds of ammunition per 1,000 troops/day(*)	Percent of total theater consumption
	(1)	(2)	(3)
	SMALL ARMS AND LIGHT MORTARS	937	4.7
1	CALIBER .30[b]	293	1.5
2	CALIBER .45	16	0.1
3	CALIBER .50	229	1.1
4	MORTAR, 81-mm	399	2.0
	ARTILLERY AND HEAVY MORTARS	18,232	91.3
5	MORTAR, 4.2-inch	494	2.5
6	RIFLE, recoilless, 106-mm	168	0.1
7	LAUNCHER, rocket, 3.5-inch	533	2.7
8	GUN, tank, 76-mm	224	1.1
9	GUN, tank, 90-mm[c]	2,019	10.1
10	GUN, ADA, 40-mm	496	2.5
11	GUN, ADA, 75-mm[d]	506	2.5
12	GUN, ADA, 90-mm[d]	382	1.9
13	HOWITZER, 105-mm	2,856	14.5
14	HOWITZER, 155-mm	5,290	26.8
15	HOWITZER, 8-inch	4,879	24.7
16	GUN, 155-mm	346	1.7
17	GUN, 280-mm	37	0.2

See footnotes at end of table.

Table VIII. Theater Ammunition Weight and Estimated Consumption Data—Continued

	Category	Pounds of ammunition per 1,000 troops/day(a)	Percent of total theater consumption
	(1)	(2)	(3)
	BULK EXPLOSIVES	806	4.0
18	GRENADES, MINES, PYROTECHNICS, and other bulk explosives.	806	4.0
	TOTALS	19,975 (9.99 tons)	100%

CONSUMPTION DATA

Sector	Division(e)	Corps(e)	Army	TAZ	Theater total(f)
PERCENT OF THEATER CONSUMPTION	38	53	5	4	100%

(a) Data in column 2 is based upon INTENSE COMBAT RATE (SB 38–26).
(b) Of the 293 pounds of caliber .30 ammunition, 35 pounds will be CARBINE and 137 pounds will be MACHINE GUN.
(c) Includes guns, 90-mm, self-propelled.
(d) Lines 11 and 12 may eventually be replaced with surface-to-air missiles.
(e) It is important to note that at least ninety (90) percent of all ammunition consumed will flow through CORPS AMMUNITION SUPPLY POINTS. Further reduction of conventional Air Defense Artillery (ADA) in the Theater administrative zone will increase this percentage from 90 to 95 percent.
(f) Theater totals do not include heavy rockets, missiles, or nuclear weapons tonnages.

26. Theater Ammunition Lift Requirements

a. Many logistical planners fail to realize that *the same ammunition container must be physically lifted several times in the theater before the ammunition is consumed.* Table IX shows that in an active theater of operations ammunition containers will be lifted on an average 9 to 15 times. This assumes the ammunition consumed flows through the following installations:

(1) Base section depots.
(2) Advance section depots.
(3) Army service area depots
(4) Corps service area supply points.
(5) Consumers (ammunition is consumed in all battlefield sectors; however, over 90 percent of all tonnages will be issued from the corps service area supply points).

b. Bypassing some of the ammunition installations (*a* above) will tend to reduce the total theater lifts required. Therefore, troop planners must know the expected flow of ammunition for specific military operations in order to better estimate the total lifts for the theater.

c. The logistical data in this table will assist the staff officer in determining the number of Ordnance Ammunition Companies, TOE 9–17D, required in class V supply support for a theater of operations. The total lift capacity for this company is 1,200 short tons per day. The word *LIFT* as used in this table is defined as: "The act of physically moving ammunition containers in receiving, segregating, storing, issuing, and shipping operations". (The lift requirements in table IX do not provide for forward displacement of stocks, unit displacement, receipt of returns from users, or processing captured enemy ammunition.)

d. The following simplified formula may be used to estimate the number of ammunition companies, TOE 9–17D, required in a theater of operations:

$Z = (L)\frac{(a)}{(k)}$; where Z = the number of companies required;

(L) = *a variable;* total lifts required for ammunition containers;

(a) = *a variable;* THEATER CLASS V CONSUMPTION (short tons) per DAY; and (k) = *a constant,* 1,200 short tons per DAY (total lift capability for 1 company, TOE 9–17D).

e. Illustrative problems (Tables VIII and IX)

(1) *Question No. 1:* How many ammuni-

tion companies are required in a theater of operations where *the following assumptions are given:* 300,000 theater troops; ammunition is consumed at NORMAL COMBAT RATES; and ammunition is moved forward from beach stacks to consumer via *TRUCKS ONLY?*

(2) *Solution No. 1:*

FORMULA USED: $Z = (L)\frac{(a)}{(k)}$

TO DETERMINE: Value of Z

(*a*) *Part I:* (table VIII: TOTALS; below line 18, col. 2)

First, must solve for value of (a). (*This is similar to solution for problem number 1 in par. 25e*).

? tons ammo = 300,000 theater troops $\times \frac{9.99 \text{ tons ammo}}{1{,}000 \text{ theater troops}} \times \frac{1}{1 \text{ day}} \times \frac{100\%*}{150\%}$ = *1.998* short tons ammo/day

(*b*) *Part II:* (table IX: line 10, col. 10; and stated assumptions)

Next, solve for value of Z. (L) equals *9* (line 10, column 10 in table IX); (k) is a constant which equals *1,200* short tons per day (total lift for 1 company, TOE 9–17D); and (a) has been computed in part I above and equals *1,998* short tons per day.

$Z = (L)\frac{(a)}{(k)} = (9)\frac{(1{,}998)}{(1{,}200)} = 14.985$ or *15* ea ammunition companies, TOE 9–17D, for entire theater. (ANSWER).

(3) *Question No. 2:* What is the estimated disposition within theater for these 15 companies computed in problem number 1 above?

*(NORMAL combat = ⅔ × INTENSE combat)

(4) *Solution No. 2:* (Problem No. 1 and Table IX: lines 2, 4, 6, and 8; col. 10)

(*a*) *Part I:* Ammo companies required in Base Section (TAZ) $Z = (L)\frac{(a)}{(k)} = (3)\frac{(1{,}998)}{(1{,}200)} = 4.995$ ammo companies (ANSWER)

(*b*) *Part II:* Ammo companies required in advance Section (TAZ) $Z = (L)\frac{(a)}{(k)} = (2)\frac{(1{,}998)}{(1{,}200)} = 3.330$ ammo companies (ANSWER)

(*c*) *Part III:* Ammo companies required in army service area (Combat Zone) $Z = (L)\frac{(a)}{(k)} = (2)\frac{(1{,}998)}{(1{,}200)} = 3.330$ ammo companies (ANSWER)

(*d*) *Part IV:* Ammo companies required in corps service areas $Z = (L)\frac{(a)}{(k)} = (2)\frac{(1{,}998)}{(1{,}200)} = 3.330$ ammo companies (ANSWER)

(*e*) *Part V:* (The total companies required in the theater are equal to the sum of the unit requirements in parts I to IV inclusive and *should be equal to the 14.985 companies per answer to problem number 1 above.*)

Check:

	Ammo companies required
Part I	4.995
Part II	3.330
Part III	3.330
Part IV	3.330
Theater Total:	14.985

Table IX. Theater Ammunition Lift Requirements [a]

	Type movement and installation	Required lift by category							Total lifts	
		Beach stack to truck	Truck to rail car	Rail car to truck	Truck to segregation area	Segregation area to truck	Trucks to storage area stacks	Storage area stacks to trucks	Via rail & cruck	Via truck only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	THEATER ADMINISTRATIVE ZONE DEPOTS									
	Base Section									
1	Trucks & rail combined	[d]	1[d]	1	1/2[b]	1/2[b]	1	1	5	
2	Trucks only	[d]			1/2[b]	1/2[b]	1	1		3
	Advance Section									
3	Trucks & rail combined		1	1			1	1	4	
4	Trucks only						1	1		2
	ARMY SERVICE AREA DEPOTS									
5	Trucks & rail combined			1			1	1	3	
6	Trucks only						1	1		2
	CORPS SERVICE AREA SUPPLY POINTS									
7	Trucks & rail combined			1			1	1[c]	3	
8	Trucks only						1	1[c]		2
	GRAND TOTALS FOR THEATER LIFTS									
9	Trucks & rail combined								15	
10	Trucks only									9

([a]) Additional lifts would be required for ammunition renovation.
([b]) It is assumed that 50% of all ammunition supplies arriving in the theater will need segregation by LOT NUMBER.
([c]) Users are assumed not to provide personnel in loading operations at the supply points.
([d]) Additional lifts may be required in moving ammunition from beach to base storage depots.

27. Logistical and Reference Data for Ordnance TOE Units

a. The information contained in this logistical table has been extracted from ordnance TOE and should provide the staff officer with important reference data. If further details are required in planning, the individual must carefully review the TOE listed in the table.

b. New TOE and revisions to already published TOE will change these data. This table will be revised frequently to reflect the current planning data which are contained in the ordnance TOE.

Table X. Logistical and Reference Data for Ordnance TOE Units [a]

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			COMMAND UNITS (CLASS II & IV)					
1	9–12D	Jul 58	Hq & Hq Det, Maint & Sup Gp	58	Commands, provides tactical, technical, and administrative supervision for ordnance troops.	Commands, controls, provides staff planning and supervision for 3 to 5 ordnance battalions.	4 per field army; 1 per corps and 1 in army service area. 1 per 3 to 5 battalions in TAZ.	65%
2	9–76D	Mar 59	Hq & Hq Det Bn	37	Commands, provides, administrative, technical, and operational supervision for ordnance maintenance or supply companies.	Performs operations as outlined in mission.	1 per 3 to 7 companies	65%
3	9–316D	Sep 57	Hq & Hq Co Armt or Autmv Rbld Bn	153	Commands, provides administration for either armament rebuild or automotive rebuild battalion.	Commands, provides administration for either armament rebuild or automotive rebuild battalion.	1 per armament rebuild or automotive rebuild battalion.	Fixed
			COMMAND UNITS (CLASS V)					
4	9–22D	Jul 58	Hq & Hq Co Ammo Gp	93	Commands, provides tactical and technical direction and supervision of administration for attached ordnance ammunition units in combat zone or TAZ.	Commands and directs operations of 3 to 5 ordnance ammunition battalions. Provides technically qualified personnel to execute plans, policies and directives of the command in ammunition matters. Provides theater ammunition stock control functions where augmented by Detachment EA, TOE 9–510R when assigned to TAZ. Will operate on a 24-hour basis.	1 per 3 to 5 ordnance battalions in either army or TAZ.	65%
5	9–86D	Jul 58	Hq & Hq Det Bn	72	Commands, provides administrative, technical and operational supervision for attached ordnance ammunition and special weapons and missiles support units providing ammunition service to an army in the field.	Commands from 2 to 5 ordnance special weapons and missile support units, in corps, field army, or TAZ. Operates on a 24-hour basis.	1 per 2 to 5 ordnance ammunition or special weapons and missile companies. 3 per TAZ.	65%

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units [a]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					COMPANIES NONDIVISIONAL (CLASS II & IV)			
6	9-7D	Aug 58	Dir Spt	181	Provides mobile direct support supply and maintenance to nondivisional units in the combat zone and reinforce divisional ordnance service when required.	Supports 240 artillery, 8,400 small arms, 783 wheeled vehicles, 945 tracked vehicles and 3,150 instrument equivalents. Maintains and supplies general supplies (except vehicles, artillery and ammunition) for supported units.	18 per field army	75%
7	9-9D	Mar 59	Gen Spt	201	Provides general support field maintenance of full tracked combat vehicles and artillery, small arms, and instruments. Provides limited reconditioning support on a nonassembly line basis for unserviceable reclaimable tracked vehicle assemblies and subassemblies for return to serviceable supply channels.	Supports 2,646 tracked vehicle equivalents, 672 artillery, 23,520 small arms and 9,450 instrument equivalents. Capable of limited reconditioning 100 tracked vehicle assemblies and related subassemblies and 30 artillery assemblies in any 30-day period.	5 per corps force. Consisting of 4 per army service area and 1 per TAZ.	55%
8	9-57R	Apr 55	Fld Sup	160	Receives, stores, and issues ordance class II & IV general supplies except wheeled and tracked vehicles and towed or self-propelled artillery.	Supports 25,000 troops of a field army with class II & IV supplies.	12 per type field army in active theater.	50%
9	9-127D	Aug 58	Dir Autmv Spt	123	Provides mobile automotive and small arms direct support to nondivisional units in the combat zone and reinforce division ordnance when required. Provides limited motor vehicle assembly support if required.	Supports 1,269 automotive and 8,400 small arms equivalents. Provides technical assistance to supported units and where augmented by required lift equipment the unit is capable of vehicle assembly for a limited period.	24 per field army	75%
10	9-137D	Jan 58	Park	165	Receives, stores, prepares and issues wheeled and tracked vehicles and towed and self-propelled artillery. Combat	Parks 1,800 vehicles of which 40% may be combat vehicles, proportionate trailers, and 135 artillery pieces (towed and self-propelled). Issues 1,800	1 per field army and 1 per TAZ.	70%

					load all vehicles when operating in army area.	vehicles and 135 artillery pieces in a 30-day period.		
11	9–167D[b]		Recov & Class	175	Establishes and operates collecting points within army service area or TAZ for receipt and disposition of ordnance materiel and similar captured enemy equipment.	Provides augmentation support for evacuation facilities of transportation corps. Additional recovery and evacuation facilities will be provided by team BE, TOE 9–500 as required.	Normally 4 per type field army and 3 per TAZ. Or 2⅓ companies per corps force.	100%
12	9–167R	Mar 55	Recv & Clas	243	Establishes and operates collecting points for receipt and classification of unserviceable ordnance general supplies and similar captured enemy materiel, and ships to maintenance facilities as required. Augments battlefield recovery and evacuation facilities of tactical units and direct support ordnance units.	Provides support outlined in mission for approximately 1 corps or equivalent army troops.	1 per corps or equivalent army troops.	100%
13	9–197D	Mar 59	Gen Autmv Spt	185	Provides field maintenance for wheeled vehicles and trailers, and limited non-assembly line reconditioning on unserviceable wheeled vehicle engines, power trains and automotive fuel and electric subassemblies, for return to supply channels.	Supports 2,808 vehicle equivalents. Reconditions 125 to 150 miscellaneous wheeled vehicle engines, 625 wheeled vehicle power trains and 1,800 fuel and electric system subassemblies in a 30-day period.	9 per corps force, and employed in the army service area and TAZ according to vehicle density to be supported. (Corps force vehicle density is computed at 38,130 equivalents for purpose of this allocation.)	50%
14	9–227D	Mar 59	GM Gen Spt	160	Provides general support maintenance for non-explosive components of NIKE and CORPORAL missiles and all ordnance materiel of ground guidance, launching and handling equipment except automotive, conventional mechanical equipment and integrated fire control systems.	Provides general support maintenance for 5 to 6 NIKE Direct Support Detachments FA, TOE 9–510R. In absence of direct support detachments the unit can provide direct support to local guided missile firing units.	1 per field army, 1 to TAZ or ⅔ of a company per corps force.	50%
15	9–317D	Sep 57	Cmbt Veh Rbld	220	Provides depot maintenance for tanks, other tracked vehicles, and heavy automotive vehicles not in mission of Automotive Rebuild Battalion, TOE 9–316D.	Rebuilds an average of 8 medium gun tanks or equivalent tracked vehicles per day.	1 per ordnance armament rebuild battalion.	Fixed

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units [a]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			COMPANIES NONDIVISIONAL (CLASS II & IV)—Continued					
16	9–318D	Sep 57	Armt & Fire Con Rbld	232	Provides depot maintenance for armament and fire control equipment.	Rebuilds an average of 10 light artillery pieces or equivalent, 250 rifles or equivalent and 80 binoculars or equivalent per day.	Organic to ordnance armament rebuild battalion.	Fixed
17	9–319D	Sep 57	Eng & Power Tn Rbld	244	Provides depot maintenance for engines and related accessories and on other assemblies and subassemblies of combat and heavy automotive vehicles.	Rebuilds an average of 8 combat vehicle engines and related accessories and 8 combat vehicle power train units and related subassemblies daily.	1 per ordnance armament rebuild battalion.	Fixed
18	9–327D	Feb 58	Eng Rbld	214	Provides overhaul and repair for engine assemblies and related accessories.	Rebuilds an average of 50 engines by assembly line methods and 5 to 8 when other than assembly line methods are used; 1,000 subassemblies to include generators, starters, regulators, distributors, carburetors, fuel pumps, governors, etc. daily.	1 per automotive rebuild battalion.	Fixed
19	9–328D	Feb 58	Power Tn Rbld	160	Provides overhaul and repair for power train assemblies and related accessories.	Rebuilds an average of 800 power train units, transmissions, transfer cases, pillow blocks, winches, propeller shafts, steering gears, shock absorbers, and hydrovacs; rebuilds 200 units in the axle category to include: springs, brake drums, wheel and master cylinders and brake shoes daily.	1 per automotive rebuild battalion.	Fixed
20	9–347D [b]		Tire Rep [c]	149	Receives, inspects, classifies and repairs pneumatic tires ranging in sizes from 5.50 x 15 to 11.00 x 22 and all size tubes for return to supply channels. (Normally tire repairs will be restricted to high density tires,	Repairs an average of 300 sectional and spot repairs on tires and 600 tube repairs daily (2 shift operation). The unit is selfsufficient as a company. Platoons have organic equipment to operate independently.	1 per army area and 1 per TAZ. Or 1 per 275,000 troops.	100%

					7.00 x 16, 9.00 x 16, 9.00 x 20 and 11.00 x 20.)			
21	9–347R	Apr 55	Tire Rbld	177	Receives, inspects, classifies and repairs or rebuilds all types and sizes of unserviceable pneumatic tires and tubes (except earthmover type) for return to depot stock.	Repairs an average of 260 tires and makes 304 sectional repairs daily.	1 per 50,000 wheeled vehicles in TAZ or assigned on the basis of 2 per TAZ in support of a type field army.	Fixed
22	9–348D	Oct 57	Mtr Veh Assy	167	Assembles, prepares for issue ordnance general purpose vehicles.	Assembles 28 twin unit pack vehicles and 85 single unit pack vehicles per day, (generally the larger vehicles are shipped in twin unit packs; therefore, more assembly operations are required per vehicle than for single unit packs).	1 company per 35,000 general or special purpose vehicles.	10%
23	9–357D	Jan 58	Fld Maint	228	Provides field maintenance support for wheeled vehicles and small arms of service troops and transients in TAZ.	Supports 2,500 general purpose vehicle and 12,000 small arms equivalents. Has daily maintenance capability of 30 vehicle equivalents. May support air defense artillery or tracked vehicles when augmented by TOE 9–500 teams or TOE 9–510 detachments.	1 per 12,000 troops or 2,500 general purpose vehicle equivalents in TAZ.	30%
24	9–358R	Apr 55	Coll Pt	118	Establishes and operates collecting points, for receipt of ordnance materiel from TAZ maintenance channels and from army collecting points. Classifies, preserves, disassembles, and disposes of the materiel as directed.	Supports 22,000 vehicle and artillery equivalents and can operate two collecting sites for a limited period of time.	1 per newly established TAZ or 1 per 22,000 vehicle or artillery equivalents.	30%
25	9–367R	Apr 55	Sup Dep	253	Establishes and operates class II and IV supply depots for distribution to the combat zone and TAZ. Vehicles and artillery are stored and issued by ordnance park companies.	Receives, stores, issues and ships 170 short tons of ordnance class II and IV supplies per day. If augmented by sufficient personnel, capabilities may be increased to a maximum of about 50%.	1 company per 170 short tons class II and IV supplies consumed per day.	15%

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units [a]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			COMPANIES NONDIVISIONAL (CLASS V)					
26	9-17D	Jul 58	Ammo	263	Establishes and operates depots or ammunition supply points for receipt, storage and issue of conventional ammunition and certain high density missiles such as DART. Establishes depots in TAZ and supply points in the army area.	Total lift capacity of approximately 1,200 short tons of ammunition per day, this may be increased by additional handling personnel. Operates at 2 separate locations when required. Renovates and reconditions conventional ammunition. Handles missiles when additional skilled personnel are provided.	3 per corps, 3 per army service area and 12 per TAZ.	65%
27	9-47D	Jul 58	SW & Msl Dir Spt	246	Provides direct supply support to firing units for guided missiles and heavy rockets, atomic artillery shells, atomic demolition munitions including spare parts for nuclear weapons test equipment.	Provides calibration, technical assistance and supply of 300 line items of repair parts for test equipment. Provides exclusion area security and limited area security. Operates at 3 locations. (Storage and issue platoon capabilities are classified.)	1 per each corps, 1 per army service area and 1 per TAZ.	100%
28	9-87D	Jul 58	SW & Msl Gen Spt	184	Provides general supply support for guided missiles, heavy rockets and atomic artillery shells, atomic demolition munitions and related items. Evacuates unserviceable mission items. (Classified portion of mission is published separately.)	Receives, stores, and issues approximately 3,000 line items of nuclear weapons materiel (assembly and storage operations classified). Provides secondary transfer calibration and exclusion area security. Operates on 24-hour basis.	1 per field army, may be attached to Hq & Hq Detachment, Ordnance Ammunition Battalion, TOE 9-86D.	100%
29	9-377D	Jul 58	SW & Msl Dep Spt	293	Provides depot supply support for guided missiles and heavy rockets, atomic demolition munitions and related items. Provides depot level assembly, repair, maintenance and modification of nuclear weapons and nuclear weapons materiel.	Provides depot maintenance for test equipment. Provides secondary transfer calibration and facilities for receipt, storage, and issue of approximately 6,000 line items of nuclear weapons materiel. (Assembly, surveillance and main-	1 per TAZ in support of a field army or 1 corps force in a theater of operations.	50%

						tenance capabilities are classified.)		
					ADMINISTRATIVE TEAMS			
30	9-500R	Apr 55	Plat Hq (Comp) AA	2	(d)	Commands and provides administrative control for 2 or more teams which operate as a component of a larger organization.	1 per 2 or more teams of not less than 40 individuals, which operate as a component of a larger administrative unit with no officer organically assigned.	(*)
31	9-500R	Apr 55	Plat Hq (Sep) AB	4	(d)	Commands and provides administrative control for 2 or more teams which operate separately.	1 per 2 or more teams of not less than 40 individuals which operate separately to which no officer is organically assigned.	(*)
32	9-500R	Apr 55	Co Hq AC	9	(d)	Commands and provides administrative control for 2 or more platoons.	1 per or more platoons with not less than 100 individuals assigned.	(*)
					SUPPLY TEAMS			
33	9-500R	Apr 55	Gen Sup (Basic) BA	16	(d)	Receives, stores and issues or ships 10 short tons of class II and IV supplies per day. (Except vehicles and artillery).	1 per 10 short tons to be handled in direct support role where required.	(*)
34	9-500R	Apr 55	Gen Sup (Aug) BB	14	(d)	Same as Team BA. Teams BA and BB are generally included in platoon with maintenance teams, and normally not assembled as platoon to operate separately.	Used to augment Team BA to increase capability by 100%.	(*)
35	9-500R	Apr 55	Ammo Sup (Basic) BC	29	(d)	One lift of 150 short tons per day. Can receive 90 and issue 60 short tons per day.	1 per 150 short tons of ammunition to be handled per day.	(*)
36	9-500R	Apr 55	Ammo Sup (Aug) BD	15	(d)	One lift of 75 short tons per day	Used only to augment Team BC to increase capability by 50%.	(*)
37	9-500R	Apr 55	Recov BE	22	(d)	Recovers and evacuates disabled tracked and wheeled vehicles to collecting points or maintenance facilities.	1 per 15,000 troops	(*)

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units [a]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			VEHICLE MAINTENANCE TEAMS					
38	9-500R	Apr 55	Wh Veh Rep (Basic) **CA**	15	[d]	Provides field maintenance (third echelon) for 160 wheeled vehicle equivalents.	1 per 160 wheeled vehicle equivalents to be maintained.	[e]
39	9-500R	Apr 55	Wh Veh Rep (Aug) **CB**	5	[d]	Provides field maintenance (third echelon) for 160 wheeled vehicle equivalents.	Used only to augment Team CA.	[e]
40	9-500R	Apr 55	Tracked Veh Rep (Basic) **CC**	21	[d]	Provides field maintenance (third echelon) for 270 tracked vehicle equivalents.	1 per 270 tracked vehicle equivalents to be maintained.	[e]
41	9-500R	Apr 55	Tire Rep **CD**	17	[d]	Provides single sectional, spot repair and tube repair on high density tires and tubes. Approximately 56 sectional, 30 spot and 200 tube repairs per day.	1 per 50,000 troops or approximately 5,000 to 6,000 wheeled vehicles.	[e]
			ARMAMENT MAINTENANCE TEAMS					
42	9-500R	Apr 55	Arty Rep (Basic) **DA**	12	[d]	Supports 3 battalions of air defense or field artillery. Electrical remote control systems of air defense artillery must in addition be supported by Team DB, TOE 9-500R.	1 per 3 air defense or field artillery battalions, not otherwise supported for artillery weapons.	[e]
43	9-500R	Apr 55	Fire Con Rep **DB**	9	[d]	Maintains electrical fire control equipment for 3 air defense battalions. MOS codes will require changes when supporting heavy or light air defense artillery.	1 per 3 air defense artillery battalions not otherwise supported for fire control equipment.	[e]
44	9-500R	Apr 55	SA Rep **DC**	4	[d]	Provides field maintenance for 6,720 small arms equivalents.	1 per 6,720 small arms equivalents.	[e]
45	9-500R (6)		NIKE Gen Spt	44	Provides general support maintenance in theater of operations for all nonexplosive components of NIKE missile and all ground guidance, launching	Provides general support for 2 to 3 NIKE Direct Support Detachments FA, TOE 9-510R.	1 per 2 or 3 NIKE Direct Support Detachments FA, TOE 9-510R.	50%

					and handling equipment, except automotive.			
46	9-500R (6)		CORPORAL Gen Spt	44	Provides general support maintenance for nonexplosive components of CORPORAL missile and all ground guidance, launching and handling equipment, except automotive.	Provides general support maintenance for 1 to 2 CORPORAL Direct Support Detachments FB, TOE 9-510R.	1 per 1 to 2 CORPORAL Direct Support Detachments FB, TOE 9-510R.	50%
47	9-500R (6)		SW Gen Spt	45	Provides general support maintenance for nuclear materiel in the field army or TAZ.	Capabilities are classified SECRET and are published separately.	Used as required based upon nuclear weapons density or to augment capability of units having nuclear weapons support role.	50%
			EXPLOSIVE DISPOSAL AND SPECIAL WEAPON CALIBRATION DETACHMENTS					
48	C-5 9-510R	Apr 57	Explosive Disposal AA	10	(c)	Detects, identifies, recovers, renders safe, field evaluates and disposes of unexploded U. S. and foreign explosive items which have been launched, dropped or placed in such a manner as to be hazardous.	8 per type field army, 2 per independent corps and 8 per TAZ, or 1 per 50,000 troops.	(c)
49	C-5 9-510R	Apr 57	Explosive Disposal (Aug) AB	14	(d)	Augments Detachment AA by providing personnel and heavy equipment to perform extensive or unusual operations. Designed to operate with Detachment AA or AC, not to operate alone.	1 per 8 Detachments AA or as otherwise required.	(c)
50	C-5 9-510R	Apr 57	Explosive Disposal Con AC	8	(e)	Provides technically qualified personnel to an explosive disposal control center. Receives explosive incident reports, schedules disposal operations, controls Detachments AA and AB, assists in disposal reconnaissance appraisal and submits intelligence information to appropriate agencies.	1 per army, TAZ section or per 8 Detachments AA or AB.	(c)

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units (*)—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EXPLOSIVE DISPOSAL AND SPECIAL WEAPON CALIBRATION DETACHMENTS—Continued								
51	C–4 9–510R	Jul 58	SW Calbr Secd Ref GA	3	(4)	Provides secondary reference calibration standards at a single, fixed location to all nuclear weapons secondary transfer calibration standards units in a field army.	1 per TAZ in support of field army or 1 per separate theater of operations less than 1 field army. Additional detachments may be desirable in the interest of dispersal and security.	(*)
BALLISTIC, TECHNICAL SERVICE AND INTELLIGENCE DETACHMENTS								
52	9–510R	Apr 55	Ball & Tech Svc BA	7	(4)	Measures muzzle velocity, calibrates and insures maximum field effectiveness of artillery weapons. Renders technical advice on accuracy life of gun and howitzer tubes and recommends replacements when needed. Also renders technical advice on ammunition lots to determine their ballistic correctness.	Combat zone or TAZ at direction of theater commander, or 1 detachment per 180,000 troops.	(*)
53	9–510R	Apr 55	Tech Intel BB	6	(4)	Locates, collects, examines and reports on foreign ordnance materiel to proper agencies for evaluation. Furnishes technical information to immediate commander and to higher headquarters.	1 per corps and 1 per army, attached to commands as required to accomplish their mission.	(4)
54	9–510R	Apr 55	Tech Intel Con BC	11	(4)	Operates a control center for receipt, evaluation and dissemination of technical intelligence derived from reports submitted by Detachments BB. Maintains liaison with other services and with G–2.	1 per army or 1 per 6 to 8 Detachments BB as required.	(4)

ARMAMENT MAINTENANCE DETACHMENTS

55	9–510R	Apr 55	Hv AAA Rep **CA**	9	(d)	Provides field maintenance for heavy air defense artillery weapons (75-mm, 90-mm, 120-mm) and mounts only. Fire control equipment is repaired by other ordnance teams and detachments.	1 per 3 heavy air defense artillery battalions not otherwise supported for artillery weapons.	(*)
56	9–510R	Apr 55	Hv AAA Rep (Aug) **CB**	2	(d)	Augments Detachment CA for 1 additional heavy air defense artillery battalion.	Augments Detachment CA at the rate of 1 per each additional air defense artillery battalion supported.	(*)
57	9–510R	Apr 55	IFC Rep M33 (T33) **CC**	13	(d)	Provides field maintenance on integrated fire control system M33 used with air defense artillery.	1 per 12 sets of integrated fire control systems M33.	(*)
58	9–510R	Apr 55	IFC Rep M38 (T38) **CD**	11	(d)	Provides field maintenance on integrated fire control system M38 used with air defense artillery.	1 per 18 sets of integrated fire control systems M38.	(*)
59	9–510R	Apr 55	IFC Rep M33 (T33) (Aug) **CE**	4	(d)	Augments Detachment CC to provide maintenance for 4 additional sets integrated fire control systems M33.	Augments Detachment CC at the rate of 1 per 4 additional integrated fire control systems M33 supported.	(*)
60	9–510R	Apr 55	Hv Arty Mat Rep **CF**	9	(d)	Provides specialized field maintenance on 280-mm gun and associated transport equipment. Provides skills and equipment not organic to existing maintenance units. Maintenance not requiring special skills will be performed by appropriate maintenance units.	1 per 280-mm gun battalion. Attached to ordnance maintenance units as required.	(*)

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units[a]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			AMMUNITION DETACHMENTS					
61	9–510R	Apr 55	Ammo Renv DA	65	([d])	Inspects and renovates all types of ammunition issued by the Ordnance Corps. Equipment and personnel determine scope of renovation. TM 9–1905 gives further information on operations performed by this detachment.	1 per 6 ammunition companies in TAZ. May be assigned to theater of operations as required.	([e])
62	9–510R	Apr 55	762-mm Rkt Spt DB	16	([d])	Provides inspection, field maintenance and technical assistance service for complete 762-mm rocket. Receives, stores, inspects, maintains, and issues 18 rockets per day.	1 per main army class V depot handling 762-mm rockets.	([e])
63	9–510R	Apr 55	762-mm Rkt Spt DC	5	([d])	Provides personnel and equipment to ammunition company to handle, inspect and issue 762-mm rocket components.	1 per ammunition supply point handling 762-mm rockets.	([e])
64	C–1 9–510R	Feb 56	762-mm Rkt SW Spt DD	21	([d])	Provides direct support on nuclear components for 762-mm rocket units. Depot support for nuclear components must be provided in the theater in order for this detachment to accomplish its mission.	1 per field artillery battalion, 762-mm rocket, self-propelled. Normally attached to the ordnance direct support unit servicing the battalion.	([e])
65	C–1 9–510R	Feb 56	762-mm Rkt SW Spt (Aug) DD	2	([f])	([f])	([f])	([e])
66	C–1 9–510R	Feb 56	SW Hv & Very Hv Arty Spt DE	13	([d])	Provides direct support on nuclear components for 280-mm gun and 8-inch howitzer units. Depot support for nuclear components must be provided in the theater in order for this detachment to accomplish its mission.	1 per field artillery battalion 280-mm gun and 1 per 8-inch howitzer (towed) or (SP) battalions. Normally attached to the ordnance direct support unit servicing the battalion.	([e])

67	C-2 9-510R	Feb 57	GM & Hv Rkt Spt Cl V DF	34	(4)	Provides personnel and equipment to class V depots to support tactical units of a separate corps, 3 ammunition supply points or 1 army class V depot. Provides maintenance, technical assistance, inspection and surveillance of missiles, rockets, propellants and warheads.	1 or more per class V depot handling guided missiles and heavy rockets.	(5)
68	C-2 9-510R	Feb 57	GM & Hv Rkt Spt Cl V (Aug) DG	18	(4)	Provides personnel and equipment to an ammunition supply point for receiving, storing, and issuing guided missiles and heavy rockets, in support of 1 CORPORAL, 2 NIKE, and 2 762-mm rocket batteries.	1 per ammunition supply point handling guided missiles and heavy rockets.	(5)
			GUIDED MISSILE MAINTENANCE DETACHMENTS					
69	C-2 9-510R	Feb 57	NIKE Dir Spt FA	46	(4)	Provides direct support maintenance and supply service (class II and IV) for missiles, missile components, ground guidance, test and handling equipment, except automotive. Provides direct support maintenance on 4 missiles per day. Provides teams for work in battalion or battery areas.	1 per air defense artillery battalion, NIKE.	100%
70	C-2 9-510R	Feb 57	CORPORAL Dir Spt FB	24	(4)	Provides limited direct support maintenance and supply service (class II and IV) for missiles, missile components, ground guidance, test and handling equipment, except automotive. Provides mobile repair teams for work in battalion or battery areas.	1 per field artillery battalion, CORPORAL.	100%
71	9-510R(6)		HAWK Dir Spt	40	Provides field maintenance and supply service (class II and IV) to air defense artillery battalions, HAWK (mobile or semimobile). On site support is furnished to maximum extent by contact teams.	Provides direct support for missiles, missile components, ground guidance, control, test, handling and launching equipment, except automotive.	1 per air defense artillery battalion, HAWK (mobile or semimobile).	100%

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units (*)—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GUIDED MISSILE MAINTENANCE DETACHMENTS—Continued								
72	9–510R	Mar 59	LACROSSE Dir Spt	35	Provides field maintenance and supply service (class II and IV) to field artillery battalions, LACROSSE. Maintenance is performed to the maximum extent possible at the firing battalion.	Provides direct support for missiles, missile components, ground guidance, control, test, handling and launching equipment, except automotive and explosive components.	1 per field artillery battalion, LACROSSE.	100%
73	9–510R(b)		NIKE Univ Dir Spt	46	Provides direct support maintenance for all nonexplosive components of the NIKE-AJAX/HERCULES missiles.	Provides direct support for all ordnance items perculiar to the missile systems except automotive equipment and explosive components. Provides technical assistance and maintenance service in the firing battery area or SASP.	1 per air defense artillery battalion, NIKE-AJAX, NIKE-HERCULES or NIKE-Universal.	100%
STOCK CONTROL AND ACCOUNTING DETACHMENTS AND TEAMS								
74	9–510R	Apr 55	Ammo Stk Con (Manual) EA	21	(c)	Performs stock control of ammunition for a theater, under supervision of theater ordnance officer.	1 per theater or TAZ in support of 400,000 troops.	(*)
75	9–510R	Apr 55	Stk Con (Cl II & IV) EB	34	(c)	Performs stock control of class II and IV ordnance materiel, under supervision of theater ordnance officer. Must be augmented by Teams FA or FB, TOE 29–500D to perform its mission.	1 per theater or TAZ in support of 400,000 troops.	(*)
76	29–500D	Feb 58	MR Stk Acct Team FA	14	Provides minimum basic personnel required for 1 shift operation of an electric accounting machine section.	Handles 8,000 to 15,000 transaction lines per month.	1 per TOE or TD unit as required.	(*)
77	29–500D	Feb 58	MR Stk Acct (Aug) Team FB	14	Provides augmentation for Team FA.	Provides for operation of a second shift when 15,000 to 30,000 transaction lines per month are required.	As required to augment Team FA.	(*)

ORGANIC SUPPORT UNITS

78	9–26T	Dec 56	Hq & Rear Spt (ROCID)	160	Commands, provides administrative and technical supervision of the Ordnance Battalion, Infantry Division. Provides direct support for infantry division rear and supplementary support to Forward Support Company, TOE 9–27T and provides base of supply for the ordnance battalion.	Plans and directs all ordnance activities of the division, provides limited direct support and instructor-inspector service to rear elements of the division, carries approximately 85% of the ordnance supplies for the battalion, establishes and operates the division ammunition supply point.	1 per Ordnance Battalion Infantry Division (ROCID), TOE 9–25T.	70%
79	9–27T	Dec 56	Fwd Spt (ROCID)	167	Provides direct support for forward elements of an infantry division.	Provides instructor-inspector service to forward elements of an infantry division. Platoons are mobile and capable of operating independently. Furnishes limited third echelon maintenance to regimental task force. Maintains limited supply of ordnance fast moving general supply items.	1 per Ordnance Battalion Infantry Division (ROCID), TOE 9–25T.	100%
80	9–66T	Dec 56	Hq & Rear Spt (ROCAD)	300	Commands, provides administrative and technical supervision of the armored ordnance battalion. Provides direct support for armored division rear. Base of supply for the ordnance battalion.	Provides limited direct support and instructor-inspector service to rear elements of the division, recovers and evacuates for supported units, establishes and operates the division ammunition supply point. Provides support for combat elements as required.	1 per Armored Ordnance Battalion (ROCAD), TOE 9–65T.	100%
81	9–67T	Dec 56	Fwd Spt (ROCAD)	102	Provides direct support for a combat command of the armored division.	Provides limited direct support and instructor-inspector service to each combat command of the armored division.	3 per Armored Ordnance Battalion (ROCAD), TOE 9–65T.	100%
82	9–97R	Apr 55	Amphib Spt Maint (Brig)	111	Provides direct support for an amphibious support brigade.	Provides support and instructor-inspector service to the brigade. Provides a detachment to support each regiment when operating separately.	1 company per Amphibious Support Brigade, TOE 20–300R.	100%

See footnotes at end of table.

Table X. Logistical and Reference Data for Ordnance TOE Units [e]—Continued

	TOE No.	Date	Unit designation	Full strength	Mission	Capabilities	Allocation (Troop planning)	Mobility
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					ORGANIC SUPPORT UNITS—Continued			
83	9–217T	Mar 58	REDSTONE	179	Provides direct support for the REDSTONE missile system.	Operates missile supply point for the receipt, storage, inspection and issue of missiles, warheads and fuels. Handles approximately 3,000 line items. Maintains in ready for issue condition, maintenance float of missiles and warheads.	1 per Field Artillery Missile Group, (Heavy) TOE 6–610T and 1 per U. S. Army Missile Command, (Heavy) TOE 39–71T.	100%
84	C–2 51–1C	Nov 57	Ord Sec Hq Army	70	Commands all assigned and attached ordnance units.	Commands, provides staff planning, control administration and supervision of ordnance operations within the army. Controls all ordnance elements forward of the army rear boundary.	1 per army	(f)
85	C–2 52–1C	Nov 57	Ord Sec Hq Corps	20	Commands all assigned and attached ordnance units.	Commands, provides staff planning, control and supervision of ordnance operations within the corps. Lands by parachute or aircraft when organized as an airborne corps.	1 per corps	(f)
86	54–1R	Apr 55	Ord Sec Log Comd A	7	Commands all assigned and attached ordnance units.	Commands, provides staff planning, control, administration and supervision of ordnance operations within the logistical command.	1 per Log Comd A, TOE 54–1R.	(f)
87	54–101R	Apr 55	Ord Sec Log Comd B	20	Commands all assigned and attached ordnance units.	Commands, provides staff planning, control, administration and supervision of ordnance operations within the logistical command.	1 per Log Comd B, TOE 54–101R.	(f)
88	54–201R	Apr 55	Ord Sec Log Comd C	31	Commands all assigned and attached ordnance units.	Commands, provides staff planning, control, administration and supervision of ordnance operations within the logistical command.	1 per Log Comd C, TOE 54–201R.	(f)

(a) Data was obtained from appropriate ordnance TOE's and condensed for uniformity and ease of reading.

(b) TOE being processed for publication.

(c) Will replace Tire Rebuild Company, TOE 9–347R, Apr 55.

(d) Cellular units in TOE's 9–500R and 9–510R are organized to perform ordnance service where less than company sized units are needed or to increase the capabilities of larger units when required.

(e) Mobility is variable, based upon assignment and combination.

(f) Mobility is variable, depending upon assignment of transportation corps units.

(g) To be included only when Detachment DD is required to have additional capabilities. The augmentation of personnel and equipment will require specific authorization by Department of the Army.

28. End Item Densities Computed by Individual Branch or Service

a. This table is related to the data contained in table IV (par. 21). However, the end item densities computed for this table are *based upon 1,000 troops by individual branch or service.* (The densities computed for table IV are *based upon 1,000 theater troops.*)

b. When compared to the data in table IV the troop planner can expect this table to produce more accurate results; however, much more computing time is required to obtain the end item totals for a large combat force. If the troop planner has sufficient time available, this table should be used in lieu of table IV.

c. This table is especially useful in making quick visual comparisons of the end item densities in various branches and services.

d. Illustrative problems (Table XI)

(1) *Question No. 1:* Which branch or service has the highest end item density for the automobile, sedan?

(2) *Solution No. 1:* (line 23; cols. 6, 8, 13, 14, 22, 23, 24, and 25)

Referring to line 23 and column 13; the *MILITARY POLICE* have the highest density for the automobile sedan (ANSWER)

(3) *Question No. 2:* How many ¼-ton cargo trailers are found in a theater force of 20,000 ORDNANCE troops?

(4) *Solution No. 2:* (line 32, col. 10)

? ¼-ton cargo trailers = 20,000 ORDNANCE troops $\times \frac{32.91 \text{ ea } ¼\text{-ton cargo trailers}}{1{,}000 \text{ ORDNANCE troops}}$ = *658.2* or *658* ea ¼-ton cargo trailers (ANSWER)

Table XI. End Item Densities Computed by Individual Branch or Service

		Requirements by branch or service for 1,000 troops																							
	(1)[a]	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
TOE series		57	17	7	6	44	3	5	8	9	10	11	19	55	1	12	14	20	30	32	33	41	54	51	52	
Ordnance materiel	Maintenance equivalent	Airborne	Armor	Infantry	Field Artillery	Air Defense Artillery	Chemical	Engineer	Medical	Ordnance	Quartermaster	Signal	Military police	Transportation	Aviation	Adjutant General	Finance	Replacement units	Military Intelligence	Army Security Agency	Psychological warfare	Military Government	Logistical Command	Army Headquarters	Corps Headquarters	Miscellaneous
SMALL ARMS AND LIGHT MORTARS																										
1 CARBINE, caliber .30	1.00		261.74	229.26	337.08	666.93	676.75	379.67	301.43	552.07	657.70	650.28	242.68	644.06	311.82	888.44	903.23	972.20	809.37	475.03	509.26	453.68	763.78	511.72	497.09	668
2 GUN, machine, caliber .30	2.50	36.48	60.00	39.93	26.36		23.41	23.84		3.46			17.15	1.08						14.49						
3 GUN, machine, caliber .50	2.50	0.39	75.86	36.70	50.38	36.70	11.37	26.32		28.12	9.75	22.79	6.19	65.70	30.91				1.08					1.62	2.94	
4 GUN, submachine, caliber .45	0.25	15.06	165.20	41.15	104.84	93.22	92.31	43.91		41.40	20.12	100.87	168.14	38.13	56.36				197.63	43.98	37.04					
5 LAUNCHER, rocket, 3.5-inch	0.25	39.87	44.82	41.50	53.79	53.97	24.06	31.99		15.15	15.88	22.96	11.43	3.62	7.27				1.62					8.08	11.76	
6 PISTOL, caliber .45	0.25	170.99	240.20	134.47	22.17	8.37	8.70	10.81	53.05	15.41	8.48	18.88	113.60	36.59	340.91	33.47	96.77	20.85	222.40	236.22		440.05	181.10	226.35	214.71	26
7 *RIFLE, automatic, caliber .30*	2.50	57.46	23.04	48.70			26.76																			
8 RIFLE, US, caliber .30	1.00	381.59	373.93	565.40	534.67	231.47	183.95	581.68	63.65	362.59	303.31	176.39	479.64	314.26	259.09	88.24			21.54	278.91	361.11			235.25	232.35	105
9 MORTAR, 81-mm	0.75	6.53	3.43	5.51																						
ARTILLERY AND HEAVY MORTARS																										
10 MORTAR, 4.2-inch	0.50	3.48	1.83	2.95																						
11 RIFLE, recoilless, 106-mm	1.00	4.79		2.95																						
12 GUN, tank, 76-mm	1.50		7.65	2.33																						
13 GUN, tank, 90-mm[b]	1.50	2.61	26.69	7.83																						
14 GUN, ADA, 90-mm[c]	3.50					3.17																				
15 GUN, ADA, 75-mm[c]	0.75					5.79																				
16 GUN, ADA, 40-mm	0.75					33.25																				
17 HOWITZER, 105-mm	1.00	2.18	3.69	2.07	1.42																					
18 *HOWITZER, 155-mm*	1.25		0.55	0.83	11.38																					
19 HOWITZER, 8-inch	1.25		0.18	0.28	6.64																					
20 GUN, 155-mm	1.00				0.95																					
21 GUN, 280-mm	2.00				0.16																					
22 LAUNCHER, rocket, 762-mm[d]	0.75	0.35	0.14	0.15																						
WHEELED VEHICLES																										
23 AUTOMOBILE, sedan	1.00					0.54		0.24					8.34	1.17								1.36	3.94	1.62	2.94	
24 MOTORCYCLE	0.30												41.91													
25 SEMITRAILER, alcohol	0.40									0.05																
26 SEMITRAILER, gasoline, 2-wheel	0.40				0.05																					
27 SEMITRAILER, van, cargo, 6-ton	0.40			0.62		2.42		1.52		19.76		6.16		1.74		4.06										
28 SEMITRAILER, cargo, 12-ton	0.80				0.32					7.36				24.93					4.50							
29 *SEMITRAILER, gasoline, 12-ton*	0.80			0.35		0.12					5.42	0.13		24.26												
30 SEMITRAILER, low bed, 25-ton	0.80			0.97	2.30	1.61		4.59																		
31 SEMITRAILER, transporter, 45-ton	0.80			0.14						5.44				3.22												
32 TRAILER, cargo, ¼-ton	0.10	21.68	25.20	29.27	28.77	33.63	168.56	35.30	40.50	32.91	3.70	40.17	22.39	46.50	67.27			6.08	215.41	152.13	148.15			17.78	9.17	
33 TRAILER, generator, light	0.10									0.59																
34 TRAILER, cargo, ¾-ton	0.10	13.58	12.87	31.44	12.32	17.89		2.69	12.82	2.87	3.43	43.39	1.91	1.34	13.64				30.37	6.47				3.23	12.23	
35 TRAILER, generator, medium	0.30									0.59																
36 TRAILER, 1½-ton[e]	0.10	2.96	45.00	27.01	37.23	96.52	84.95	45.83	67.96	110.63	32.49	70.03	1.43	261.46	105.45	56.80		26.93	18.00	10.61	27.78		1.97	8.08	21.41	

See footnotes at end of table.

Table XI. End Item Densities Computed by Individual Branch or Service—Continued

	Ordnance materiel	(1)[a] Maintenance equivalent	(2) Airborne	(3) Armor	(4) Infantry	(5) Field Artillery	(6) Air Defense Artillery	(7) Chemical	(8) Engineer	(9) Medical	(10) Ordnance	(11) Quartermaster	(12) Signal	(13) Military police	(14) Transportation	(15) Aviation	(16) Adjutant General	(17) Finance	(18) Replacement units	(19) Military Intelligence	(20) Army Security Agency	(21) Psychological warfare	(22) Military Government	(23) Logistical Command	(24) Army Headquarters	(25) Corps Headquarters	(26) Miscellaneous
	TOE series		57	17	7	6	44	3	5	8	9	10	11	19	55	1	12	14	20	30	32	33	41	54	51	52	
			Requirements by branch or service for 1,000 troops																								
37	TRAILER, generator, heavy	0.30		4.38			2.69			2.03			2.68							4.50		18.52					
38	TRAILER, ammunition, 2-ton	0.30			2.74	84.85	4.24				2.37		0.80														
39	TRAILER, 762-mm rocket	0.40	0.70	0.27	0.28																						
40	TRAILER, flat bed, guided missile	0.40									0.59																
41	TRUCK, utility, ¼-ton	1.00	42.05	70.56	45.59	60.58	41.57	169.23	36.97	41.37	37.90	16.61	45.80	123.84	50.12	67.27	44.62	32.26	8.69	246.34	180.08	175.93		11.81	23.44	21.41	
42	TRUCK, cargo, ¾-ton	1.00	0.87	19.80	39.96	50.74	21.62	24.75	20.65	51.03	21.10	9.30	48.47	6.43	15.55	13.64	6.09		43.44	42.74	15.27				3.23	12.33	
43	TRUCK, civilian models, ½ to 1½-ton	1.00										0.09		0.71									279.29	3.94			
44	TRUCK, cargo, 2½-ton[c]	1.00	10.62	36.82	30.81	57.25	70.69	91.64	38.49	74.38	134.79	58.93	108.60	20.48	276.20	141.82	81.14		27.80	19.12	17.59	46.30		21.65	8.08	21.41	
45	TRUCK, dump, 2½-ton	1.00	1.04		3.25				46.54	1.22																	
46	TRUCK, tank, gasoline, 2½-ton	1.00	0.35	4.63	1.94							0.17	0.13		1.91					3.38					0.81	3.00	
47	TRUCK TRACTOR, 2½-ton	1.00			0.62				1.22		6.87		3.75														
48	TRUCK, wrecker, 2½-ton	1.00	0.09		0.37		0.40						0.13		0.54												
49	TRUCK, cargo, 5-ton[d]	2.00		15.62	5.90	23.61	2.96		3.64			1.35	0.27		0.94		5.07										
50	TRUCK, dump, 5-ton	2.00							21.30																		
51	TRUCK TRACTOR, 5-ton	2.00			1.32	0.71			10.11		10.57	4.33	2.81		50.12		4.06		3.24	0.56		18.52					
52	TRUCK, wrecker, 5-ton	2.00	0.44	3.17	1.89	2.83	1.41		2.39	0.61	18.83	0.81	1.88		4.96					1.20							
53	TRUCK TRACTOR, 10-ton	3.50				0.03			5.13																		
54	TRUCK TRACTOR, 12-ton	3.50			0.14										3.22												
55	TRUCK TRACTOR, 15-ton	3.50							0.12		5.44																
56	TRUCK, van, expansible, 2½-ton	1.00																		6.75							
57	TRUCK, gun lifting, heavy	3.50				0.32																					
	TRACKED VEHICLES																										
58	CARRIAGE, motor, heavy mortar	3.50		4.44																							
59	CARRIAGE, motor, twin 40-mm gun	3.50					16.23																				
60	CARRIAGE, motor, 105-mm howitzer	3.50		3.69		1.42																					
61	CARRIAGE, motor, 155-mm howitzer	3.50		0.55		7.11																					
62	CARRIAGE, motor, 8-inch howitzer	3.50		0.18		3.81																					
63	CARRIAGE, motor, 90-mm gun	3.50	2.61		1.48																						
64	TANK, 76-mm gun	3.50		7.68	2.33																						
65	TANK, 90-mm gun	3.50		26.69	6.36																						
66	TRACTOR, cargo, light	3.50			0.83	5.22																					
67	TRACTOR, cargo, medium	3.50		2.24	0.35	0.24	4.31																				
68	VEHICLE, infantry, armored	3.50		28.62	12.75	9.52									7.67												
69	VEHICLE, recovery, medium	3.50		4.37	1.05	0.98	4.08								0.40												

[a] For explanation of maintenance equivalents see table XIV and par. 31.
[b] Includes GUN, 90-mm, self-propelled, M56.
[c] May eventually be replaced with missiles.
[d] Line 22 is truck mounted. Vehicle requirement is included in line 49. Although no official maintenance equivalent is established for this item, it is felt a factor of 0.75 is sufficient unless experience factors later developed indicate otherwise.
[e] Includes all 2½-ton Cargo Trucks plus 2½-ton Special Purpose Trucks not otherwise listed.
[f] Includes all 5-ton Cargo Trucks plus 5-ton Special Purpose Trucks not otherwise listed.
[g] Includes all 1½-ton trailers (cargo and water).

29. End Item Densities for Combat Divisions

a. The data listed in table XII were extracted from the TOE for the reorganized infantry, armored, and airborne divisions.

b. Since this table is primarily used for reference data, illustrative problems have not been shown.

Table XII. End Item Densities for Combat Divisions

	Ordnance materiel	Total quantities per combat division		
		Infantry TOE 7T	Armored TOE 17T	Airborne TOE 57D
		(1)	(2)	(3)
	SMALL ARMS AND LIGHT MORTARS			
1	CARBINE, caliber .30	3,193	3,720	
2	GUN, machine, caliber .30	553	1,072	
3	GUN, machine, 7.62-mm, M60			438
4	GUN, machine, caliber .50	520	1,479	4
5	GUN, submachine, caliber .45	584	2,011	
6	LAUNCHER, rocket, 3.5-inch	569	642	458
7	PISTOL, caliber .45	1,848	3,013	1,964
8	RIFLE, automatic, caliber .30	656	453	
9	RIFLE, 7.62-mm, automotive, M15			644
10	RIFLE, US, caliber .30	7,720	6,360	
11	RIFLE, 7.62-mm, M14			8,864
12	MORTAR, 81-mm	74	48	75
	ARTILLERY AND HEAVY MORTARS			
13	MORTAR, 4.2-inch	40	40	
14	MORTAR, 105-mm			40
15	RIFLE, recoilless, 106-mm	40		55
16	GUN, tank, 76-mm	33	54	
17	GUN, tank, 90-mm[a]	112	306	30
18	HOWITZER, 105-mm	30	54	25
19	HOWITZER, 155-mm	12	12	
20	HOWITZER, 8-inch	4	4	
21	LAUNCHER, rocket, 762-mm[b]	2	2	4
	WHEELED VEHICLES			
22	SEMITRAILER, van, cargo, 6-ton	9	9	
23	SEMITRAILER, cargo, 12-ton		2	
24	SEMITRAILER, gasoline, 12-ton	5	18	
25	SEMITRAILER, low bed, 25-ton	14	7	
26	SEMITRAILER, transporter, 45-ton	2	6	
27	TRAILER, cargo, ¼-ton	403	411	249
28	TRAILER, cargo, ¾-ton	440	244	156
29	TRAILER, 1½-ton	348	770	34
30	TRAILER, ammunition, 2-ton	39	59	
31	TRAILER, 762-mm rocket	4	4	8
32	CARRIER, light weapons, infantry, M274			475
33	TRUCK, utility, ¼-ton	633	926	454
34	TRUCK, cargo, ¾-ton	562	364	10
35	TRUCK, ¾-ton, 6 x 6, M408			410

See footnotes at end of table.

Table XII. End Item Densities for Combat Divisions—Continued

	Ordnance materiel	Total quantities per combat division		
		Infantry TOE 7T	Armored TOE 17T	Airborne TOE 57D
		(1)	(2)	(3)
36	TRUCK, wrecker, ¾-ton, 6 x 6			9
37	TRUCK, cargo, 2½-ton[c]	401	548	122
38	TRUCK, dump, 2½-ton	47	37	12
39	TRUCK, tank, gasoline, 2½-ton	28	77	4
40	TRUCK TRACTOR, 2½-ton	9	9	
41	TRUCK, wrecker, 2½-ton	5		1
42	TRUCK, cargo, 5-ton[d]	84	275	
43	TRUCK TRACTOR, 5-ton	19	27	
44	TRUCK, wrecker, 5-ton	27	55	5
45	TRUCK TRACTOR, 12-ton	2	6	
	TRACKED VEHICLES			
46	CARRIAGE, motor, heavy mortar		40	
47	CARRIAGE, motor, 105-mm howitzer		54	
48	CARRIAGE, motor, 155-mm howitzer		12	
49	CARRIAGE, motor, 8-inch howitzer		4	
50	CARRIAGE, motor, 90-mm gun	20		80
51	TANK, 76-mm gun	33	54	
52	TANK, 90-mm gun	92	306	
53	TRACTOR, cargo, light	12		
54	TRACTOR, cargo, medium	5		
55	VEHICLE, infantry, armored	181	536	
56	VEHICLE, recovery, medium	15	68	

[a] Includes GUN, 90-mm, self-propelled, M56.
[b] Line 21 is truck mounted. Vehicle requirement is included in line 49.
[c] Includes all 2½-ton cargo trucks plus 2½-ton special purpose trucks not otherwise listed.
[d] Includes all 5-ton cargo trucks plus 5-ton special purpose trucks not otherwise listed.

30. TOE Densities for Artillery Weapons and Tracked Vehicles (Table XII)

a. This table was designed for use with table XI. During phase III planning the troop planner normally has additional time in which to compute end item densities. Assuming that a troop list is known, the extracted equipment data in this table should assist the troop planner in obtaining a very close estimate of the important end items issued to troops. (An actual count of end items issued to troops would be most accurate, but such data may be difficult to obtain.)

b. The line items in this table correspond with the line items used for table XI. Therefore, once lines 9–21 and 58–69 inclusive in this table have been computed for a known troop list, all remaining end item quantities (all remaining line items) are computed per the illustrative problem number 2 for table XI (par. 28).

c. Illustrative problems are not considered necessary to demonstrate the use of table XIII.

Table XIII. TOE Densities for Artillery Weapons and Tracked Vehicles

Ordnance materiel		DATE	13 Feb 56	20 Jan 56	20 Jan 56	4 Feb 58	18 Mar 55	18 Mar 55	10 May 57	20 Feb 57	20 Dec 56	20 Dec 56	1 Dec 56	10 Mar 55	29 Nov 55	5 Jun 57	28 Jul 56	14 Oct 55
		TOE NR.	6-135C	6-315C	6-326C	6-415D	6-435R	6-435R	6-535C	6-545D	7T	7-11T	17T	17-51R	17-25C	44-15C	44-35C	44-75C
		UNIT DESIGNATION	Field Artillery Battalion, 155-mm Howitzer, (Towed)	Armored F. A. Battalion, 105-mm Howitzer, (SP)	Armored F. A. Battalion, 155-mm Howitzer, (SP)	Field Artillery Battalion, 8-inch Howitzer, (Towed or SP)	Field Artillery Battalion, 155-mm Gun (SP)	Field Artillery Battalion, 8-inch Howitzer (SP)	Field Artillery Battalion, 280-mm Gun	Field Artillery Missile Battalion CORPORAL	Infantry Division, ROCID	Infantry Battle Group (Separate) ROCID	Armored Division, ROCAD	Armored Cavalry Regiment	Tank Battalion, 90-mm Gun	Air Defense Artillery Battalion, 90-mm (Mobile)	Air Defense Artillery Battalion, SKYSWEEPER	Air Defense Artillery Battalion, A.W. (SP)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		SMALL ARMS AND LIGHT MORTARS																
9[a]	MORTAR, 81-mm										74	13	48					
		ARTILLERY AND HEAVY MORTARS																
10	MORTAR, 4.2-inch										40	8	40	27	4			
11	RIFLE, recoilless, 106-mm										40	8						
12	GUN, tank, 76-mm										33	2	54	72	2			
13	GUN, tank, 90-mm[b]										112	4	306	51	72			
14	GUN, ADA, 90-mm															16		
15	GUN, ADA, 75-mm																18	
16	GUN, ADA, 40-mm																	64
17	HOWITZER, 105-mm			18							30		54	18				
18	HOWITZER, 155-mm	18			18						12		12					
19	HOWITZER, 8-inch					12		12			4		4					
20	GUN, 155-mm						12											
21	GUN, 280-mm								6									
		TRACKED VEHICLES																
58	CARRIAGE, motor, heavy mortar.												40					
59	CARRIAGE, motor, twin 40-mm gun.																	32
60	CARRIAGE, motor, 105-mm howitzer.		18										54	18				
61	CARRIAGE, motor, 155-mm howitzer.			18									12					
62	CARRIAGE, motor, 8-inch howitzer.					12	12						4					
63	CARRIAGE, motor, 90-mm gun										20	4						
64	TANK, 76-mm gun										33	2	54	72	2			
65	TANK, 90-mm gun										92	306	51	72				
66	TRACTOR, cargo, light	22									12							
67	TRACTOR, cargo, medium		13	14	6					3	5					16	18	
68	VEHICLE, infantry, armored		1								181	2	536	69	7			
69	VEHICLE, recovery, medium		2	2					1		15		68	8				1

[a] Lines correspond to those in table XI.

[b] Includes GUN, 90-mm, self-propelled, M56.

31. End Item Maintenance Equivalents

a. Ordnance soldiers are trained to perform maintenance on a variety of related end items; e.g., an automotive mechanic can maintain trailers, semitrailers, trucks, and truck tractors of the various makes and models issued to troops. It becomes obvious that some common base point must be established to evaluate the ratio of ordnance automotive mechanics to the end items issued to troops. Since the end of World War II, end item maintenance equivalents have been developed and used to approximate work measurement standards for certain ordnance maintenance companies (Table X: lines 6, 7, 9, and 13; column 6).

b. The capability statements for the direct support (TOE 9–7D and 9–127D) *and general support* (TOE 9–9D and 9–197D) *companies are expressed in total maintenance equivalents.*

c. The maintenance equivalent totals by maintenance category (small arms, artillery, wheeled vehicles, tracked vehicles, and instruments) for a known combat force divided by the capability statements for direct support and general support companies determine the NUMBER OF UNITS (by type) required to support the combat force.

d. The total maintenance equivalents for a known combat force are determined by multiplying the quantity of end items (by type) in the combat force by the appropriate equivalent factors listed in table XIV. Item complexity, frequency of repair, changes in maintenance philosophy, weather, terrain, age of equipment, and so forth all have some affect upon the maintenance equivalent factors shown in this table. (Standardization of new materiel and development of an effective ordnance work measurement program may at a later date slightly alter these assigned equivalent factors.)

e. Illustrative problems (Tables X and XIV)

(1) *Question No. 1:* How many Direct Automotive Support Companies (TOE 9–127D) are required to provide third echelon maintenance for the end items listed below?

Trailers

100 ea Trailer, ¼-ton
50 ea Trailer, ¾-ton
500 ea Trailer, 1½-ton
20 ea Semitrailer, 6-ton

Trucks

300 ea Truck, ¼-ton
100 ea Truck, ¾-ton
600 ea Truck, 2½-ton
20 ea Truck tractor, 2½-ton
50 ea Truck, cargo, 5-ton
10 ea Truck, wrecker, 5-ton

(2) *Solution No. 1:*

(*a*) *Part I.* First, determine the *TOTAL* WHEELED VEHICLE MAINTENANCE EQUIVALENTS for the end items as listed. Use the data contained in table XIV.

End item	*Quantity*	*Equiv/ item*	*Total equiv*
Trailer, ¼-ton	100 ea	0.10	10
Trailer, ¾-ton	50 ea	0.10	5
Trailer, 1½-ton	500 ea	0.10	50
Semitrailer, 6-ton	20 ea	0.40	8
Truck, ¼-ton	300 ea	1.00	300
Truck, ¾-ton	100 ea	1.00	100
Truck, 2½-ton	600 ea	1.00	600
Truck tractor, 2½-ton	20 ea	1.00	20
Truck, cargo, 5-ton	50 ea	2.00	100
Truck, wrecker, 5-ton	10 ea	2.00	20
TOTAL WHEELED VEHICLE MAINT EQUIV			1,213

(*b*) *Part II.* Second, *convert* the TOTAL WHEELED VEHICLE MAINT EQUIV *to actual number of units* required to provide third echelon maintenance support for the above list of materiel. A Direct Automotive Support Company, TOE 9–127D, can provide maintenance support for 1,269 Wheeled Vehicle Maintenance Equivalents and 8,400 Small Arms Maintenance Equivalents; *line 9, column 6 in table X.* (Small Arms Maintenance Equivalents are not used in solving this problem; however, *ALL equivalents must be evaluated when providing adequate support for combat forces.*)

? Dir Autmv Spt Co. = 1,213 Wh Veh Maint Equiv $\times \frac{1 \text{ ea Dir Autmv Spt Co.}}{1{,}269 \text{ Wh Veh Maint Equiv}} = .956$ or *1 ea* Dir Autmv Spt Co. (ANSWER)

(3) *Question No. 2:* How many direct support and general support maintenance companies would be required to provide field maintenance (third and fourth echelon) for a special task force of 100,000 troops?

ASSUMPTIONS:

(*a*) Tracked Veh Maint Equivalents: *

For vehicles in combat divisions**	4,240
For vehicles in other units	2,885
Total for task force:	7,125

(*b*) Wheeled Veh Maint Equivalents:*

For vehicles in combat divisions**	4,900
For vehicles in other units	17,640
Total for task force:	22,540

(*c*) Artillery Maint Equivalents:* (Towed and Self-Propelled weapons)

For arty in combat divisions**	420
For arty in other units	1,230
Total for task force:	1,650

(*d*) Small Army Maint Equivalents:*

For weapons in combat divisions**	35,400
For weapons in other units	66,600
Total for task force:	102,000

(*e*) Capabilities per company: expressed in maintenance equivalents (data extracted from table X).

Maintenance Equivalents

Type Company	Tracked	Wheeled	Arty	Small Arms
THIRD ECHELON MAINTENANCE				
Dir Spt Co, TOE 9–7D	945	783	240	8,400
Dir Autmv Spt Co, TOE 9–127D		1,269		8,400
FOURTH ECHELON MAINTENANCE				
Gen Spt Co, TOE 9–9D	2,646		672	23,520
Gen Autmv Spt Co, TOE 9–197D		2,808		

(4) *Solution No. 2:*

(*a*) *Part I.* First, the ordnance planner must provide adequate direct support maintenance for tracked vehicles. The Dir Spt Co, TOE 9–7D is used for this part of the problem.

? Dir Spt Co = 2,885 + (25% × 4,240) Tracked Veh Maint Equiv × $\frac{\text{1 ea Dir Spt Co}}{\text{945 Tracked Veh Maint Equiv}}$ = 4.175 ea Dir Spt Co; *SELECT 5 ea Dir Spt Co*, TOE 9–7D (PARTIAL ANSWER)

(*b*) *Part II.* Second, compute the requirements for direct support maintenance for wheeled vehicles. Dir Spt Co, TOE 9–7D, and Dir Autmv Spt Co, TOE 9–127D, are both used for this part of the problem.

? Wh Veh Maint Equiv = 5 ea Dir Spt Co. × $\frac{\text{783 ea Wh Veh Maint Equiv}}{\text{1 ea Dir Spt Co.}}$ = 3,915 Wh Veh Maint Equiv.

? Dir Autmv Spt Co. = 17,640 + (25% × 4,900) — 3,915 Wh Veh Maint Equiv × $\frac{\text{1 ea Dir Autmv Spt Co.}}{\text{1,269 Wh Veh Maint Equiv}}$ = 11.781 or *12 ea* Dir Autmv Spt Co, TOE 9–127D (PARTIAL ANSWER)

(*c*) *Part III.* Third, compute the requirements for direct support main-

* Maintenance equivalent data would be computed for the special task force by using the logistical data contained in tables IV, XI, or XI and XIII combined.

** During combat, ORGANIC ordnance battalions probably will not be capable of providing 100 percent direct (third echelon) support for ordnance end items issued to troops in the combat divisions. FOR THIS PROBLEM ORGANIC ORDNANCE BATTALIONS ARE ASSUMED TO PROVIDE ONLY 75 PERCENT OF THE DIRECT SUPPORT MAINTENANCE FOR ASSIGNED EQUIPMENT. (*The remaining 25 percent direct support maintenance must be provided by direct support units, TOE 9–7D or 9–127D.*)

tenance for artillery weapons. Only the Dir Spt Co, TOE 9–7D, has an artillery maintenance capability.

? Dir Spt Co = 1,230 + (25% × 420) Arty Maint Equiv × $\frac{\text{1 ea Dir Spt Co.}}{\text{240 Arty Maint Equiv}}$ = 5.56 ea Dir Spt Co. required; *SELECT 5 ea Dir Spt Co.* (PARTIAL ANSWER)

(Actually, these computations show a shortage of 5.65—5.00 or 0.56 Co. If additional maintenance support is required, ARMAMENT MAINTENANCE TEAMS, TOE 9–500R, may be employed. These cellular units are listed in table X.)

(*d*) *Part IV.* Fourth, compute the requirements for direct support maintenance for small arms weapons. Both the Dir Spt and Dir Autmv Spt Co, TOE 9–7D and 9–127D respectively have a small arms maintenance capability.

? Small Arms Maint Equiv = 5 ea Dir Spt Co. × $\frac{\text{8,400 Small Arms Maint Equiv}}{\text{1 ea Dir Spt Co.}}$ = 42,000 Small Arms Maint Equiv.

? Small Arms Maint Equiv = 12 ea Dir Autmv Spt Co. × $\frac{\text{8,400 SA Maint Equiv}}{\text{1 ea Dir Autmv Spt Co}}$ = 100,800 Small Arms Maint Equiv.

Therefore, the total available small arms maintenance capability equals (42,000 + 100,800) or 142,800 Small Arms Maintenance Equivalents. Only 102,000 Small Arms Maintenance Equivalents are needed for this special force. Thus, adequate direct support maintenance for small arms weapons has been provided.

(*e*) *Part V.* Fifth, compute the requirements for general support maintenance for tracked vehicles. ORGANIC ORDNANCE BATTALIONS FOR COMBAT DIVISIONS DO NOT HAVE A GENERAL SUPPORT CAPABILITY. *TOTAL EQUIVALENTS (tracked vehicles, wheeled vehicles, artillery, and small arms) MUST BE USED IN COMPUTING GENERAL SUPPORT REQUIREMENTS FOR THE TASK FORCE.*

? Gen Spt Co. = 7,125 Tracked Veh Maint Equiv × $\frac{\text{1 ea Gen Spt Co.}}{\text{2, 646 Tracked Veh Maint Equiv}}$ = 2.69 ea or *SELECT 3 ea Gen Spt Co.* (PARTIAL ANSWER)

(*f*) *Part VI.* Sixth, compute the requirements for general support maintenance for wheeled vehicles. Use TOTAL EQUIVALENTS for the task force.

? Gen Autmv Spt Co. = 22,540 Wh Veh Maint Equiv × $\frac{\text{1 ea Gen Autmv Spt Co}}{\text{2,808 Wh Veh Maint Equiv}}$ = 8.03 ea or *SELECT 8 ea Gen Autmv Spt Co.* (PARTIAL ANSWER)

(*g*) *Part VII.* Seventh, compute the requirements for general support maintenance for artillery weapons. Use TOTAL EQUIVALENTS for the task force.

? Gen Spt Co. = 1,650 Arty Maint Equiv × $\frac{\text{1 ea Gen Spt Co}}{\text{672 Arty Maint Equiv}}$ = 2.46 or *SELECT 3 ea Gen Spt Co.* (PARTIAL ANSWER)

(3 ea Gen Spt Co. were previously selected for the necessary fourth echelon maintenance required for tracked vehicles per *part V* above.)

(*h*) *Part VIII.* Eighth, compute the requirements for general support maintenance for small arms weapons. Use TOTAL EQUIVALENTS for the task force.

? Gen Spt Co. = 102,000 Small Arms Maint Equiv × $\frac{\text{1 ea Gen Spt Co}}{\text{23,520 SA Maint Equiv}}$ = 4.33 or *SELECT 3 ea Gen Spt Co.* (PARTIAL ANSWER)

(These computations show a shortage of 4.33—3.00 or 1.33 Co. for small arms maintenance capability. Only 3 ea Co. are required for general support maintenance for tracked vehicles and artillery weapons per *parts VI and VII* above. Further, per part IV above, the computations showed an over support for small arms weapons at the direct support level. If additional small arms support is still required, use the cellular units listed in table X.)

(*i*) *Part IX.* SUMMARY for solution to question number 2. The following direct support (third echelon)

and general support (fourth echelon) maintenance units are considered necessary to support the special task force of 100,000 troops:

Third echelon support
5 ea Dir Spt Co, TOE 9–7D
12 ea Dir Autmv Spt Co, TOE 9–127D

(Organic ordnance battalions are assumed to provide 75 percent of the direct support required for the equipment issued to the combat divisions.)

Fourth echelon support
3 ea Gen Spt Co, TOE 9–9D
8 ea Gen Autmv Spt Co, TOE 9–197D

(Organic ordnance battalions have no general support capability; therefore, all equivalents for equipment in the task force must be supported by these companies.)

(Maintenance requirements (third and fourth echelon) for missile systems must be computed separately. Maintenance equivalents have not been determined for these low density end items.

Generally, the cellular units required for support of missile systems can be selected from the list or ordnance TOE's shown in table X.)

Table XIV. End Items Maintenance Equivalents [a]

	Equipment groups	Types	Maintenance equivalent [b]
	(1)	(2)	(3)
	SMALL ARMS AND LIGHT MORTARS		
	INDIVIDUAL WEAPONS		
1	GUN, submachine	Caliber .45	0.75
2	PISTOLS and REVOLVERS	All calibers	0.50
3	SHOTGUNS	All types	1.00
4	CARBINES and RIFLES	Caliber .30 & below	1.00
5	RIFLES, automatic (BAR)	Caliber .30	3.00
	CREW SERVED WEAPONS		
6	LAUNCHER, rocket	3.5-inch & below	0.50
7	MOUNT, machine gun	All except multiple	0.50
8	MORTARS, complete	60-mm & 81-mm	2.00
9	MOUNT, machine gun	Multiple (4 guns)	1.00
10	RIFLE, recoilless, w/mount	106-mm & below	1.00 [c]
11	GUNS, machine	Calibers .30 & .50	3.00
	ARTILLERY AND HEAVY MORTARS		
	FIELD ARTILLERY TOWED WEAPONS		
12	HOWITZERS	105-mm & below	1.00
13	HOWITZERS	155-mm & 8-inch	1.33
14	GUNS	155-mm & 8-inch	1.33
15	GUN	280-mm	2.00 [d]
	FIELD ARTILLERY SELF-PROPELLED WEAPONS		
16	HOWITZERS	105-mm & below	1.00 [e]
17	HOWITZERS	155-mm & 8-inch	1.33 [e]
18	GUNS	155-mm & 8-inch	1.33 [e]
	AIR DEFENSE ARTILLERY TOWED WEAPONS		
19	GUN	75-mm	0.75 [f]

See footnotes at end of table.

Table XIV. End Items Maintenance Equivalents [a]—Continued

	Equipment groups	Types	Maintenance equivalent [b]
	(1)	(2)	(3)
	AIR DEFENSE ARTILLERY SELF-PROPELLED WEAPONS		
20	GUN, twin, two guns w/mount	40-mm	0.75
	TANK ARTILLERY WEAPONS		
21	GUNS	76-mm & 90-mm	1.50 [c]
	OTHER ARTILLERY WEAPONS		
22	MORTARS	4.2-inch	0.50
23	LAUNCHER, rocket	318-mm & 762-mm	0.75 [g]
24	RIFLE, recoilless	106-mm	[c]
	WHEELED VEHICLES		
	TRAILERS, MOTORCYCLES AND SEMITRAILERS		
25	TRAILERS	Payload: 1½-tons & below	0.10
26	TRAILERS	Payload: 2 & 3-tons	0.30
27	MOTORCYCLES	All types	0.30
28	TRAILERS and SEMITRAILERS	Payload: 4 to 10-tons inclusive	0.40
29	TRAILERS and SEMITRAILERS	Payload: above 10-tons	0.80
	TRUCKS, TRUCK TRACTORS, AND SEDANS		
30	AUTOMOBILE, sedan	All models	1.00
31	TRUCKS and TRUCK TRACTORS	Payload: 2½-tons & below	1.00
32	TRUCKS and TRUCK TRACTORS	Payload: Above 2½-tons but less than 10-tons	2.00
33	TRUCKS and TRUCK TRANSPORTERS	Payload: 10-tons & above	3.50
	TRACKED AND AMPHIBIAN VEHICLES		
34	CARRIAGES, artillery, self-propelled	All types	3.50
35	CARRIERS, cargo and personnel	All types	3.50
36	TANKS	All types	3.50
37	VEHICLES, amphibian	All types	3.50
38	VEHICLES, recovery	All types	3.50
	SIGHTING AND FIRE CONTROL EQUIPMENT [h]		

[a] Within each equipment group the item found in highest density (issued to troops) has been selected as unity (1.00). Other items have been assigned *relative fractions or multiples of unity* based upon item repair man-hours (comparisons between FREQUENCY OF REPAIR/ITEM and REPAIR MAN-HOURS-EXPENDED/ITEM). Total maintenance equivalents are determined by multiplying the quantity for each end item by appropriate maintenance equivalents listed in this table.

[b] Maintenance equivalents compiled in this table are based upon SR 310-30-15 and changes thereto.

[c] Maintenance is normally performed by small arms mechanics.

[d] Does not include maintenance required for special wheeled prime movers.

[e] Includes maintenance required for both weapon and turret.

[f] Does not include maintenance for on-carriage fire control equipment.

[g] Reliable maintenance equivalent factors have not been developed for other rocket and missile equipment.

[h] Maintenance equivalents are not listed because recent maintenance trends indicate that many of these items will be issued on a direct exchange basis in an active theater of operations. Refer to SR 310-30-15 and changes thereto for listing of maintenance equivalents.

32. Distribution of End Items in Theater of Operations

a. All branches and services are users of ordnance end items. Therefore, the theater distribution for these end items must conform to the relative battlefield densities and be designed to best serve the user.

b. Maintaining balanced stocks of supplies in dispersed areas is the best defense against tactical nuclear attack. Particular attention must be given to those items which are considered absolutely essential for resupply to the forward combat units.

c. The data contained in Table XV are designed to SERVE AS A GUIDE for staff officers concerned with the distribution of ordnance end items within a theater of operations. Actual experience, weather, terrain, and other factors will change these data. Therefore, staff officers concerned with these logistical problems are encouraged to modify and improve the data as presented in this table.

d. Illustrative problems (Table XV).

(1) *Question No. 1:* What are the ordnance end items that normally *flow through repair part supply channels?*

(2) *Solution No. 1:* Careful review of table XV reveals that SMALL ARMS AND LIGHT MORTARS (lines 1–9 incl.) normally flow through repair part supply channels.

(3) *Question No. 2:* How many serviceable ¼-ton trucks are stored in the DIVISION AREA under direct support operations?

(4) *Solution No. 2:* (line 41, col. 8)

$$\text{? } \tfrac{1}{4}\text{-ton trucks} = \frac{\text{10 days supply (DIV AREA)}}{1} \times \frac{4.866 \text{ ea } \tfrac{1}{4}\text{-ton trucks}}{\text{1 day of supply}} = 48.66 \text{ or } 49 \text{ ea } \tfrac{1}{4}\text{-ton trucks (ANSWER)}$$

(These 49 ea ¼-ton trucks are high density end items which may be considered a part of the MAINTENANCE FLOAT authorized at the direct support level. Note (d) in table XV shows that 12 combat divisions are in the division area. Therefore, approximately 4 ea ¼-ton trucks ($\frac{49}{12}$ or 4) could be issued to ea of the organic ordnance battalions for direct exchange in maintenance operations.)

Table XV. Distribution of End Items in Theater of Operations [a]

	End item	Replacement end item quantities	Distribution for 120 days of supply[c]					
			Theater Administrative Zone		Combat Zone[d]			
			Depot Support[e]		General Support[f]		Direct Support[g]	
		1 Day of Supply Equals[b]	Park Co TOE 9-137	Sup Dep Co TOE 9-367	Park Co TOE 9-137	Fld Sup Co TOE 9-57	Corps Svc Area	Division Area
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SMALL ARMS AND LIGHT MORTARS							
1	CARBINE, caliber .30	28.100		60		30	10	20
2	GUN, machine, caliber .30	13.300		60		20	10	30
3	GUN, machine, caliber .50	5.000		60		20	10	30
4	GUN, submachine, caliber .45	15.200		60		20	10	30
5	LAUNCHER, rocket, 3.5-inch	7.000		60		20	10	30
6	PISTOL, caliber .45	15.200		60		30	10	20
7	RIFLE, automatic, caliber .30	8.400		60		30		30
8	RIFLE, US, caliber .30	16.900		60		20	10	30
9	MORTAR, 81-mm	0.860		60		30		30

See footnotes at end of table.

Table XV. Distribution of End Items in Theater of Operations [a]—Continued

	End item	Replacement end item quantities	Distribution for 120 days of supply[c]					
			Theater Administrative Zone		Combat Zone[d]			
			Depot Support[e]		General Support[f]		Direct Support[g]	
		1 Day of Supply Equals[b]	Park Co TOE 9-137	Sup Dep Co TOE 9-367	Park Co TOE 9-137	Fld Sup Co TOE 9-67	Corps Svc Area	Division Area
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ARTILLERY AND HEAVY MORTARS							
10	MORTAR, 4.2-inch	0.490	60		30			30
11	RIFLE, recoilless, 106-mm	0.310	60		30			30
12	GUN, tank, 76-mm	0.590	60		60			
13	GUN, tank, 90-mm[h]	2.300	60		60			
14	GUN, ADA, 90-mm	0.130	120					
15	GUN, ADA, 75-mm	0.060	120					
16	GUN, ADA, 40-mm	0.090	60		60			
17	HOWITZER, 105-mm	1.660	60		40		10	10
18	HOWITZER, 155-mm	0.100	90		30			
19	HOWITZER, 8-inch	0.036	90		30			
20	GUN, 155-mm	[i]	90		30			
21	GUN, 280-mm	[i]	120					
22	LAUNCHER, rocket, 762-mm	[i]	120					
	WHEELED VEHICLES							
23	AUTOMOBILE, sedan	0.049	120					
24	MOTORCYCLE	0.296	90		30			
25	SEMITRAILER, alcohol	[i]	120					
26	SEMITRAILER, gasoline, 2-wheel	0.003	60		60			
27	SEMITRAILER, van cargo, 6-ton	0.143	90		30			
28	SEMITRAILER, cargo, 12-ton	0.063	90		30			
29	SEMITRAILER, gasoline, 12-ton	0.170	90		30			
30	SEMITRAILER, low bed, 25-ton	0.132	60		60			
31	SEMITRAILER, transporter, 45-ton	0.063	60		60			
32	TRAILER, cargo, ¼-ton	1.566	60		40		10	10
33	TRAILER, generator, light	[i]	120					
34	TRAILER, cargo, ¾-ton	0.732	60		40		10	10
35	TRAILER, generator, medium	[i]	120					
36	TRAILER, 1½-ton[j]	2.999	60		40		10	10
37	TRAILER, generator, heavy	[i]	90		30			
38	TRAILER, ammunition, 2-ton	0.600	60		60			
39	TRAILER, 762-mm rocket	[i]	120					
40	TRAILER, flat bed, guided missile	[i]	120					
41	TRUCK, utility, ¼-ton	4.866	60		40		10	10
42	TRUCK, cargo, ¾-ton	2.766	60		40		10	10
43	TRUCK, civilian models, ½ to 1½-ton	0.102	120					
44	TRUCK, cargo, 2½-ton [k]	6.663	60		40		10	10
45	TRUCK, dump, 2½-ton	0.398	60		60			
46	TRUCK, tank, gasoline, 2½-ton	0.122	60		60			
47	TRUCK TRACTOR, 2½-ton	0.078	90		30			

See footnotes at end of table.

Table XV. Distribution of End Items in Theater of Operations [a]—Continued

	End item	Replacement end item quantities	Distribution for 120 days of supply[c]					
			Theater Administrative Zone		Combat Zone[d]			
			Depot Support[e]		General Support[f]		Direct Support[g]	
		1 Day of Supply Equals[b]	Park Co TOE 9-137	Sup Dep Co TOE 9-367	Park Co TOE 9-137	Fld Sup Co TOE 9-57	Corps Svc Area	Division Area
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
48	TRUCK, wrecker, 2½-ton	[i]	60		60			
49	TRUCK, cargo, 5-ton [j]	0.532	60		60			
50	TRUCK, dump, 5-ton	0.132	90		30			
51	TRUCK TRACTOR, 5-ton	0.598	90		30			
52	TRUCK, wrecker, 5-ton	0.265	60		60			
53	TRUCK TRACTOR, 10-ton	0.056	90		30			
54	TRUCK TRACTOR, 12-ton	0.039	120					
55	TRUCK TRACTOR, 15-ton	0.029	120					
56	TRUCK, van, expansible, 2½-ton	[i]	120					
57	TRUCK, gun lifting, heavy	[i]	120					
58	CARRIAGE, motor, heavy mortar	0.076	60		50		10	
59	CARRIAGE, motor, twin 40-mm gun	0.099	90		30			
60	CARRIAGE, motor, 105-mm howitzer	0.069	60		40		10	10
61	CARRIAGE, motor, 155-mm howitzer	0.036	90		30			
62	CARRIAGE, motor, 8-inch howitzer	0.011	90		30			
63	CARRIAGE, motor, 90-mm gun	0.013	60		60			
64	TANK, 76-mm gun	0.565	60		40			20
65	TANK, 90-mm gun	2.166	60		40			20
66	TRACTOR, cargo, light	0.066	60		60			
67	TRACTOR, cargo, medium	0.132	60		60			
68	VEHICLE, infantry, armored	1.632	60		40			20
69	VEHICLE, recovery, medium	0.166	60		40			20

(a) Composition of a theater of operations is contained in paragraph 15 and figure 13.

(b) Figures in column 2 represent ACTUAL REPLACEMENT END ITEM QUANTITIES for 1 day of supply.

(c) Figures in columns 3 through 8 represent an estimated distribution of end items *expressed in DAYS OF SUPPLY*.

(d) Includes 1 Army Service Area; 3 Corps Service Areas and 12 divisions (9 Infantry Divisions (ROCID) and 3 Armored Divisions (ROCAD).

(e) Theater bulk stocks are stored in depot support units in the Theater administrative zone.

(f) Army bulk stocks are stored in general support units in the combat zone.

(g) Theater supply policies may authorize a MAINTENANCE FLOAT for selected high density end items issued from direct support units in the forward combat zone.

(h) Includes gun, 90-mm, self-propelled, M56.

(i) These items have an extremely low replacement factor and may not be stocked in the theater. If stocked, a predetermined quantity would be established, not based upon total material density.

(j) Includes all 1½-ton trailers (cargo and water).

(k) Includes all 2½-ton cargo trucks plus 2½-ton special purpose trucks not otherwise listed.

(l) Includes all 5-ton cargo trucks plus 5-ton special purpose trucks not otherwise listed.

33. Weights and Dimensions for Ordnance Equipment

a. The weight and dimension data compiled in this table are for those specific makes and models of the end items currently issued to troops. This table will be subject to revisions which will be based upon future changes in equipment issued to troops.

b. Illustrative problems (Table XVI)

(1) *Question No. 1:* The theater supply level for end items has been established at 180 DAYS of SUPPLY. How much NET USABLE STORAGE AREA (sq ft) is required for theater replacement for the *VEHICLE, infantry, armored?* There are 200,000 troops in the theater. Also, wartime conditions prevail.

(2) *Solution No. 1:*

(*a*) *Part I.* First, compute the quantity of replacement VEHICLES, infantry, armored required during wartime for 180 days of supply for 200,000 theater troops. *Use data contained in table V; line 68, column 5.*

? VEHICLES, infantry, armored = 200,000 theater troops $\times \frac{0.322 \text{ ea VEHICLES, inf, armd}}{1{,}000 \text{ theater troops}} \times \frac{180 \text{ days of supply}}{30 \text{ days of supply}} =$ 386.4 or *386 ea* VEHICLES, inf, armd. (ANSWER)

(*b*) *Part II.* Second, compute the NET USABLE STORAGE AREA (sq ft) for these *386 ea* VEHICLES, inf, armd. *Use data contained in table XVI; line 81, column 7.* (Parking space is the same as NET USABLE STORAGE AREA per note (b) in table XVI.)

? NET USABLE STORAGE AREA (sq ft) = 386 ea VEHICLES, inf, armd $\times \frac{193 \text{ sq ft}}{1 \text{ ea VEHICLE, inf, armd}}$ = 74,498 sq ft required NET USABLE STORAGE AREA (ANSWER)

Note. This may also be considered the parking space required for these replacement vehicles.

(3) *Question No. 2:* How much SITE STORAGE AREA (sq ft) would be required in question number 1 above?

(4) *Solution No. 2:* Refer to table II and compare data shown in lines 2 and 6 of column 2. Note that for class II and IV end items *the SITE storage area is larger than the NET USABLE storage area by a factor of 6:1.* Therefore, the problem is solved as follows:

? SITE storage area (sq ft) = 74,498 sq ft NET USABLE storage area $\times \frac{180 \text{ sq ft SITE storage area}}{30 \text{ sq ft NET USABLE storage area}}$ = *446,988 sq ft* SITE storage area required for 386 ea replacement VEHICLES, inf, armd. (ANSWER)

(5) *Question No. 3:* How much shipping volume (cu ft) would be required for these 386 ea replacement VEHICLES, inf, armd?

(6) *Solution No. 3:* (Use table XVI; line 81, col. 8)

? cu ft (shipping volume) = 386 ea VEHICLES, inf, armd. $\times \frac{1{,}585.2 \text{ cu ft (shipping volume)}}{1 \text{ ea VEHICLE, inf, armd.}}$ = *453,367.2 cu ft* (shipping volume) for 386 ea replacement VEHICLES, inf, armd. (ANSWER)

Note. The answer could have been expressed in MEASUREMENT TONS. 1 ea MEASUREMENT TON = 40 cubic feet. This shipping volume would now be 11,334.18 MEASUREMENT TONS (453,367.2 ÷ 40). *In turn this shipping requirement is approximately equal to 1 ea LIBERTY SHIP.*

Table XVI. Weights and Dimensions for Ordnance Equipment

	End item	Weights (Short tons)		Dimensions				
		Payload	Gross[a]	Length (ft)	Width (ft)	Height (ft)	Parking space[b] (sq ft)	Shipping volume[c] (cu ft)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SMALL ARMS AND LIGHT MORTARS							
1	CARBINE, caliber .30, M2		0.003	3.0				0.5
2	GUN, machine, caliber .30, M1919A6		0.011	4.4				2.9
3	GUN, machine, caliber .50, HB (Flex), M2		0.042	5.4				6.4
4	GUN, submachine, caliber .45, M3A1		0.005	2.5				0.3
5	LAUNCHER, rocket, 3.5-inch, M20A1-B1		0.008	5.0				2.8
6	PISTOL, caliber .45, M1911A1		0.001	0.7				0.1
7	RIFLE, automatic, caliber .30, M1918A2		0.009	4.0				0.9
8	RIFLE, US, caliber .30, M1		0.005	3.6				0.7
9	MORTAR, 81-mm, M29		0.053	4.3				4.5
	TOWED ARTILLERY AND HEAVY MORTARS							
10	MORTAR, 4.2-inch, M30		0.313	5.0				32.8
11	GUN, ADA, 90-mm, M2A1		16.150	29.5	8.6	10.1	254	2,562.3
12	GUN, ADA, 75-mm, M51		9.600	25.4	8.5	9.0	216	1,943.1
13	HOWITZER, 105-mm, M2A2		2.490	19.7	7.1	5.2	140	727.3
14	HOWITZER, 155-mm, M1A1		6.350	24.0	8.0	6.8	192	1,305.6
15	HOWITZER, 8-inch, M2		15.450	36.0	8.3	9.0	299	2,689.2
16	GUN, 155-mm, M2		15.050	34.4	8.3	9.0	286	2,569.7
17	GUN, 280-mm, T131[d]		83.320	84.2	10.3	12.2	867	10,580.6
	WHEELED VEHICLES							
18	AUTOMOBILE, sedan, light	0.38	2.010	16.4	6.2	5.5	102	559.2
19	AUTOMOBILE, sedan, medium	0.40	2.270	17.0	6.7	5.3	114	603.7
20	AUTOMOBILE, sedan, heavy	0.61	3.360	19.2	6.7	5.7	129	733.2
21	MOTORCYCLE, solo, chain driven	0.12	0.406	7.3	3.1	3.2	23	72.4
22	SEMITRAILER, van, cargo, 6-ton, M119	6.00	9.600	23.0	8.0	11.2	184	2,060.8
23	SEMITRAILER, van, shop, 6-ton, M146	6.00	9.400	23.0	8.0	11.3	184	2,079.2
24	SEMITRAILER, stake, 6-ton, M118	6.00	9.600	22.8	7.8	8.0	178	1,422.4
25	SEMITRAILER, gasoline, 12-ton, M131A2	9.81	17.235	29.3	8.0	9.0	234	2,109.6
26	SEMITRAILER, low bed, wkr, 12-ton, M269	12.00	26.100	34.1	8.1	5.0	276	1,381.0
27	SEMITRAILER, low bed, wkr, 12-ton, M270	12.00	20.750	32.0	8.1	5.0	259	1,296.0
28	SEMITRAILER, van, supply, 12-ton, M129	12.00	19.680	21.9	8.0	12.3	175	2,154.9
29	SEMITRAILER, stake, 12-ton, M127	12.00	18.750	28.7	8.1	9.1	232	2,115.8
30	SEMITRAILER, low bed, 25-ton, M172	25.00	32.750	33.9	9.6	5.3	325	1,724.6
31	SEMITRAILER, transporter, 45-ton, M15A2	45.00	21.180[e]	38.5	10.3	8.8	397	3,489.2
32	TRAILER, cargo, ¼-ton, M100	0.25	0.530	9.1	4.7	3.5	43	149.8
33	TRAILER, cargo, ¾-ton, M101	0.75	1.920	12.3	4.7	6.9	58	398.8
34	TRAILER, cargo, 1½-ton, M104A1	1.50	2.700	13.8	6.9	8.3	95	790.2
35	TRAILER, cargo, 1½-ton, M105A1	1.50	2.830	13.7	6.9	8.2	95	774.8
36	TRAILER, tank, water, 1½-ton, M106	2.82	3.970	13.7	6.9	6.7	95	633.2
37	TRAILER, ammunition, 2-ton, M10	1.37	2.490	12.8	7.2	4.8	92	442.6
38	CARRIER, lt wpns, inf, ½-ton, M274	0.97	1.380	10.0	4.2	4.1	42	172.2
39	TRUCK, utility, ¼-ton, M38A1	0.40	1.750	11.6	5.1	6.1	59	361.1
40	TRUCK, utility, ¼-ton, M151	0.40	1.450	11.0	5.3	5.9	58	343.9
41	TRUCK, cargo, ¾-ton, M37	0.75	3.710	15.4	6.2	7.5	96	716.3
42	TRUCK, cargo, 2½-ton, M34	2.50	8.450	23.0	7.3	8.8	168	1,477.5
43	TRUCK, cargo, 2½-ton, M35	2.50	8.920	22.9	8.0	9.3	183	1,703.8
44	TRUCK, cargo, 2½-ton, M135	2.50	8.880	22.2	7.3	8.8	166	1,464.3
45	TRUCK, cargo, 2½-ton, M211	2.50	9.290	22.3	8.0	9.3	178	1,659.1
46	TRUCK, dump, 2½-ton, M59	2.50	9.420	20.6	7.1	6.8	146	994.2
47	TRUCK, dump, 2½-ton, M215	2.50	9.900	19.8	8.0	9.0	158	1,425.6
48	TRUCK, dump, 2½-ton, M342	2.50	9.230	19.6	7.1	6.8	139	946.6
49	TRUCK, van, shop, 2½-ton, M109	2.00	7.580	21.1	8.3	10.7	175	1,873.9

See footnotes at end of table.

Table XVI. Weights and Dimensions for Ordnance Equipment—Continued

	End item	Weights (Short tons)		Dimensions				
		Payload	Gross[a]	Length (ft)	Width (ft)	Height (ft)	Parking space[b] (sq ft)	Shipping volume[c] (cu ft)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
50	TRUCK, van, shop, 2½-ton, M220	2.00	9.540	22.3	8.0	10.9	178	1,944.6
51	TRUCK, tank, gasoline, 2½-ton, M49	9.42	15.860	22.9	8.0	7.3	183	1,337.4
52	TRUCK, tank, gasoline, 2½-ton, M217	9.42	16.590	22.2	8.0	9.1	178	1,616.2
53	TRUCK, tank, water, 2½-ton, M50	8.98	15.930	21.9	7.9	7.5	173	1,297.6
54	TRUCK, tank, water, 2½-ton, M222	8.98	16.030	18.8	8.0	9.1	150	1,368.6
55	TRUCK TRACTOR, 2½-ton, M48		5.920	21.1	7.8	8.3	165	1,366.0
56	TRUCK TRACTOR, 2½-ton, M221		6.050	19.3	8.0	8.5	154	1,312.4
57	TRUCK TRACTOR, 2½-ton, M275		5.590	20.1	7.8	8.3	157	1,301.3
58	TRUCK, wrecker, crane, 2½-ton, M108		10.250	25.0	8.0	8.9	200	1,780.0
59	TRUCK, wrecker, crane, 2½-ton, M214		11.400	22.5	8.0	9.3	180	1,674.0
60	TRUCK, wrecker, light, 2½-ton, M60		11.850	25.1	8.0	8.9	201	1,787.1
61	TRUCK, cargo, 5-ton, M41	5.00	14.910	25.9	8.2	9.3	212	1,975.1
62	TRUCK, cargo, 5-ton, M54	5.17	15.140	25.8	8.1	9.7	209	2,027.1
63	TRUCK, dump, 5-ton, M51	5.18	16.120	23.5	8.1	9.3	190	1,770.3
64	TRUCK TRACTOR, 5-ton, M52		9.900	22.8	8.1	7.2	185	1,329.7
65	TRUCK TRACTOR, wrecker, 5-ton, M246		14.400	29.3	8.1	11.0	237	2,610.6
66	TRUCK, wrecker, medium, 5-ton, M62		13.010	25.8	8.1	8.6	209	1,797.2
67	TRUCK TRACTOR, 10-ton, M123		16.120	23.3	9.5	9.3	221	2,058.6
68	TRUCK, gun lifting, hv, front, M249		18.700	31.0	10.3	9.7	319	3,097.2
69	TRUCK, gun lifting, hv, rear, M250		17.700	31.0	10.3	9.7	319	3,097.2
	SELF-PROPELLED ARTILLERY AND TRACKED VEHICLES							
70	CARRIAGE, motor, heavy mortar, M84		21.480	17.0	9.3	9.0	158	1,422.9
71	CARRIAGE, motor, twin 40-mm gun, M42A1		21.500	20.3	10.8	9.3	219	2,038.9
72	HOWITZER, 105-mm, self-propelled, M52A1		27.050	18.5	10.3	11.2	191	2,134.2
73	HOWITZER, 155-mm, self-propelled, M44A1		31.250	20.1	10.8	10.6	217	2,301.0
74	HOWITZER, 8-inch, self-propelled, M55		47.000	26.1	11.1	11.4	290	3,302.7
75	GUN, 90-mm, self-propelled, M56		7.720	14.5	8.2	7.3	119	867.9
76	TANK, 76-mm gun, M41A3		25.500	26.4	10.7	9.1	282	2,570.6
77	TANK, 90-mm gun, M48A2		50.750	24.4	12.0	10.2	293	2,986.6
78	TRACTOR, cargo, light, M5A4		15.180	15.9	9.6	8.8	153	1,343.2
79	TRACTOR, cargo, medium, M4A1		15.700	17.5	8.1	9.0	142	1,275.8
80	TRACTOR, cargo, medium, M8A2		22.500	22.1	10.8	10.0	239	2,386.8
81	VEHICLE, infantry, armored, M59		20.900	17.9	10.8	8.2	193	1,585.2
82	VEHICLE, recovery, medium, M74		46.900	27.4	10.2	11.2	279	3,130.2

[a] Gross weights INCLUDE payload weights. For combat weapons and vehicles the gross weights are considered to be the fighting weight for the equipment.
[b] Indicates NET USABLE STORAGE AREA for equipment. Refer to paragraph 19 for other storage data and relationships.
[c] Shipping volume has been converted to measurement tons in Table XVII.
[d] All end items include related equipment to ready them for their intended use (carriage, mount, gun, and so forth).
[e] Net weight only.

34. Transport Data for Ordnance Equipment

a. This table contains VESSEL, AIRCRAFT, and RAIL transport data for selected ordnance end items. These reference data have been designed to assist the staff officer in *estimating transportation requirements* for logistical studies and planning.

b. The data on vessel capabilities and transport aircraft contained in figures 17–19 inclusive will be required in solving logistical problems per this table and table XVIII (par. 35).

	Type vessel *	Measurement tons
1	Liberty *	11,500
2	Victory *	11,750
3	C1B Cargo *	11,400
4	C2 Cargo *	12,600
5	C3 Cargo	17,300
6	C4 Cargo	15,600
7	C4 Mariner	18,418

* Used to transport military vehicles; other vessels are primarily used to transport general cargo and supplies. (Details contained in FM 101–10.)

Figure 17. Vessel capacities.

	Air transport range (Nautical miles)	Allowable cargo load (Short tons)
	(1)	(2)
1	500	27.5
2	1,000	20.5
3	1,500	19.0
4	2,000	18.0
5	2,500	14.0
6	3,000	10.5
7	3,500	9.0
8	4,000	8.0

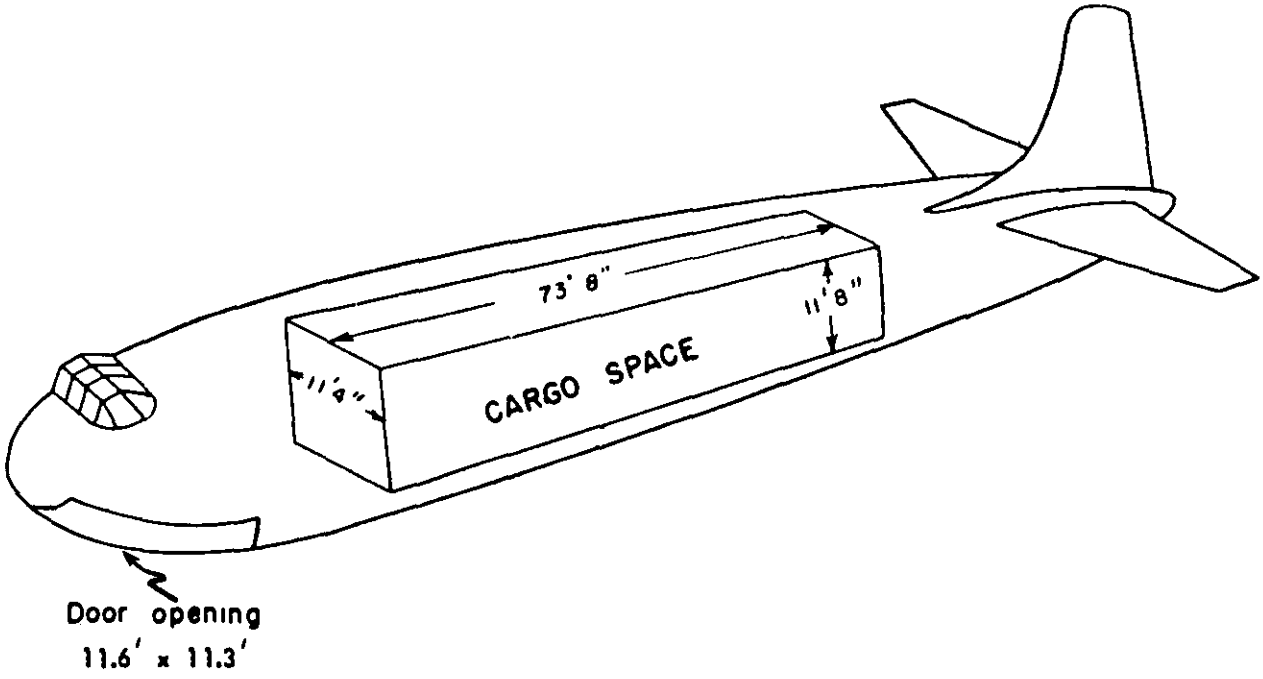


Figure 18. Range and load capabilities, C–124 aircraft.

	Air transport range (Nautical miles)	Allowable cargo load (Short tons)
	(1)	(2)
1	500	12.5
2	1,000	12.5
3	1,500	12.5
4	2,000	11.0
5	2,500	8.7
6	3,000	4.0

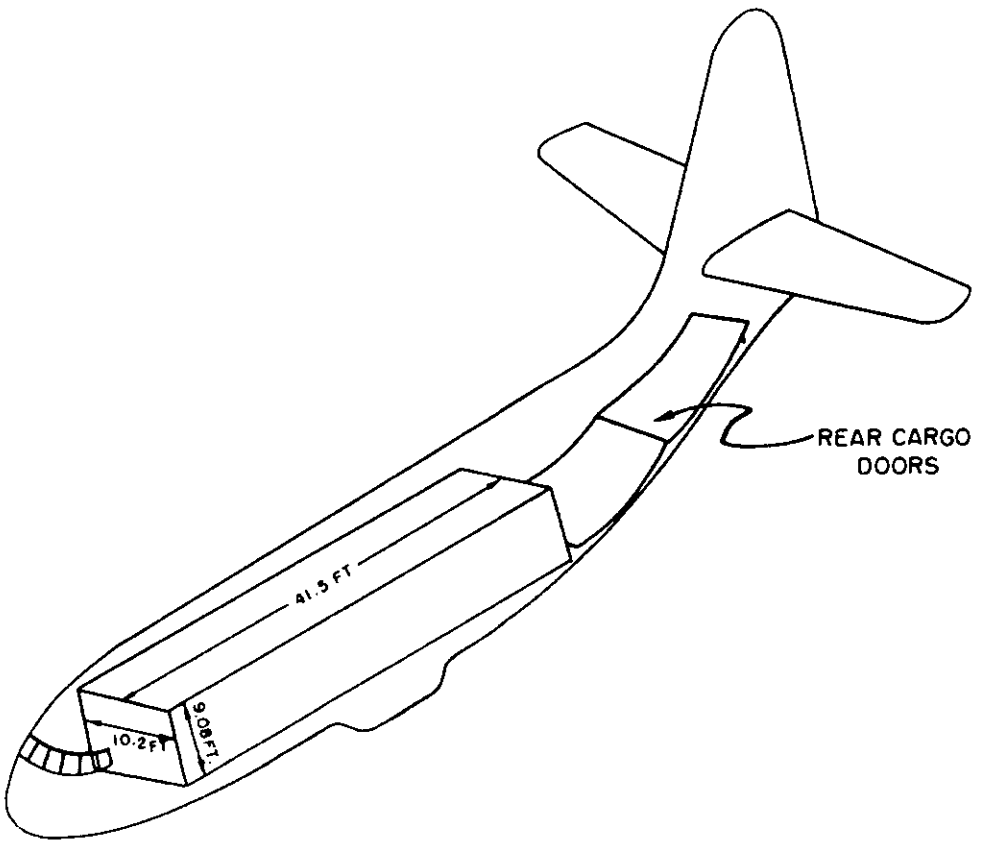


Figure 19. Range and load capabilities, C–130 aircraft.

c. Illustrative problems (Table XVII)

(1) *Question No. 1:* What type aircraft can be used to transport the HOWITZER, 8-inch, M2?

(2) *Solution No. 1:* (line 5, cols. 3, 4, 5, and 6) *ONLY C–124 aircraft* (ANSWER)

(3) *Question No. 2:* How many VICTORY SHIPS are required to ship 2,500 ea 90-mm gun TANKS to Europe?

(4) *Solution No. 2:* (fig. 17 and table XVII; line 67, col. 2)

$$\text{? VICTORY SHIPS} = 2{,}500 \text{ ea 90-mm gun TANKS} \times \frac{74.7 \text{ measurement tons}}{1 \text{ ea 90-mm gun TANK}} \times \frac{1 \text{ ea VICTORY SHIP}}{11{,}750 \text{ measurement tons}} = 15.89 \text{ or } \textit{16 ea} \text{ VICTORY SHIPS (ANSWER)}$$

(5) *Question No. 3:* How many 50-ft flat cars are required to transport 350 ea cargo TRACTORS, M8A2?

(6) *Solution No. 3:* (Table XVII; line 70, cols. 7 and 8)

$$\text{? 50-ft flat cars} = 350 \text{ ea cargo TRACTORS, M8A2} \times \frac{1 \text{ ea 50-ft flat car}}{2 \text{ ea cargo TRACTORS, M8A2}} = \textit{175 ea} \text{ 50-ft flat cars (ANSWER)}$$

(7) *Question No. 4:* How many C–124 aircraft are required to transport 200 ea TRUCKS, utility, ¼-ton, M151 to an overseas theater 2,500 nautical miles from Ft. Bragg, N. C.? (AIRCRAFT WILL NOT REFUEL IN FLIGHT. Also, vehicles are carrying full payload and are transported overseas in ONE TRIP.)

(8) *Solution No. 4:*

(*a*) *Part I.* (Table XVII; line 30, col. 6) This vehicle can be transported by C–124 aircraft.

(*b*) *Part II.* (Table XVI; line 40, col. 3 and fig. 18; line 5)

$$\text{? C–124 aircraft} = 200 \text{ ea Trucks, (M151)} \times \frac{1.450 \text{ short tons}}{1 \text{ ea truck (M151)}} \times \frac{1 \text{ ea C–124 aircraft (2,500 nautical mile range)}}{14.0 \text{ short tons}} = 20.7 \text{ or } \textit{21 ea} \text{ C–124 aircraft required for NON STOP trip overseas (ANSWER)}$$

(9) *Question No. 5:* Assume that C–124 aircraft can refuel every 500 nautical miles. What is the answer to question number 4 above?

(10) *Solution No. 5:*

$$\text{? C–124 aircraft} = 200 \text{ ea Trucks (M151)} \times \frac{1.450 \text{ short tons}}{1 \text{ ea Truck (M151)}} \times \frac{1 \text{ ea C–124 aircraft (refuel each 500 nautical miles)}}{27.5 \text{ short tons}} = 10.54 \text{ or } \textit{11 ea} \text{ C–124 aircraft required; refuel every 500 nautical miles (ANSWER)}$$

Note. The WEIGHT LOAD METHOD was used in estimating aircraft requirements for problems 4 and 5 above (FM 101–10).

Table XVII. Transport Data for Ordnance Equipment

	End item	Mode of transport[a]						
		Vessel	Aircraft				Rail[b]	
		Measurement tons (40 cu ft)	Can Be Transported By:				Type car	Quantity per car
			C–119	C–123	C–130	C–124		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	TOWED ARTILLERY AND HEAVY MORTARS							
1	GUN, ADA, 90-mm, M2A1	64.1	No	No	No	Yes	40 ft flat	1
2	GUN, ADA, 75-mm, M51	48.6	No	No	Yes	Yes	40 ft flat	1
3	HOWITZER, 105-mm, M2A2	18.2	Yes	Yes	Yes	Yes	50 ft flat	2
4	HOWITZER, 155-mm, M1A1	32.6	Yes	Yes	Yes	Yes	40 ft flat	1
5	HOWITZER, 8-inch, M2	67.2	No	No	No	Yes	40 ft flat	1
6	GUN, 155-mm, M2	64.2	No	No	No	Yes	40 ft flat	1
7	GUN, 280-mm, T131	26.5	No	No	No	No	50 ft flat	1

See footnotes at end of table.

Table XVII. Transport Data for Ordnance Equipment—Continued

	End item	Mode of transport[a]						
		Vessel	Aircraft				Rail[b]	
		Measurement tons (40 cu ft)	Can Be Transported By:				Type car	Quantity per car
			C–119	C–123	C–130	C–124		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	WHEELED VEHICLES							
8	AUTOMOBILE, sedan, light	14.0	Yes	Yes	Yes	Yes	50 ft flat	2
9	AUTOMOBILE, sedan, medium	15.1	Yes	Yes	Yes	Yes	50 ft flat	2
10	AUTOMOBILE, sedan, heavy	18.3	Yes	Yes	Yes	Yes	50 ft flat	2
11	MOTORCYCLE, solo, chain driven	1.8	Yes	Yes	Yes	Yes	40 ft box	13
12	SEMITRAILER, van, cargo, 6-ton, M119	51.5	No	No	No	Yes	50 ft flat	2
13	SEMITRAILER, van, shop, 6-ton, M146	52.0	No	No	No	Yes	50 ft flat	2
14	SEMITRAILER, stake, 6-ton, M118	35.6	No	Yes	Yes	Yes	50 ft flat	2
15	SEMITRAILER, gasoline, 12-ton, M131A2	52.7	No	No	Yes	Yes	50 ft flat	2
16	SEMITRAILER, low bed, wkr, 12-ton, M269	34.5	No	No	Yes	Yes	40 ft flat	1
17	SEMITRAILER, low bed, wkr, 12-ton, M270	32.4	No	No	Yes	Yes	40 ft flat	1
18	SEMITRAILER, van, supply, 12-ton, M129	53.9	No	No	No	No	50 ft flat	2
19	SEMITRAILER, stake, 12-ton, M127	52.9	No	No	Yes	Yes	40 ft flat	1
20	SEMITRAILER, low bed, 25-ton, M172	43.1	No	No	Yes	Yes	40 ft flat	1
21	SEMITRAILER, transporter, 45-ton, M15A2	87.2	No	No	No	Yes	50 ft flat	1
22	TRAILER, cargo, ¼-ton, M100	3.7	Yes	Yes	Yes	Yes	50 ft flat	4
23	TRAILER, cargo, ¾-ton, M101	10.0	Yes	Yes	Yes	Yes	40 ft flat	3
24	TRAILER, cargo, 1½-ton, M104A1	19.8	Yes	Yes	Yes	Yes	50 ft flat	3
25	TRAILER, cargo, 1½-ton, M105A1	19.4	Yes	Yes	Yes	Yes	50 ft flat	3
26	TRAILER, tank, water, 1½-ton, M106	15.8	Yes	Yes	Yes	Yes	50 ft flat	3
27	TRAILER, ammunition, 2-ton, M10	11.1	Yes	Yes	Yes	Yes	50 ft flat	3
28	CARRIER, lt wpns, inf, ½-ton, M274	4.3	Yes	Yes	Yes	Yes	40 ft flat	3
29	TRUCK, utility, ¼-ton, M38A1	9.0	Yes	Yes	Yes	Yes	40 ft flat	3
30	TRUCK, utility, ¼-ton, M151	8.6	Yes	Yes	Yes	Yes	40 ft flat	3
31	TRUCK, cargo, ¾-ton, M37	17.9	Yes	Yes	Yes	Yes	40 ft flat	2
32	TRUCK, cargo, 2½-ton, M34	36.9	Yes	Yes	Yes	Yes	50 ft flat	2
33	TRUCK, cargo, 2½-ton, M35	42.6	Yes	Yes	Yes	Yes	50 ft flat	2
34	TRUCK, cargo, 2½-ton, M135	36.6	Yes	Yes	Yes	Yes	50 ft flat	2
35	TRUCK, cargo, 2½-ton, M211	41.5	Yes	Yes	Yes	Yes	50 ft flat	2
36	TRUCK, dump, 2½-ton, M59	24.9	Yes	Yes	Yes	Yes	50 ft flat	2
37	TRUCK, dump, 2½-ton, M215	35.6	No	No	Yes	Yes	50 ft flat	2
38	TRUCK, dump, 2½-ton, M342	23.7	Yes	Yes	Yes	Yes	50 ft flat	2
39	TRUCK, van, shop, 2½-ton, M109	46.8	No	No	No	Yes	50 ft flat	2
40	TRUCK, van, shop, 2½-ton, M220	48.6	No	No	No	Yes	50 ft flat	2
41	TRUCK, tank, gasoline, 2½-ton, M49	33.4	Yes	Yes	Yes	Yes	50 ft flat	2
42	TRUCK, tank, gasoline, 2½-ton, M217	40.4	No	No	Yes	Yes	50 ft flat	2
43	TRUCK, tank, water, 2½-ton, M50	32.4	Yes	Yes	Yes	Yes	50 ft flat	2
44	TRUCK, tank, water, 2½-ton, M222	34.2	No	No	Yes	Yes	50 ft flat	2
45	TRUCK TRACTOR, 2½-ton, M48	34.2	Yes	Yes	Yes	Yes	50 ft flat	2
46	TRUCK TRACTOR, 2½-ton, M221	32.8	Yes	Yes	Yes	Yes	50 ft flat	2
47	TRUCK TRACTOR, 2½-ton, M275	32.5	Yes	Yes	Yes	Yes	50 ft flat	2
48	TRUCK, wrecker, crane, 2½-ton, M108	44.5	No	No	Yes	Yes	40 ft flat	1
49	TRUCK, wrecker, crane, 2½-ton, M214	41.9	No	No	Yes	Yes	50 ft flat	2
50	TRUCK, wrecker, light, 2½-ton, M60	44.7	No	No	Yes	Yes	40 ft flat	1
51	TRUCK, cargo, 5-ton, M41	49.4	No	No	Yes	Yes	40 ft flat	1
52	TRUCK, cargo, 5-ton, M54	50.7	No	No	Yes	Yes	40 ft flat	1
53	TRUCK, dump, 5-ton, M51	44.3	No	No	Yes	Yes	40 ft flat	1
54	TRUCK TRACTOR, 5-ton, M52	33.3	No	No	Yes	Yes	50 ft flat	2
55	TRUCK TRACTOR, wkr, 5-ton, M246	65.3	No	No	No	Yes	40 ft flat	1
56	TRUCK, wkr, medium, 5-ton, M62	44.9	No	No	No	Yes	40 ft flat	1
57	TRUCK, tractor, 10-ton, M123	51.5	No	No	No	Yes	40 ft flat	1

See footnotes at end of table.

Table XVII. Transport Data for Ordnance Equipment—Continued

	End item	Mode of transport[a]						
		Vessel	Aircraft				Rail[b]	
		Measurement tons (40 cu ft)	Can Be Transported By:				Type car	Quantity per car
			C–119	C–123	C–130	C–124		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
58	TRUCK, gun lifting, hv, front, M249	77.4	No	No	No	Yes	40 ft flat	1
59	TRUCK, gun lifting, hv, rear, M250	77.4	No	No	No	Yes	40 ft flat	1
	SELF-PROPELLED ARTILLERY AND TRACKED VEHICLES							
60	CARRIAGE, motor, heavy mortar, M84	35.6	No	No	No	Yes	50 ft flat	2
61	CARRIAGE, motor, twin 40-mm gun, M42A1	51.0	No	No	No	Yes	50 ft flat	2
62	HOWITZER, 105-mm, self-propelled, M52A1	53.4	No	No	No	Yes	50 ft flat	2
63	HOWITZER, 155-mm, self-propelled, M44A1	57.5	No	No	No	No	50 ft flat	2
64	HOWITZER, 8-inch, self-propelled, M55	82.7	No	No	No	No	50 ft flat	1
65	GUN, 90-mm, self-propelled, M56	21.7	Yes	Yes	Yes	Yes	40 ft flat	2
66	TANK, 76-mm gun, M41A3	64.3	No	No	No	Yes	40 ft flat	1
67	TANK, 90-mm gun, M48A2	74.7	No	No	No	No	50 ft flat	1
68	TRACTOR, cargo, light, M5A4	33.6	No	No	No	Yes	40 ft flat	2
69	TRACTOR, cargo, medium, M4A1	31.9	No	No	No	Yes	40 ft flat	2
70	TRACTOR, cargo, medium, M8A2	59.7	No	No	No	Yes	50 ft flat	2
71	VEHICLE, infantry, armored, M59	39.6	No	No	No	Yes	50 ft flat	2
72	VEHICLE, recovery, medium, M74	78.3	No	No	No	No	50 ft flat	1

[a] Other transportation data contained in FM 101–10, part I.
[b] Loads are based upon rolling stock expected to be located in overseas theaters.

35. Vessel, Aircraft, and Rail Movement Data for Ordnance TOE Units

a. This table contains VESSEL, AIRCRAFT, and RAIL movement data for ordnance TOE units. Detailed planning and actual movement will be completed by Transportation Corps personnel. However, these reference data have been provided the ordnance staff officer for *estimating transportation requirements* in logistical studies and planning.

b. Illustrative problem (Table XVIII)

(1) *Question No. 1:* How many LIBERTY SHIPS are required to transport the TOE equipment for 10 ea Dir Autmv Spt Co, TOE 9–127D overseas to Le Havre, France?

(2) *Solution No. 1:* (Table XVIII; line 10, col. 8 and fig. 17; line 1)

? LIBERTY SHIPS = 10 ea Dir Autmv Spt Co $\times \frac{1{,}936.95 \text{ measurement tons}}{1 \text{ ea Dir Autmv Spt Co.}} \times \frac{1 \text{ ea LIBERTY SHIP}}{11{,}500 \text{ measurement tons}} = 1.68$ or *2 ea* LIBERTY SHIPS (ANSWER)

Note. There is no known relationship for PERSONNEL SHORT TONS (col. 5) and MEASUREMENT TONS for transport via ship. The estimated shipping requirements for personnel must be computed separately per data contained in FM 101–10.

(3) *Question No. 2:* How many C–124 aircraft are required to transport the TOE personnel and equipment for 10 ea Dir Autmv Spt Co, TOE 9–127D, overseas to Lisbon, Portugal? (All 10 Co. will move overseas in one trip. Aircraft will move from New York City to Lisbon via Azores. *Assume nonstop flight from New York City to Azores is 2,000 nautical miles.*)

(4) *Solution No. 2:*

(*a*) *Part I.* (Table XVIII; line 10, cols. 9, 10, and 11)

Add the short tons for columns 9, 10, and 11 *to obtain total short tons for 1 ea Dir Autmv Spt Co, TOE 9–127D.*

Total short tons for 1 ea Dir Autmv Spt Co. =

Personnel	14.76 short tons (col. 9)
Equipment	115.05 short tons (col. 10)
Equipment	317.97 short tons (col. 11)
TOTAL	447.78 short tons

(*A combination C–130 and C–124 aircraft could have been selected;* however, this problem indicated ONLY C–124 aircraft were to be used.)

(*b*) *Part II.* (Part I above and fig. 18, line 4)

? C–124 aircraft = 10 ea Dir Autmv Spt Co, TOE 9–127D $\times \frac{447.78 \text{ short tons}}{1 \text{ ea Dir Autmv Spt Co.}} \times \frac{1 \text{ ea C–124 aircraft}}{18.0 \text{ short tons}}$ = 248.76 or *249 ea* C-124 aircraft (ANSWER)

(5) *Question No. 3:* Suppose only the personnel were to be transported via aircraft for problem 2. How many C–130 aircraft are required?

(6) *Solution No. 3:* (Table XVIII; line 10, col. 9 and fig. 19; line 4)

? C–130 aircraft = Personnel in 10 ea Dir Autmv Spt Co. $\times \frac{14.76 \text{ short tons}}{\text{Personnel in 1 ea Dir Autmv Spt Co.}} \times \frac{1 \text{ ea C–130 aircraft}}{11.0 \text{ short tons}}$ = 13.4 or *14 ea* C–130 aircraft (ANSWER)

(7) *Question No. 4:* How many rail cars (ALL TYPES) are required to move 2 ea Dir Autmv Spt Co, TOE 9–127D from Ft Bragg, N. C., to a staging area on the west coast?

(8) *Solution No. 4:* (Table XVIII; line 10, col. 12–17 inclusive)

Multiply all data shown in above reference by factor of 2 (data in table were computed for 1 ea unit); results are as follows:

Standard Pullman	9.46 or 10
Baggage Cars	0.98 or 1
Kitchen Cars	0.98 or 1
Flat Cars	
40 ft	24.00 or 24
50 ft	36.00 or 36
Box Cars (40 tons)	0.62 or 1
TOTAL RAIL CARS (all types)	*73 ea* (ANSWER)

Note. Locomotive and caboose requirements are not included. Additional data are available in FM 101–10.

Table XVIII. Vessel, Aircraft, and Rail Movement Data for Ordnance TOE Units

Ordnance TOE data				Weight & volume data			Movement Requirements									
Unit designation	TOE		Full strength	Personnel	Equipment		Vessel[d]	Aircraft tonnages[a] [e] [f]			Rail Cars[g]					
								Personnel	Equipment		Personnel			Equipment		
	No.	Date		Short tons[a]	Short tons[b]	Cubic feet[c]	Eqp / Meas tons	C-124 or C-130	C-124 only	C-124 or C-130	Standard Pullman	Baggage Cars	Kitchen Cars	Flat Cars 40-ft	Flat Cars 50-ft	Box cars (40-tons)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
COMMAND UNITS (CLASS II & IV)																
1 Hq & Hq Det, Maint & Sup Gp	9-12D	Feb 58	58	6.96	59.06	11,117	277.93	6.96		59.06	2.23	0.23	0.23	5.00	3.00	0.15
2 Hq & Hq Det, Bn	9-76R	Feb 55	35	4.20	37.59	6,923	173.08	4.20		37.59	1.35	0.14	0.14	1.00	5.00	0.09
3 Hq & Hq Co, Armt or Autmv Rbld Bn.	9-316D	Sep 57	153	18.36	125.60	21,425	535.63	18.36	36.00	89.60	5.89	0.61	0.61	6.00	4.00	0.38
COMMAND UNITS (CLASS V)																
4 Hq & Hq Co, Ammo Gp	9-22D	Jul 58	93	11.16	253.77	50,587	1,264.68	11.16	52.82	200.95	3.58	0.37	0.37	8.00	9.00	0.23
5 Hq & Hq Det, Bn	9-86D	Jul 58	72	8.64	58.96	10,825	270.63	8.64		58.96	2.77	0.29	0.29	7.00	2.00	0.18
COMPANIES, NONDIVISIONAL (CLASS II & IV)																
6 Dir Spt	9-7D	Aug 58	181	21.72	385.15	85,251	2,131.28	21.72	152.35	232.80	6.96	0.72	0.72	11.00	23.00	0.45
7 Gen Spt	9-9D	Mar 59	201	24.12	804.30	124,157	3,103.93	24.12	314.85	383.73	7.73	0.80	0.80	21.00	26.00	0.56
8 Fld Sup	9-57R	Apr 55	160	19.20	609.92	101,946	2,548.65	19.20	341.23	268.69	6.16	0.64	0.64	34.00	7.00	0.40
9 Amph Spt Maint (Brig)	9-97R	Apr 55	111	13.32	411.41	81,385	2,034.63	13.32	69.03	342.38	4.27	0.44	0.44	7.00	23.00	0.28
10 Dir Autmv Spt	9-127D	Aug 58	123	14.76	433.02	77,478	1,936.95	14.76	115.05	317.97	4.73	0.49	0.49	12.00	18.00	0.31
11 Park	9-137D	Jan 58	165	19.80	386.19	47,732	1,193.30	19.80	69.03	176.46	6.35	0.66	0.66	11.00	13.00	0.41
12 Recov & Clas[h]	9-167D		175	21.00	531.34	79,766	1,994.15	21.00	240.14	197.40	6.73	0.70	0.70	11.00	12.00	0.44
13 Recov & Clas	9-167R	Mar 55	243	29.16	1,024.66	116,115	2,902.88	29.16	698.70	185.26	9.35	0.97	0.97	39.00	15.00	0.61
14 Gen Autmv Spt	9-197D	Mar 59	185	22.20	607.71	94,191	2,354.78	22.20	226.80	380.91	7.11	0.74	0.74	17.00	10.00	0.57
15 GM Gen Spt	9-227D	Nov 59	160	19.20	478.27	87,011	2,175.28	19.20	55.91	422.36	6.16	0.64	0.64	12.00	23.00	0.39
16 Cmbt Veh Rbld	9-317D	Sep 57	220	26.40	129.26	16,868	421.70	26.40	72.24	57.02	8.46	0.88	0.88	5.00	3.00	0.55
17 Armt & Fire Con Rbld	9-318D	Sep 57	232	27.84	51.04	8,234	205.85	27.84	26.62	24.42	8.93	0.93	0.93		2.00	0.58
18 Eng & Power Tn Rbld	9-319D	Sep 57	244	29.28	31.72	4,909	122.73	29.28		31.72	9.39	0.98	0.98	2.00	2.00	0.61
19 Eng Rbld	9-327D	Feb 58	214	25.68	26.91	4,307	107.68	25.68		26.91	8.23	0.86	0.86		2.00	0.54
20 Power Tn Rbld	9-328D	Feb 58	160	19.20	68.05	9,830	245.75	19.20	9.90	58.15	6.16	0.64	0.64	6.00	2.00	0.40
21 Tire Rep[h]	9-347D		149	17.88	256.71	38,580	964.50	17.88	67.30	150.05	5.73	0.60	0.60	9.00	7.00	0.37
22 Tire Rbld	9-347R	Apr 55	177	21.24	31.82	6,499	162.48	21.24		31.82	6.81	0.71	0.71	1.00	2.00	0.44
23 Mtr Veh Assy	9-348D	Oct 57	167	20.04	244.14	29,464	736.60	20.04	163.38	80.76	6.42	0.67	0.67	13.00	3.00	0.42
24 Fld Maint	9-357D	Jan 58	228	27.36	371.54	67,629	1,690.73	27.36	92.04	279.50	8.77	0.91	0.91	5.00	19.00	0.57
25 Coll Pt	9-358R	Apr 55	118	14.56	268.08	36,881	922.03	14.56	144.86	123.22	4.54	0.47	0.47	10.00	7.00	0.30
26 Sup Dep	9-367R	Apr 55	253	30.36	289.70	37,627	940.68	30.36	96.03	193.67	9.73	1.01	1.01	19.00	4.00	0.63
COMPANIES NONDIVISIONAL (CLASS V)																
27 Ammo	9-17D	Jul 58	263	31.56	475.43	66,970	1,674.25	31.56	146.26	329.17	10.12	1.05	1.05	7.00	12.00	0.66
28 SW & Msl Dir Spt	9-47D	Jul 58	246	29.52	1,264.27	227,092	5,677.30	29.52	231.42	1,032.85	9.46	0.98	0.98	13.00	59.00	0.62
29 SW & Msl Gen Spt	9-87D	Jul 58	184	22.08	713.01	131,775	3,294.38	22.08	128.53	584.48	7.08	0.74	0.74	13.00	36.00	0.46

See footnotes at end of table.

Table XVIII. Vessel, Aircraft, and Rail Movement Data for Ordnance TOE Units—Continued

Ordnance TOE data						Weight & volume data			Movement Requirements									
Unit designation		TOE No.	TOE Date	Full strength	Personnel Short tons[a]	Equipment Short tons[b]	Equipment Cubic feet[c]	Vessel[d] Eqp	Aircraft tonnages[a][e][f] Personnel	Aircraft tonnages[a][e][f] Equipment		Rail Cars[a][g] Personnel			Rail Cars[a][g] Equipment		
															Flat Cars		Box cars (40-tons)
								Meas tons	C-124 or C-130	C-124 only	C-124 or C-130	Standard Pullman	Baggage Cars	Kitchen Cars	40-ft	50-ft	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
30	REDSTONE	9-217T	Mar 58	179	21.48	786.62	151,596	3,789.90	21.48	199.42	587.20	6.87	0.72	0.72	21.00	42.00	0.45
31	SW & Msl Dep Spt	9-377D	Jul 58	293	35.16	923.02	131,629	3,290.73	35.16	353.39	490.91	11.27	1.17	1.17	27.00	25.00	0.73
	ADMINISTRATIVE TEAMS																
32	Plat Hq (Comp) AA	9-500R	Apr 55	2	0.24				0.24			0.08	0.01	0.01			0.01
33	Plat Hq (Sep) AB	9-500R	Apr 55	4	0.48	5.61	1,120	28.00	0.48		5.61	0.15	0.02	0.02		0.50	0.01
34	Co Hq AC	9-500R	Apr 55	9	1.08	13.14	2,123	53.08	1.08		13.14	0.35	0.04	0.04		1.00	0.02
	SUPPLY TEAMS																
35	Gen Sup (Basic) BA	9-500R	Apr 55	16	1.92	16.30	3.236	80.90	1.92		16.30	0.62	0.06	0.06		1.00	0.04
36	Gen Sup (Aug) BB	9-500R	Apr 55	14	1.68	8.90	1,698	42.45	1.68		8.90	0.54	0.06	0.06		0.50	0.04
37	Ammo Sup (Basic) BC	9-500R	Apr 55	29	3.48	17.80	3,396	84.90	3.48		17.80	1.12	0.12	0.12		1.00	0.07
38	Ammo Sup (Aug) BD	9-500R	Apr 55	15	1.80	3.69	724	18.10	1.80		3.69	0.58	0.06	0.06	0.50		0.04
39	Recov BE	9-500R	Apr 55	22	2.64	146.13	14.886	372.15	2.64	137.26	8.87	0.85	0.09	0.09	3.00	3.00	0.06
	VEHICLE MAINTENANCE TEAMS																
40	Wh Veh Rep (Basic) CA	9-500R	Apr 55	15	1.80	75.33	13,672	341.80	1.80	23.01	52.36	0.58	0.06	0.06	2.00	2.50	0.04
41	Wh Veh Rep (Aug) CB	9-500R	Apr 55	5	0.60				0.60			0.19	0.02	0.02			0.01
42	Tracked Veh Rep (Basic) CC	9-500R	Apr 55	21	2.52	54.30	11,055	276.38	2.52	23.01	31.29	0.81	0.08	0.08	1.00	3.00	0.05
43	Tire Rep CD	9-500R	Apr 55	17	2.04	51.91	11,318	282.95	2.04		51.91	0.65	0.07	0.07		3.50	0.04
	ARMAMENT MAINTENANCE TEAMS																
44	Arty Rep (Basic) DA	9-500R	Apr 55	12	1.44	46.69	8,605	215.13	1.44	18.00	28.69	0.46	0.05	0.05	2.00	2.00	0.03
45	Fire Con Rep DB	9-500R	Apr 55	9	1.08	12.37	2,737	68.43	1.08		12.37	0.35	0.04	0.04		1.00	0.02
46	SA Rep DC	9-500R	Apr 55	4	0.84	12.37	2,737	68.43	0.84		12.37	0.15	0.02	0.02		1.00	0.01
47	NIKE Gen Spt[h] EA	9-500R		44	5.28	161.25	32,566	814.15	5.28		161.25	1.69	0.18	0.18	1.00	10.00	0.11
48	CORPORAL Gen Spt[h] EB	9-500R		44	5.28	138.93	29,259	731.48	5.28		138.93	1.69	0.18	0.18	3.50	7.00	0.11
49	SW Gen Spt[h]	9-500R		45	5.40	145.00	29,043	726.08	5.40	51.21	93.88	1.73	0.18	0.18	2.00	8.50	0.11
	EXPLOSIVE DISPOSAL AND SPECIAL WEAPON CALIBRATION DETACHMENTS																
50	Explosive Disposal AA	C-3, 9-510R	Apr 57	10	1.20	19.34	4,257	106.43	1.20		19.34	0.38	0.04	0.04	3.00		0.03
51	Explosive Disposal (Aug) AB	C-3, 9-510R	Apr 57	14	1.68	17.36	3,750	93.75	1.68		17.36	0.54	0.06	0.06		1.50	0.04
52	Explosive Disposal (Con) AC	C-3, 9-510R	Apr 57	8	0.96	17.40	3,366	84.15	0.96		17.40	0.31	0.03	0.03		1.50	0.02
53	SW Calbr Secd Ref GA	C-4, 9-510R	Jul 58	3	0.36	5.61	1,120	28.00	0.36		5.61	0.12	0.01	0.01		0.50	0.01
	BALLISTIC, TECHNICAL SERVICE AND INTELLIGENCE DETACHMENTS																
54	Ball & Tech Svc BA	9-510R	Apr 55	7	0.84	23.27	5,874	146.85	0.84		23.27	0.27	0.03	0.03		1.00	0.02
55	Tech Intel BB	9-510R	Apr 55	6	0.62	2.51	656	16.40	0.62		2.51	0.23	0.02	0.02		0.50	0.02
56	Tech Intel Con BC	9-510R	Apr 55	11	1.32	7.65	1,738	43.45	1.32		7.65	0.42	0.04	0.04		1.00	0.03

ARMAMENT MAINTENANCE DETACHMENTS																		
57	Hv AAA Rep	CA		9–510R	Apr 55	9	1.02	34.35	5,276	131.90	1.02		34.35	0.35	0.04	0.04	2.00		0.02
58	Hv AAA Rep (Aug)	CB		9–510R	Apr 55	2	0.24	10.92	2,083	52.08	0.24		10.92	0.08	0.01	0.01		1.00	0.01
59	IFC Rep T33	CC		9–510R	Apr 55	13	1.56	25.87	6,348	158.70	1.56		25.87	0.50	0.05	0.05	1.00	1.50	0.03
60	IFC Rep T38	CD		9–510R	Apr 55	11	1.32	12.30	3,245	81.13	1.32		12.30	0.42	0.04	0.04		1.50	0.03
61	IFC Rep T33 (Aug)	CE		9–510R	Apr 55	4	0.48	1.38	650	16.25	0.48		1.38	0.15	0.02	0.02	0.50		0.01
62	Hv Arty Mat Rep	CF		9–510R	Apr 55	9	1.08	64.56	6,188	154.70	1.08	53.24	11.32	0.35	0.04	0.04	4.50		0.02
AMMUNITION DETACHMENTS																		
63	Ammo Renv	DA		9–510R	Apr 55	65	7.80	13.31	3,322	83.05	7.80		13.31	2.50	0.26	0.26		2.00	0.16
64	762-mm Rkt Spt	DB		9–510R	Apr 55	16	1.92	104.73	17,849	446.23	1.92	39.34	65.39	0.62	0.06	0.06	4.00	3.50	0.04
65	762-mm Rkt Spt	DC		9–510R	Apr 55	5	0.60	25.84	3,422	85.55	0.60	23.01	2.83	0.19	0.02	0.02	1.50		0.01
66	762-mm Rkt SW Spt	DD	C–1,	9–510R	Feb 56	21	2.52	90.26	12,834	320.85	2.52	32.91	57.35	0.81	0.08	0.08	3.50	2.00	0.05
67	762-mm Rkt SW Spt (Aug)	DD	C–1,	9–510R	Feb 56	2	0.24				0.24			0.08	0.01	0.01			0.01
68	SW Hv & Very Hv Arty Spt.	DE	C–1,	9–510R	Feb 56	13	1.56	44.07	8,353	208.83	1.56		44.07	0.50	0.05	0.05	1.00	2.00	0.03
69	GM & Hv Rkt Spt, Cl V	DF	C–2,	9–510R	Feb 57	34	4.08	212.43	31,006	775.15	4.08	122.27	90.16	1.31	0.14	0.14	8.00	4.50	0.09
70	GM & Hv Rkt Spt, Cl V (Aug).	DG	C–2,	9–510R	Feb 57	18	2.16	152.61	21,371	534.28	2.16	72.64	79.97	0.69	0.07	0.07	5.00	3.00	0.05
GUIDED MISSILE MAINTENANCE DETACHMENTS																		
71	NIKE Dir Spt	FA	C–2,	9–510R	Feb 57	46	5.52	222.23	42,311	1,057.78	5.52	42.21	180.02	1.77	0.18	0.18	6.00	9.00	0.12
72	CORPORAL Dir Spt	FB	C–2,	9–510R	Feb 57	24	2.88	152.57	27,770	694.25	2.88	32.91	119.66	0.92	0.10	0.10	4.00	6.50	0.06
73	HAWK Dir Spt[b]	FE		9–510R		40	4.80	192.77	41,626	1,040.65	4.80	30.86	161.91	1.54	0.16	0.16	4.00	10.00	0.10
74	LACROSSE Dir Spt[b]	FD		9–510R		35	4.20	147.73	36,057	901.43	4.20	23.01	124.72	1.35	0.14	0.14	2.00	9.00	0.09
75	NIKE Univ Dir Spt[b]			9–510R		46	5.52	167.41	35,402	885.05	5.52		167.41	1.77	0.18	0.18	2.00	11.00	0.12
STOCK CONTROL AND ACCOUNTING DETACHMENTS AND TEAMS																		
76	Ammo Stk Con (Manual)	EA		9–510R	Apr 55	21	2.52	1.38	650	16.25	2.52		1.38	0.81	0.08	0.08	0.50		0.05
77	Stk Con (Cl II & IV)	EB		9–510R	Apr 55	34	4.08	1.38	650	16.25	4.08		1.38	1.31	0.14	0.14	0.50		0.09
78	MR Stk Acct Team	FA		29–500D	Feb 58	14	1.68				1.68			0.54	0.06	0.06			0.04
79	MR Stk Acct (Aug) Team	FB		29–500D	Feb 58	14	1.68				1.68			0.54	0.06	0.06			0.04
ORGANIC SUPPORT UNITS																		
80	Hq & Rear Spt (ROCID)			9–26T	Dec 56	160	19.20	543.58	100,992	2,524.80	19.20	255.07	288.51	6.16	0.64	0.64	21.00	19.00	0.40
81	Fwd Spt (ROCID)			9–27T	Dec 56	167	20.04	641.65	91,432	2,285.80	20.04	355.50	239.25	6.42	0.67	0.67	20.00	18.00	0.42
82	Hq & Rear Spt (ROCAD)			9–66T	Dec 56	300	36.00	1,021.05	142,490	3,562.25	36.00	385.56	615.59	11.54	1.20	1.20	26.00	32.00	0.75
83	Fwd Spt (ROCAD)			9–67T	Dec 56	102	12.24	419.02	75,712	1,892.80	12.24	131.73	240.39	3.92	0.41	0.41	5.00	22.00	0.26
84	Ord Sec Hq Army		C–2,	51–1C	Nov 57	70	8.40				8.40			2.69	0.28	0.28			0.18
85	Ord Sec Hq Corps		C–2,	52–1C	Nov 57	20	2.40				2.40			0.77	0.08	0.08			0.05
86	Ord Sec Log Comd A			54–1R	Apr 55	7	0.84				0.84			0.27	0.03	0.03			0.02
87	Ord Sec Log Comd B			54–101R	Apr 55	20	2.40				2.40			0.77	0.08	0.08			0.05
88	Ord Sec Log Comd C			54–201R	Apr 55	31	3.74				3.74			1.19	0.12	0.12			0.08

(a) Weight per individual (including personal equipment) is computed at the rate of 240 pounds per man.

(b) Weight for equipment is based upon GROSS VEHICLE WEIGHTS (pay load plus net vehicle weight; EXCEPT, vehicle and accessories NOT DESIGNED TO TRANSPORT CARGO OR SUPPLIES. Tool sets and other TOE items are assumed transported as the vehicle payloads. The weight computations DO NOT INCLUDE the full complement of basic loads for parts and supplies.

(c) Equipment dimensions are OVERALL measurements—NOT CARGO CUBIC SPACE.

(d) Vessel requirements are listed as measurement tons. FOR ESTIMATING NUMBER OF VESSELS use this data with figure.

(e) Tonnage data in this table must be used with figures 18 and 20 to estimate ACTUAL NUMBERS OF AIRCRAFT required for a SELECTED AIR TRANSPORT RANGE. The WEIGHT LOAD METHOD is used to compute aircraft requirements.

(f) Data in columns 13 and 14 does not include items which are not air-transportable (SEMITRAILER, van, supply, 12-ton, 4-wh and VEHICLE, recovery, medium).

(g) All personnel are transported in STANDARD PULLMAN, 26 men per car (2 men per section). One BAGGAGE CAR and one KITCHEN CAR is required per 250 men; All organizational vehicles are loaded on FLAT CARS and are combat loaded (payload weights included); BOX CAR estimates are based upon one short ton per 10 men.

(h) TOE being processed for publication.

36. Fast Moving Repair Parts Weight and Volume Data for 100 End Items (by TYPE)

a. Recurring demand data cards on 15,000 different fast moving repair parts were processed to obtain the weight and volume data shown in this table. These data were based upon repair parts usage during PEACETIME. However, these data may be used in *estimating* repair parts consumption for WARTIME planning until reliable issue experience becomes available.

b. Illustrative problems (Table IV, XI, and XIX)

(1) *Question No. 1:* What is the weight (pounds) required for *automotive repair parts* for the TRUCK, cargo, ¾-ton, M37 for 10 days of supply and *30,000 THEATER TROOPS?*

(2) *Solution No. 1:*

(*a*) *Part I.* First, compute the number of TRUCK, cargo, ¾-ton, M37 that are found in a theater force for 30,000 troops. (Table IV; line 34, col. 6)

? TRUCKS, cargo, ¾-ton M37 = 30,000 theater troops

$$\times \frac{\text{15.20 ea TRUCKS, cargo, ¾-ton M37}}{\text{1,000 theater troops}}$$

= 456 ea TRUCKS, cargo, ¾-ton M37 (PARTIAL ANSWER)

(*b*) *Part II.* Second, compute the weight of automotive repair parts for these 456 ea trucks for 10 days of supply. (Table XIX; line 37, col. 2)

? pounds autmv rep parts = 456 ea TRUCKS, Cargo, ¾-ton M37

$$\times \frac{\text{1415 pounds autmv rep parts}}{\text{100 ea TRUCK, cargo, ¾-ton, M37}}$$

$$\times \frac{\text{10 days of supply}}{\text{15 days of supply}} = \textit{4,301.6 pounds autmv rep parts}$$ (ANSWER)

(3) *Question No. 2:* What is the weight (pounds) required for *automotive repair parts* for the TRUCK, cargo, ¾-ton, M37 for 10 days of supply and *30,000 INFANTRY TROOPS?*

(4) *Solution No. 2:*

(*a*) *Part I.* First, compute the number of end items (TRUCK, cargo, ¾-ton, M37) that are found in a theater force for *30,000 INFANTRY TROOPS.* (Table XI; line 42, col. 7)

? TRUCKS, cargo, ¾-ton M37 = 30,000 INFANTRY TROOPS ×

$$\frac{\text{39.96 ea TRUCKS, cargo, ¾-ton M37}}{\text{1,000 INFANTRY TROOPS}}$$

= 1,198.8 or *1,199 ea* TRUCKS, cargo, ¾-ton M37 (PARTIAL ANSWER)

(*b*) *Part II.* Second, compute the weight of automotive repair parts for these 1,199 ea trucks for 10 days of supply. (Table XIX; line 37, col. 2)

? pounds autmv rep parts = 1,199 ea TRUCKS, cargo, ¾-ton, M37 ×

$$\frac{\text{1415 pounds autmv rep parts}}{\text{100 ea TRUCK, cargo, ¾-ton, M37}} \times \frac{\text{10 days of supply}}{\text{15 days of supply}}$$ = 11,310.56 or *11,311 ea pounds autmv rep parts* (ANSWER)

(5) *Question No. 3:* Assume that the 323rd Dir Autmv Spt Co, TOE 9–127D, supports the following end items:

Trailers

100 ea Trailer, ¼-ton
50 ea Trailer, ¾-ton
500 ea Trailer, 1½-ton
20 ea Semitrailer, 6-ton

Trucks

300 ea Truck, ¼-ton
100 ea Truck, ¾-ton
600 ea Truck, 2½-ton
20 ea Truck tractor, 2½-ton
50 ea Truck, cargo, 5-ton
10 ea Truck, wrecker, 5-ton

What are the total LINES, WEIGHT (pounds), and VOLUME (cu ft) for fast moving repair parts required for the end item listed above? There are 15 days of supply authorized and on hand in the 323rd Dir Autmv Spt Co.

(6) *Solution No. 3:* Detailed solution would be similar to problems 1 and 2 above. Only the final tabulations are listed and totaled. (Table XIX; lines 27, 31, 32, 33, 36, 37, 38, 41, 42, and 45; cols. 1, 2, and 3)

End items	15 days of supply fast moving repair parts		
	Lines	Weight (pounds)	Volume (cu ft)
100 ea Trailer, ¼-ton	42	122.0	2.0
50 ea Trailer, ¾-ton	35	63.0	1.5
500 ea Trailer, 1½-ton	66	3,370.0	85.0
20 ea Semitrailer, 6-ton	44	894.6	52.6
300 ea Truck, ¼-ton	360	8,658.0	441.0
100 ea Truck, ¾-ton	390	1,415.0	71.0
600 ea Truck, 2½-ton	310	18,552.0	870.0
20 ea Truck tractor, 2½-ton	299	1,473.0	56.6
50 ea Truck, cargo, 5-ton	334	4,802.5	259.5
10 ea Truck, wrecker, 5-ton	405	867.7	41.2
TOTALS:	2,285	40,217.8	1,880.4

(ANSWER)

Table XIX. Fast Moving Repair Parts Weight and Volume Data for 100 End Items (by Type)

	End item	Requirements for 15 days of supply														
		Automotive			Small arms & arty			Fire control			Common hardware			Total		
		Lines	Wt. lbs	Vol. (cu ft)	Lines	Wt. lbs	Vol. (cu ft)	Lines	Wt. lbs	Vol. (cu ft)	Lines	Wt. lbs	Vol. (cu ft)	Lines	Wt. lbs	Vol. (cu ft)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	SMALL ARMS AND LIGHT MORTARS															
1	CARBINE, caliber, .30, M2				40	18	1				3	1	(a)	43	19	1
2	GUN, machine, caliber .30, M1919A4				156	104	2							156	104	2
3	GUN, machine, caliber .50, M2 (HB flex)				152	340	5							152	340	5
4	GUN, submachine, caliber .45, M3A1				36	28	1				3	1	(a)	39	29	1
5	LAUNCHER, rocket, 3.5-inch, M20A1				33	14	1							33	14	1
6	PISTOL, caliber .45, M1911A1				47	9	1							47	9	1
7	RIFLE, automatic, caliber .30, M1918A2				113	148	1				2	3	(a)	115	151	1
8	RIFLE, US, caliber .30 M1				49	13	1							49	13	1
9	MORTAR, 81-mm, M29 w/MOUNT, M23A1				74	560	24				8	61	1	82	621	25
	TOWED ARTILLERY AND HEAVY MORTARS															
10	MORTAR, 4.2-inch, M30 w/MOUNT, M24				117	487	9				25	104	2	142	591	11
11	RIFLE, recoilless, 106-mm, M40 w/MOUNT M79.				92	60	1				19	2	(a)	111	62	1
12	HOWITZER, 105-mm, M2A2 w/CARRIAGE, M2A2.				304	23,024	319	94	243	23	106	1,201	26	504	24,463	368
13	HOWITZER, 155-mm, M1 w/CARRIAGE, M1A2.				122	9,362	183	32	46	3	173	1,960	42	327	11,368	228
14	HOWITZER, 8-inch, M2 w/CARRIAGE, M1	1	1	1	276	24,137	304	67	188	16	137	1,552	33	481	25,878	354
15	LAUNCHER, rocket, 762-mm, M289	48	1,910	97	421	5,520	485				574	6,504	140	1,043	13,934	722
	SELF-PROPELLED ARTILLERY AND TRACKED VEHICLES															
16	HOWITZER, 105-mm, self-propelled, M52	425	13,300	284	215	13,354	444	114	184	23	156	1,767	38	910	28,605	789
17	HOWITZER, 155-mm, self-propelled, M44	234	10,831	225	396	6,498	76	47	136	13	244	2,764	60	921	20,229	374
18	HOWITZER, 8-inch, self-propelled, M55	799	10,949	257	299	10,852	298	103	129	16	82	929	20	1,283	22,859	591
19	GUN, 155-mm, self-propelled, M40				200	2,254	28	118	279	20	120	1,359	29	438	3,892	77
20	TANK, M41 w/GUN, tank, 76-mm	309	40,730	1,428	194	7,571	120	59	1,103	51	128	1,450	30	690	50,854	1,629
21	TANK, M48A1, w/GUN, tank, 90-mm	581	21,273	478	246	6,095	86	90	1,151	58	775	8,781	189	1,692	37,280	811
22	CARRIAGE, motor, twin 40-mm gun, M42	308	3,315	116	134	775	8	381	4,583	158	104	1,178	25	927	9,851	307
23	TRACTOR, cargo, light, M5A4	362	38,161	987							44	499	11	406	38,660	998
24	TRACTOR, cargo, medium, M8A1	182	21,902	774							42	476	10	224	22,378	784
25	VEHICLE, infantry, armored, M59	220	8,710	244	28	452	13	34	27	2	28	430	9	310	9,619	268
26	VEHICLE, recovery, medium, M74	683	16,437	310	33	16	1	27	26	2	36	408	9	779	16,887	322
	WHEELED VEHICLES															
27	SEMITRAILER, van, cargo, 6-ton, M119	44	4,473	263							15	170	4	59	4,643	267
28	SEMITRAILER, gasoline, 12-ton, M131	123	792	43							22	249	5	145	1,041	48

29	SEMITRAILER, low bed, 25-ton, M172	37	1,090	65							16	182	4	53	1,272	69
30	SEMITRAILER, transporter, 45-ton, M15A1	68	1,891	61							68	770	17	136	2,661	78
31	TRAILER, cargo, ¼-ton, M100	42	122	2							10	113	2	52	247	4
32	TRAILER, cargo, ¾-ton, M101	35	126	3							11	125	3	46	251	6
33	TRAILER, 1½-ton, M104	66	674	17							10	113	2	76	787	19
34	TRAILER, ammunition, 2-ton, M10	16	118	2	7	2	1				10	113	2	33	231	15
35	TRAILER, 762-mm rocket, M329	Included with line 15														
36	TRUCK, utility, ¼-ton, M38	360	2,886	147							95	1,076	23	455	3,762	170
37	TRUCK, cargo, ¾-ton, M37	390	1,415	71							61	691	15	451	2,106	86
38	TRUCK, cargo, 2½-ton, M34	310	3,092	145							72	816	18	382	3,908	163
39	TRUCK, dump, 2½-ton, M59	313	3,058	158							72	816	18	385	3,874	176
40	TRUCK, tank, gasoline, 2½-ton, M49	330	4,328	268							73	827	18	403	5,155	286
41	TRUCK TRACTOR, 2½-ton, M48	299	7,365	283							72	816	18	371	8,181	301
42	TRUCK, cargo, 5-ton, M54	334	9,605	519							116	1,314	28	450	10,919	547
43	TRUCK, dump, 5-ton, M51	344	9,579	515							119	1,348	29	463	10,927	548
44	TRUCK TRACTOR, 5-ton, M52	331	9,890	428							115	1,303	28	446	11,193	456
45	TRUCK, wrecker, 5-ton, M62	405	8,677	412							117	1,326	29	522	10,003	441
46	TRUCK TRACTOR, 10-ton, M123	430	13,742	473							75	850	18	505	14,592	491
47	TRUCK TRACTOR, 12-ton, M26A1	264	6,359	237							49	555	12	313	6,914	249
48	TRUCK, gun lifting heavy, M249 and M250	269	6,381	234							23	261	6	292	6,642	240

(c) Less than 0.5 cu ft.

37. Pneumatic Tire Requirements and Data

a. More than 98 percent of all rubber tired items required for use by the United States Army are procured, stored, and issued in ordnance class II and IV repair part supply channels. In addition the Ordnance Corps has the responsibility for field and depot maintenance support for these items.

b. Table XX contains logistical data for pneumatic tires. These data are included in this manual for reference and information. Illustrative problems are not included.

Table XX. Pneumatic Tire Requirements and Data

TIRE REQUIREMENTS (LESS AIRCRAFT) FOR TYPE FIELD ARMY

	Tire size	Logistical data per tire		End item responsibility			Totals per type field army (392,021 troops)	
		Weight (lbs)	Volume (cu ft)	Ordnance Corps	Corps of Engineers	Quarter-master Corps	Quantities	Percent of grand total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	7.00x16	35	3.7	112,680			112,680	20.8[a]
2	9.00x16	69	6.2	66,122	216		66,338	12.2[a]
3	9.00x20	95	7.6	235,144	4,646		239,790	44.3[a]
4	11.00x20	130	11.7	101,928	3,894		105,822	19.5[a]
5	14.00x20	133	18.7	648	8,010		3,658	1.6
6	14.00x24	280	21.9	3,466			3,466	.6
7	All others[b]			4,088	1,040	138	5,266	1.0
8	Total			524,076	17,806	138		
9	Grand Total						542,020	100%

([a]) The proposed Ordnance Tire Repair Company, TOE 9-347D, (Advance Plan) will provide repair for only sectional and spot repair on high density tires (lines 1 to 4 incl).

([b]) Includes approximately 26 different sizes.

TIRE DATA FOR ORDNANCE MATERIEL

	End items	Quantity per vehicle	Tire size	No. ply	Tread design
		(8)	(9)	(10)	(11)
	WEAPONS				
10	GUN, 90-mm, M1A1, w/MOUNT, gun, ADA, 90-mm, M1A1	4	10.00x22	12	Regular
11	GUN, 90-mm, M2A2, w/MOUNT, gun, ADA, 90-mm, M2	4	14.00x24	20	Regular
12	GUN, 75-mm, ADA, M51 (skysweeper)	4	11.00x20	12	Cross Country
13	HOWITZER, pack, 75-mm, M1A1, w/CARRIAGE, howitzer, 75-mm, M8	2	6.00x16	6	Mud & Snow
14	HOWITZER, 105-mm, M2A1, w/CARRIAGE, howitzer, 105-mm, M2A2.	2	9.00x20	Mil Combat	Regular
15	HOWITZER, 155-mm, M1A1, w/CARRIAGE, howitzer, 155-mm, M1A2.	2	14.00x20	Mil Combat	Regular
16	GUN, 155-mm, M2, w/CARRIAGE, gun, 155-mm, M1	10	11.00x20	Mil Combat	Regular
17	HOWITZER, 8-inch, M2, w/CARRIAGE, howitzer, 8-inch, M1.	10	11.00x20	Mil Combat	Regular
18	GUN, 90-mm, self-propelled, M56	8	7.50x12	12	Smooth

Table XX. Pneumatic Tire Requirements and Data—Continued

	End items	Quantity per vehicle	Tire size	No. ply	Tread design
		(8)	(9)	(10)	(11)
	VEHICLES				
19	CARRIER, light weapons, infantry, M274	4	7.50x10	6	Cross Country
20	TRUCK, ambulance, front line, ¼-ton, M170	4	7.00x16	6	Cross Country
21	TRUCK, utility, ¼-ton, M38A1	4	7.00x16	6	Cross Country
22	TRUCK, utility, ¼-ton, M151	4	7.10x15	6	Cross Country
23	TRUCK, ambulance, front line, ¾-ton, M43	4	9.00x16	8	Cross Country
24	TRUCK, bomb handling, ¾-ton, M142	4	9.00x16	8	Cross Country
25	TRUCK, cargo, ¾-ton, M37	4	9.00x16	8	Cross Country
26	TRUCK, cargo, 2½-ton, 6x6, M34	6	11.00x20	12	Cross Country
27	TRUCK, cargo, 2½-ton, 6x6, M35	10	9.00x20	8	Cross Country
28	TRUCK, cargo, 2½-ton, 6x6, M135	6	11.00x20	12	Cross Country
29	TRUCK, cargo, 2½-ton, 6x6, M211	10	9.00x20	8	Cross Country
30	TRUCK, cargo, 2½ton, 6x6, M36C	10	9.00x20	8	Cross Country
31	TRUCK, dump, 2½-ton, 6x6, M342	6	11.00x20	12	Cross Country
32	TRUCK, dump, 2½-ton, 6x6, M59	10	9.00x20	8	Cross Country
33	TRUCK, dump, 2½-ton, 6x6, M215	10	9.00x20	8	Cross Country
34	TRUCK, dump, 2½-ton, 6x6, M216	6	11.00x20	12	Cross Country
35	TRUCK, tank, gasoline, 2½-ton, M49	10	9.00x20	8	Cross Country
36	TRUCK, tank, gasoline, 2½-ton, M217	10	9.00x20	8	Cross Country
37	TRUCK, tank, water, 2½-ton, M50	10	7.50x20	8	Cross Country
38	TRUCK, tank, water, 2½-ton, M222	10	9.00x20	8	Cross Country
39	TRUCK TRACTOR, 2½-ton, 6x6, M48	10	9.00x20	8	Cross Country
40	TRUCK TRACTOR, 2½-ton, 6x6, M221	10	9.00x20	8	Cross Country
41	TRUCK TRACTOR, 2½-ton, 6x6, M275	10	9.00x20	8	Cross Country
42	TRUCK, van expansible, 2½-ton, M272	10	9.00x20	8	Cross Country
43	TRUCK, van, shop, 2½-ton, 6x6, M109	10	9.00x20	8	Cross Country
44	TRUCK, van, shop, 2½-ton, 6x6, M220	10	9.00x20	8	Cross Country
45	TRUCK, wrecker, crane, 2½-ton, 6x6, M108	10	9.00x20	8	Cross Country
46	TRUCK, wrecker, crane, 2½-ton, 6x6, M214	10	9.00x20	8	Cross Country
47	TRUCK, wrecker, light, 2½-ton, 6x6, M60	10	9.00x20	8	Cross Country
48	TRUCK TRACTOR, 4-5-ton, 4x4 (Autocar Model U7144T)	6	9.00x20	10	Cross Country
49	TRUCK TRACTOR, 4-5-ton, 4x4 (White Model 444T)	6	9.00x20	10	Cross Country
50	TRUCK TRACTOR, 4-5-ton, 4x4 (Federal Model 94X43A)	6	9.00x20	10	Regular
51	TRUCK TRACTOR, 4-5-ton, 4x4 (Federal Model 94X43B)	6	9.00x20	10	Regular
52	TRUCK TRACTOR, 4-5-ton, 4x4 (Federal Model 94X43C)	6	9.00x20	10	Regular
53	TRUCK, cargo, 5-ton, 6x6, M41	6	14.00x20	12	Cross Country
54	TRUCK, cargo, 5-ton, 6x6, M54	10	11.00x20	12	Cross Country
55	TRUCK, cargo, 5-ton, 6x6, M55	10	11.00x20	12	Cross Country
56	TRUCK, dump, 5-ton, 6x6, M51	10	11.00x20	12	Cross Country
57	TRUCK TRACTOR, 5-ton, 4x2 (commercial type)	6	11.00x20	14	Cross Country
58	TRUCK TRACTOR, 5-ton, 6x6, M52	10	11.00x20	12	Cross Country
59	TRUCK TRACTOR, wrecker, 5-ton, 6x6, M246	10	11.00x20	12	Cross Country
60	TRUCK, wrecker, medium, 5-ton, 6x6, M62	10	11.00x20	12	Cross Country
61	TRUCK TRACTOR, 10-ton, 6x4	10	14.00x24	20	Mud & Snow
62	TRUCK TRACTOR, 10-ton, 6x6, M123	10	14.00x24	20	Mud & Snow
63	TRUCK TRACTOR, 12-ton, 6x6, M26A1	10	14.00x24	20	Mud & Snow
64	TRUCK, ½-ton, 4x2, carryall	4	6.50x16	6	Regular
65	TRUCK, ½-ton, 4x2, panel	4	6.50x16	6	Regular
66	TRUCK, 1½-ton, 4x2, stake	6	7.50x20	8	Regular
67	TRUCK, gun lifting, heavy, 4x4, M249 & M250 (front and rear).	6	16.00x25	20	Cross Country
68	TRAILER, 762-mm rocket, M329A1	4	11.00x20	12	Cross Country
69	TRAILER, ammunition, 2-ton, 2-wheel, M10	2	9.00x20	12	Regular

Table XX. Pneumatic Tire Requirements and Data—Continued

	End items	Quantity per vehicle	Tire size	No. ply	Tread design
		(8)	(9)	(10)	(11)
70	TRAILER, amphibious, cargo, ¼-ton, 2-wheel, M100	2	7.00x16	6	Cross Country
71	TRAILER, bomb, 2-ton, 2-wheel, M43A1	4	9.00x16	8	Cross Country
72	TRAILER, cargo, ¾-ton, 2-wheel, M101	2	9.00x16	8	Cross Country
73	TRAILER, cargo, 1½-ton, 2-wheel, M104A1	2	11.00x20	12	Cross Country
74	TRAILER, cargo, 1½-ton, 2-wheel, M105A1	2	9.00x20	8	Cross Country
75	TRAILER, cargo, generator, 2-ton, 4-wheel, M7	4	7.50x20	12	Regular
76	TRAILER, cargo, generator, 2-ton, 4-wheel, M18	4	7.50x20	12	Regular
77	TRAILER, drop bed, antenna mount, M260A1	4	9.00x16	8	Cross Country
78	TRAILER, flat bed, fire control, 2-ton, 2-wheel, M243	4	9.00x16	8	Cross Country
79	TRAILER, tank, water, 1½-ton, 2-wheel, M106A1	2	11.00x20	12	Cross Country
80	TRAILER, tank, water, 1½-ton, 2-wheel, M107A1	2	9.00x20	8	Cross Country
81	SEMITRAILER, low bed, 25-ton, 4-wheel, M172	8	10.00x15	12	Cross Country
82	SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, 18-ft, M277.	8	11.00x20	12	Cross Country
83	SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, 25-ft, M269.	8	11.00x20	12	Cross Country
84	SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, 40-ft, M270.	8	11.00x20	12	Cross Country
85	SEMITRAILER, stake, 6-ton, 2-wheel, M118	4	9.00x20	8	Cross Country
86	SEMITRAILER, stake, 12-ton, 4-wheel, M127	8	11.00x20	12	Cross Country
87	SEMITRAILER, tank, gasoline, 4-wheel, M131A2	8	11.00x20	12	Cross Country
88	SEMITRAILER, tank transporter, 45-ton, 8-wheel, M15A1	8	14.00x24	20	Cross Country
89	SEMITRAILER, tank transporter, 50-ton, 8-wheel, M15A2	8	14.00x24	20	Cross Country
90	SEMITRAILER, van, cargo, 6-ton, 2-wheel, M119	4	9.00x20	8	Cross Country
91	SEMITRAILER, van, cargo, 12-ton, 4-wheel, M128	8	11.00x20	12	Cross Country
92	SEMITRAILER, van, shop, 6-ton, 2-wheel, M146	4	9.00x20	8	Cross Country
93	SEMITRAILER, van, supply, 12-ton, 4-wheel, M129	8	11.00x20	12	Regular

38. Ammunition Weight and Package Data

a. Department of the Army Supply Manuals show a complete listing for the class V supply items which are authorized for stockage and issue. The weight and package data for *common usage items* have been extracted from supply manuals and are listed in table XXI.

b. The data shown in table XXI may be used with other available information to estimate class V supply support for combat forces.

c. Illustrative problem (Table XXI).

(1) *Question:* ASSUME that a corps force has 250 ea 105-mm howitzers and the CLASS V DAY of SUPPLY for the 105-mm howitzer has been established at 10 rounds (HE) per weapon per day. How many tons and packages of 105-mm ammunition are consumed per day?

(2) *Solution:* (line 15, cols. 4 and 5)

? tons 105-mm How ammo = 250 ea 105-mm How $\times \frac{10 \text{ rounds}}{1 \text{ ea 105-mm How}} \times \frac{1 \text{ ea short ton}}{33.4 \text{ rounds}}$ $\times \frac{1}{1 \text{ day}}$ = 74.8 or *75 ea* short tons/day (ANSWER)

? packages 105-mm How ammo = $\frac{75 \text{ ea short tons}}{1 \text{ day}} \times \frac{16.7 \text{ ea packages 105-mm How ammo}}{1 \text{ ea short ton}}$ = 1,252.5 or *1,253 ea* packages (ANSWER)

Table XXI. Ammunition Weight and Package Data [a]

	Type of ammunition	Units per package	Type of package	One short ton equals		Packed
				Packages	Items or rounds	
	(1)	(2)	(3)	(4)	(5)	(6)
1	CARTRIDGE, cal..30, carbine, ball M1.	1,080	wooden box	40.8	44,064	10/clip, 18 clip/band, 3 band/can M20, 2 can (1080 cartridges)/wooden box, M22.
2	CARTRIDGE, cal..30, rifle, ball M2.	384	wooden box	50.0	19,200	8/clip, 6 clip/band, 4 band/can M20, 2 can (384 cartridges)/wooden box, M22.
3	CARTRIDGE, cal..30, gun, machine, ball M2, linked.	1,000	wire bound box	23.4	23,400	250/belt, 1 belt/metal box M1 or M1A1, 4 boxes (1,000 cartridges)/wire bound box.
4	CARTRIDGE, cal..45, ball, M1911.	1,200	wooden box	29.4	35,280	50/carton, 12 cartons/can M5, 2 cans (1,200 cartridges)/wooden box M12.
5	CARTRIDGE, cal..50, AP, M2, linked.	210	wire bound box	25.9	5,439	105/belt, 1 belt/metal box M2, 2 boxes (210 cartridges)/wire bound box.
6	CARTRIDGE, 81-mm, HE, M382.	2	wooden box	47.6	95	1/fiber container M149 series 2 containers (2 rds)/wooden box.
7	CARTRIDGE, 4.2-inch, HE, M329.	2	wooden box	24.5	49	1/fiber container M243 or M251, 2 containers (2 rds)/wooden box.
8	CARTRIDGE, 106-mm, HEP-T, M346, M346B1.	2	wooden box	16.8	33.6	1/fiber container M314, 2 containers (2 rds)/wooden box.
9	ROCKET, high explosive, 3.5-inch, AT.	3	wooden box	38.6	115.0	1/metal container, M241 or 1/fiber container M299 series. 3 metal containers or 3 fiber containers (3 rkts)/wooden box.
10	CARTRIDGE, 76-mm, HE comp B, M42A2.	2	wooden box	28.2	56.8	1/fiber container M122A2, 2 containers (2 rds)/wooden box.
11	CARTRIDGE, 90-mm, AP-T, M318.	2	wooden box	14.4	28.8	1/fiber container M180A1, 2 containers (2 rds)/wooden box.
12	CARTRIDGE, 40-mm, HEI-T.	16	metal box	17.4	278.0	4/charger clip, 4 clips (16 rds)/metal box, MK1.
13	CARTRIDGE, 75-mm, HE, M334[b][c].	2	wooden box	31.7	63.4	1/fiber container, M309, 2 containers (2 rds)/wooden box.
14	CARTRIDGE, 90-mm, HE, comp B, M71[b].	2	wooden box	15.1	30.2	1/fiber container M53A3, 2 containers (2 rds)/wooden box.
15	CARTRIDGE, 105-mm, HE, M1.	2	wooden box	16.7	33.4	1/fiber container, M105A1, 2 containers (2 rds)/wooden box.
16	PROJECTILE, 155-mm how, HE, M107[c].	8	wooden pallet	2.5	20.0	8/pallet
16A	CHARGE, propelling, 155-mm, M4A1.	1	metal container	65.6	65.6	1 w/1 PRIMER, PERCUSSION, MK2A4/metal container M13.
17	PROJECTILE, 155-mm gun, HE, M101[c].	8	wooden pallet	2.4	19.2	8/pallet
17A	CHARGE, propelling, 155-mm, M19.	1	metal container	36.6	36.6	1 w/1 PRIMER, PERCUSSION, MK24A4 in moisture proof env/metal container M16 series.
18	PROJECTILE, 8-inch, HE, M106[c].	3	wooden pallet	3.2	9.6	3/pallet
18A	CHARGE, propelling, 8-inch, M2.	1	metal container	37.6	37.6	1 w/1 PRIMER, PERCUSSION, MK2A4 in moisture proof env/metal container M19.

See footnotes at end of table.

Table XXI. Ammunition Weight and Package Data [a]—Continued

	Type of ammunition	Units per package	Type of package	One short ton equals		Packed
				Packages	Items or rounds	
	(1)	(2)	(3)	(4)	(5)	(6)
19	PROJECTILE, 280-mm, HE, T122 or T122E3 [c].	1	----------	3.33	3.33	uncrated
19A	CHARGE, propelling, 280-mm, T44.	1	metal container	9.0	9.0	1/w/1 PRIMER, ELECTRIC and PERCUSSION, MK15 mod, 1/metal container M349 (T64).
20	FUZE, point detonating, M51A5 0.05 sec delay [d].	15	wooden box	38.4	567.0	1/metal can, 15 cans (15 fuzes)/ wooden box.

[a] Supply manuals show many different container sizes which are authorized for stockage and issue. The round and package data listed in this table are presently in common usage and may be used in *ESTIMATING* Class V logistical support.
[b] Lines 13 and 14 may eventually be replaced with missiles.
[c] These projectiles require issue of a separate fuze.
[d] This is a common fuze and is applicable to several different projecticles. It may be used for *ESTIMATING FUZE REQUIREMENTS* for projectiles.

39. Ammunition Basic Loads for Major Combat Units

a. Table XXII contains the ammunition basic loads for major combat units which consume approximately 95 percent of all the ammunition issued to troops during wartime. These data are not essential to planning adequate class V supply support for a combat force. However, these data may be of related interest to the staff officer in determining the COMPLETE class V assets available in a combat force. Further details are contained in FM 101–10.

b. Illustrative problem (Table XXII).

(1) *Question:* ASSUME a special task force had the following TOE units:

1 ea Inf Div (ROCID), TOE 7T
3 ea 105-mm How Bn (SP), TOE 6–315C
1 ea 155-mm How Bn (SP), TOE 6–325C

What are the estimated total tons of ammunition in the basic loads for these units?

(2) *Solution:* Use data listed in table XXII; lines 3, 6, and 7; column 3 and assumptions for the problem.

Troop list	*Class V basic loads (tons)*
1 ea Inf Div, (ROCID), TOE 7T---	1,423
3 ea 105-mm How Bn (SP), TOE 6–315C.	348
1 ea 155-mm How Bn (SP), TOE 6–325C.	161
TOTAL: ----------	1,932
	(ANSWER)

Table XXII. Ammunition Basic Loads for Major Combat Units [a] [b]

	Organization	TOE Nos.	Total tons [c] (Class V)
	(1)	(2)	(3)
	DIVISIONS		
1	Airborne Division	57D	783
2	Armored Division (ROCAD)	17T	2,432
3	Infantry Division (ROCID)	7T	1,423

See footnotes at end of table.

Table XXII. Ammunition Basic Loads for Major Combat Units [a] [b]—Continued

	Organization	TOE Nos.	Total tons [c] (Class V)
	(1)	(2)	(3)
	NONDIVISIONAL		
	ARMOR		
4	Armored Cavalry Regiment	17–51C	28
5	Tank Battalion, 90-mm Gun	17–25T	14
	FIELD ARTILLERY		
6	105-mm Howitzer Battalion (Self-Propelled)	6–315C	116
7	155-mm Howitzer Battalion (Self-Propelled)	6–325C	161
8	155-mm Howitzer Battalion (Towed)	6–135R	144
9	155-mm Gun Battalion (Self-Propelled)	6–435R	205
10	8-inch Howitzer Battalion (Self-Propelled)	6–435R	215
11	8-inch Howitzer Battalion (Towed)	6–415R	147
	AIR DEFENSE ARTILLERY		
12	Automatic Weapons Battalion (Self-Propelled)	44–75C	122
13	75-mm Gun (Mobile) Battalion	44–35C	66
14	90-mm Gun Battalion (Towed)	44–15R	116

(a) The basic load of ammunition is a prescribed allowance of ammunition authorized and required to be in the possession of a unit. It is expressed in terms of rounds of ammunition fired by weapons and in other units of measure for bulk allotment items. It includes ammunition carried by the individual soldier, the ammunition stowed in self-propelled weapons, the ammunition carried in prime movers and in unit trains. THIS AUTHORIZED AMOUNT OF AMMUNITION WILL NORMALLY SUSTAIN A UNIT IN COMBAT UNTIL RESUPPLY CAN BE EFFECTED. It is established by Department of the Army based on recommendations of theater commanders.

(b) Only major combat units are included in this list. However, these units expend more than ninety-five percent of the ammunition issued to troops during wartime.

(c) Heavy rockets and missile tonnages are NOT INCLUDED.

40. Rates of Advance for Combat Armies

a. Reports of operations for large combat forces deployed in Europe (World War II) and Korea showed that the *average forward rates of advance* varied between 2.85 and 4.36 miles per day. The total days of combat ranged from 195 to 281 days.

b. The forward rates of advance for land armies have a definite impact upon the logistical support provided these large tactical forces. The factual data contained in table XXIII has been included to *serve as a guide* in logistical planning and determining the frequency of forward displacement for logistical support installations. No illustrative problems are included.

Table XXIII. Rates of Advance for Combat Armies

	Dates	No. of days	Miles advanced	Miles advanced per day	Type resistance	Season	Terrain [a] [b]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FIRST UNITED STATES ARMY (EUROPE) [c]							
1	1 Aug—19 Aug 1944	19	83	4.37	Med to Lt	Summer	[a]
2	20 Aug—26 Aug 1944	7	55	7.86	Lt	Summer	[a]
3	27 Aug—31 Aug 1944	5	88	7.60	Lt	Summer	[a]
4	1 Sep—4 Sep 1944	4	120	30.00	Lt	Summer	[a]
5	5 Sep—30 Sep 1944	26	84	3.23	Lt	Summer	[a]
6	1 Oct—15 Dec 1944	76	13	0.17	Med to Hv	Fall	[a]
7	1 Jan—22 Feb 1945	53	54	1.01	Hv to Med	Winter	[a]
8	23 Feb—8 May 1945	75	335	4.47	Med to Lt	Winter—Spring	[a]
9	AVERAGE MILES ADVANCED PER DAY			3.14			
THIRD UNITED STATES ARMY (EUROPE) [d]							
10	1 Aug—7 Aug 1944	7	73	10.43	Med to Lt	Summer	[a]
11	8 Aug—14 Aug 1944	7	57	8.14	Lt	Summer	[a]
12	15 Aug—21 Aug 1944	7	114	16.29	Lt	Summer	[a]
13	22 Aug—26 Aug 1944	5	38	7.60	Lt	Summer	[a]
14	27 Aug—31 Aug 1944	5	107	21.40	Lt	Summer	[a]
15	1 Sep—15 Sep 1944	15	53	3.53	Med	Summer	[a]
16	16 Sep—25 Sep 1944	10	20	2.00	Med	Summer	[a]
17	26 Sep—30 Sep 1944	5	10	2.00	Med	Fall	[a]
18	1 Oct—7 Nov 1944	38	6	0.16	Hv	Fall	[a]
19	8 Nov—18 Dec 1944	41	56	1.37	Hv	Fall	[a]
20	19 Dec 1944—28 Jan 1945	41	108	2.63	Hv	Winter	[a]
21	29 Jan—12 Mar 1945	43	52	1.20	Hv	Winter	[a]
22	13 Mar—21 Mar 1945	9	80	8.89	Hv to Med	Winter	[a]
23	22 Mar—21 Apr 1945	31	241	7.78	Med to Lt	Spring	[a]
24	22 Apr—8 May 1945	17	210	12.35	Lt	Spring	[a]
25	AVERAGE MILES ADVANCED PER DAY			4.36			
SEVENTH UNITED STATES ARMY (EUROPE) [e]							
26	15 Aug—3 Sep 1944	20	203	10.15	Med to Lt	Summer	[a]
27	4 Sep—5 Sep 1944	2	142	71.00	Lt	Summer	[a]
28	6 Sep—17 Sep 1944	12	31	2.58	Med	Summer	[a]
29	18 Sep—29 Sep 1944	12	28	2.33	Med to Hv	Summer	[a]
30	30 Sep—19 Nov 1944	51	7	0.14	Med	Fall	[b]
31	20 Nov—3 Dec 1944	14	40	2.86	Med	Fall	[b]
32	4 Dec—31 Dec 1944	28	30	1.07	Med	Winter	[b]
33	5 Jan—17 Feb 1945	34	15	0.44	Hv to Med	Winter	[b]
34	18 Feb—15 Mar 1945	26	3	0.12	Med	Winter	[b]
35	16 Mar—26 Mar 1945	11	23	2.09	Med	Winter	[b]
36	27 Mar—29 Mar 1945	3	34	11.33	Med	Spring	[a]
37	30 Mar—5 May 1945	37	246	8.16	Lt	Spring	[a]
38	AVERAGE MILES ADVANCED PER DAY			3.21			

See footnotes at end of table.

Table XXIII. Rates of Advance for Combat Armies—Continued

	Dates	No. of days	Miles advanced	Miles advanced per day	Type resistance	Season	Terrain (a) (b)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EIGHTH UNITED STATES ARMY (KOREA) (f)							
39	15 Sep—25 Nov 1950	72	420	5.83	Med to Lt	Fall	(b)
40	25 Jan—28 Feb 1951	35	54	1.54	Med	Winter	(b)
41	1 Mar—21 Apr 1951	52	51	0.98	Med	Winter—Spring	(b)
42	20 May—24 Jun 1951	36	50	1.39	Med	Spring	(b)
43	AVERAGE MILES ADVANCED PER DAY			2.85			

(a) Terrain favorable for armor exploitation.
(b) Terrain not favorable for armor exploitation.
(c) Information extracted from "First U. S. Army Report of Operations—1 August 1944—22 February 1945" and "First U. S. Army Report of Operations—23 February 1945—8 May 1945".
(d) Information extracted from "After Action Report, Third U. S. Army—1 August 1944—9 May 1945 (Vol 1)".
(e) Information extracted from "Report of Operations, Seventh U. S. Army—1944-1945".
(f) Information extracted from books "Korea 1950" and "Korea 1951-1953".

41. Equipment Nomenclature and Replacement Trends

Table XXIV contains a detailed listing of the nomenclature and replacement trends for the end items shown in the logistical tables in this manual. These data are for reference and general information. Illustrative problems are not required.

Table XXIV. Equipment Nomenclature and Replacement Trends

	Nomenclature in ordnance logistical tables	Ordnance nomenclature (a) (c)	Remarks (b) (c)
	(1)	(2)	(3)
1	CARBINE, caliber .30	CARBINE, cal..30, selective auto/semiautomatic M2. CARBINE, cal..30, semiautomatic M1 CARBINE, cal..30, semiautomatic, w/ folding stock, M1A1.	Will be replaced by RIFLE, 7.62-mm, semiautomatic, light barrel, M14.
2	GUN, machine, caliber .30	GUN, machine, cal..30, BRG M1917A1 GUN, machine, cal..30, BRG M1919A4, flexible. GUN, machine, cal..30, BRG M1919A6	Will be replaced by GUN, machine, 7.62-mm light weight, general purpose, M60, except where GUN, submachine are authorized to crews of armored vehicles.
3	GUN, machine, caliber .50	GUN, machine, cal..50, BRG, M2, heavy barrel.	
4	GUN, submachine, caliber .45	GUN, submachine, cal..45, M3A1 GUN, submachine, cal..45, M3	Will be replaced by RIFLE, 7.62-mm, semiautomatic, light barrel, M14.
5	LAUNCHER, rocket, 3.5-inch	LAUNCHER, rocket 3.5-inch, M20A1 LAUNCHER, rocket, 3.5-inch, M20A1B1. LAUNCHER, rocket, 3.5-inch, M20 LAUNCHER, rocket, 3.5-inch M20B1	
6	PISTOL, caliber .45	PISTOL, automatic, cal..45, M1911A1 PISTOL, automatic, cal..45, M1911	

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

Nomenclature in ordnance logistical tables		Ordnance nomenclature [a] [c]	Remarks [b] [c]
(1)		(2)	(3)
7	RIFLE, automatic, caliber .30	RIFLE, automatic, cal..30, BRG M1918A2.	Will be replaced by RIFLE, 7.62-mm, selective auto/semiautomatic, heavy barrel, M15.
8	RIFLE, US, caliber .30	RIFLE, US, cal..30, semiautomatic, M1. RIFLE, US, cal..30, semiautomatic, M1C, sniper. RIFLE, US, cal..30, semiautomatic, M1D, sniper. RIFLE, US, cal..30, M1903A4, sniper	Rifle, US, cal..30, semiautomatic, M1 will be replaced by RIFLE, 7.62-mm, semiautomatic, light barrel, M14.
9	MORTAR, 81-mm	MORTAR, 81-mm, M29, on MOUNT, M23A3. MORTAR, 81-mm, M29, on MOUNT, M23A1. MORTAR, 81-mm, M1, on MOUNT, M4, w/animal pack transport equipment. MORTAR, 81-mm, M1, on MOUNT, M4, w/cavalry equipment. MORTAR, 81-mm, M1, on MOUNT, M4, w/hand carrying equipment. MORTAR, 81-mm, M29, on MOUNT, M23. MORTAR, 81-mm, M29, on MOUNT, M23A2.	
10	MORTAR, 4.2-inch	MORTAR, 4.2-inch M30; on MOUNT, M24. MORTAR, 4.2-inch, self-propelled, full tracked, M84.	Refer to line 58.
11	RIFLE, recoilless, 106-mm	RIFLE, 106-mm, M40A1, w/rifle spotting cal .50, M8, on MOUNT, M79.	
12	GUN, tank, 76-mm	GUN, 76-mm, M32	
13	GUN, tank, 90-mm	GUN, 90-mm, M41 (for TANK, M48) GUN, 90-mm, M36 (for TANK, M47) GUN, self-propelled, full tracked, 90-mm, M56.	Gun, self-propelled, full tracked, 90-mm, M56 may be replaced by anti-tank missile systems.
14	GUN, ADA, 90-mm	GUN, 90-mm, M2A1 and M2A2, on MOUNT, gun AA, 90-mm, M2A1.	May be replaced by surface-to-air missile systems.
15	GUN, ADA, 75-mm	GUN, 75-mm, AA weapons system, M51.	
16	GUN, ADA, 40-mm	GUN, automatic, 40-mm, M1A1	Refer line 59
17	HOWITZER, 105-mm	HOWITZER, 105-mm, M2A1, on CARRIAGE, 105-mm, M2A2. HOWITZER, 105-mm, M2A2, on CARRIAGE, 105-mm, M2A1. HOWITZER, 105-mm, M2A2, on CARRIAGE, 105-mm, M2A2. HOWITZER, 105-mm, M2A1, on HOWITZER, self-propelled, 105-mm, M7B1 and M7B2. HOWITZER, 105-mm, M5, on HOWITZER, self-propelled, 105-mm, M37.	May be replaced in part by surface-to-surface missile systems. Refer line 60

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

	Nomenclature in ordnance logistical tables	Ordnance nomenclature [a] [c]	Remarks [b] [c]
	(1)	(2)	(3)
17	HOWITZER, 105-mm—Continued	HOWITZER, 105-mm, M49, on HOWITZER, self-propelled, 105-mm, M52.	
		HOWITZER, 105-mm, M49, on HOWITZER, self-propelled, 105-mm, M52A1.	
18	HOWITZER, 155-mm	HOWITZER, 155-mm, M1, on CARRIAGE, 155-mm, M1A1.	May be replaced in part by surface-to-surface missile systems.
		HOWITZER, 155-mm, M1A1, on CARRIAGE, 155-mm, M1A2.	
		HOWITZER, 155-mm, M44, on HOWITZER, self-propelled, 155-mm, M44A1.	Refer line 61
		HOWITZER, 155-mm M80, on HOWITZER, self-propelled, 155-mm, M44.	
		HOWITZER, 155-mm, M14, on HOWITZER, self-propelled, 155-mm, M41.	Howitzer, 155-mm, M14, on Howitzer, self-propelled, 155-mm, M41 declared obsolete per OCM 36785.
19	HOWITZER, 8-inch	HOWITZER, 8-inch, M2 and M2A1, on CARRIAGE, 8-inch, M1.	
		HOWITZER, self-propelled, 8-inch, M55.	Refer line 62
		HOWITZER, self-propelled, 8-inch, M43.	Howitzer, self-propelled, 8-inch, M43 declared obsolete per OCM 36681.
20	GUN, 155-mm	GUN, 155-mm, M2, on CARRIAGE, gun, 155-mm, M1.	May be replaced by self-propelled artillery or surface-to-surface missile systems.
		GUN, self-propelled, 155-mm, M53	
21	GUN, 280-mm	GUN, 280-mm, M65, on CARRIAGE, gun, 280-mm, M30.	Not listed in SB 9–122 although is still found in the hands of troops. May be replaced by other artillery weapons or surface-to-surface missile systems.
22	LAUNCHER, rocket, 762-mm	LAUNCHER, 762-mm rocket, truck mounted, M386.	
		LAUNCHER, 762-mm rocket, truck mounted, M289.	
23	AUTOMOBILE, sedan	AUTOMOBILE, sedan, light	
		AUTOMOBILE, sedan, medium	
		AUTOMOBILE, sedan, heavy	
24	MOTORCYCLE	MOTORCYCLE, solo, chain driven	
25	SEMITRAILER, alcohol	SEMITRAILER, acid tanks, 12-ton, M361.	
		SEMITRAILER, acid tanks, 12-ton, M361A1.	
		SEMITRAILER, aniline tanks, 12-ton, M362.	
		SEMITRAILER, aniline tanks, 12-ton, M362A1.	
26	SEMITRAILER, gasoline, 2-wheel.		Not listed in SB 9–122

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

	Nomenclature in ordnance logistical tables	Ordnance nomenclature [a] [c]	Remarks [b] [c]
	(1)	(2)	(3)
27	SEMITRAILER, van, cargo, 6-ton.	SEMITRAILER, van, cargo, 6-ton, 2-wheel, M119. SEMITRAILER, van, shop, 6-ton, 2-wheel, M146. SEMITRAILER, stake, 6-ton, 2-wheel, M118.	
28	SEMITRAILER, cargo, 12-ton.	SEMITRAILER, van, cargo, 12-ton, 4-wheel, M128. SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, M277. SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, M269. SEMITRAILER, low bed, wrecker, 12-ton, 4-wheel, M270. SEMITRAILER, stake, 12-ton, 4-wheel, M127. SEMITRAILER, van, supply, 12-ton, 4-wheel, M129.	
29	SEMITRAILER, gasoline, 12-ton.	SEMITRAILER, tank, gasoline, 12-ton, 4-wheel, M131A2. SEMITRAILER, tank, gasoline, 12-ton, 4-wheel, M131. SEMITRAILER, tank, gasoline, 12-ton, 4-wheel, M131A1.	
30	SEMITRAILER, low bed, 25-ton.	SEMITRAILER, low bed, 25-ton, 4-wheel, M172.	
31	SEMITRAILER, transporter, 45-ton.	SEMITRAILER, tank transporter, 45-ton, 8-wheel, M15A1. SEMITRAILER, tank transporter, 50-ton, 8-wheel, M15A2.	
32	TRAILER, cargo, ¼-ton	TRAILER, amphibious, cargo; ¼-ton, 2-wheel, M100.	
33	TRAILER, generator, light	CHASSIS, trailer, ¼-ton, 2-wheel, M115.	
34	TRAILER, cargo, ¾-ton	TRAILER, cargo, ¾-ton, 2-wheel, M101.	
35	TRAILER, generator, medium.	CHASSIS, trailer, 1½-ton, 2-wheel, M103A1.	
36	TRAILER, 1½-ton	TRAILER, cargo, 1½-ton, 2-wheel, M104A1. TRAILER, cargo, 1½-ton, 2-wheel, M105A1. TRAILER, cargo, 1½-ton, 2-wheel, M104. TRAILER, cargo, 1½-ton, 2-wheel, M105.	
37	TRAILER, generator, heavy	CHASSIS, trailer, generator, 3-ton, 2-wheel, M200A1.	
38	TRAILER, ammunition, 2-ton	TRAILER, ammunition, 2-ton, 2-wheel, M10.	
39	TRAILER, 762-mm rocket	TRAILER, rocket transporter, 762-mm rocket, M329A1. TRAILER, rocket transporter, 762-mm rocket, M329.	

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

Nomenclature in ordnance logistical tables		Ordnance nomenclature [a] [c]	Remarks [b] [c]
(1)		(2)	(3)
40	TRAILER, flat bed, guided missile.	TRAILER, flat bed, guided missile, M261A1. TRAILER, flat bed, guided missile, M261.	
41	TRUCK, utility, ¼-ton	TRUCK, utility, ¼-ton, 4 x 4, M151 TRUCK, utility, ¼-ton, 4 x 4, M38 TRUCK, utility, ¼-ton, 4 x 4, M38A1 TRUCK, utility, ¼-ton, 4 x 4, M38A1C TRUCK, ambulance, front line, ¼-ton, 4 x 4, M170.	
42	TRUCK, cargo, ¾-ton	TRUCK, cargo, ¾-ton, 4 x 4, M37 [d] TRUCK, ambulance; field, ¾-ton, 4 x 4, M43 [d].	
43	TRUCK, civilian models, ½ to 1½-ton.	TRUCK, cargo, ½-ton, 4 x 2 TRUCK, carryall, ½-ton, 4 x 2 TRUCK, panel, ½-ton, 4 x 2 TRUCK, stake, 1½-ton, 4 x 2	
44	TRUCK, cargo, 2½-ton	TRUCK, cargo, 2½-ton, 6 x 6, M34 [d] TRUCK, cargo, 2½-ton, 6 x 6, M35 [d] TRUCK, cargo, 2½-ton, 6 x 6, M135 [d] TRUCK, cargo, 2½-ton, 6 x 6, M211 [d] TRUCK, cargo, 2½-ton, 6 x 6, M36C [d] TRUCK, van, shop, 2½-ton, 6 x 6, M109 [d]. TRUCK, van, shop, 2½-ton, 6 x 6, M220 [d].	
45	TRUCK, dump, 2½-ton	TRUCK, dump, 2½-ton, 4 x 2 TRUCK, dump, 2½-ton, 6 x 6, M59 [d] TRUCK, dump, 2½-ton, 6 x 6, M215 [d] TRUCK, dump, 2½-ton, 6 x 6, M342 [d]	
46	TRUCK, tank, gasoline, 2½-ton.	TRUCK, tank gasoline, 2½-ton, 6 x 6, 1200 gal, M49 [d]. TRUCK, tank gasoline, 2½-ton, 6 x 6, 1200 gal, M217. TRUCK, tank, water, 2½-ton, 6 x 6, 1000 gal, M50 [d]. TRUCK, tank, water, 2½-ton, 6 x 6, 1000 gal, M222.	
47	TRUCK TRACTOR, 2½-ton	TRUCK TRACTOR, 2½-ton, 4 x 2 TRUCK TRACTOR, 2½-ton, 6 x 6, M48 [d]. TRUCK TRACTOR, 2½-ton, 6 x 6, M221 [d]. TRUCK TRACTOR, 2½-ton, 6 x 6, M275 [d].	
48	TRUCK, wrecker, 2½-ton	TRUCK, wrecker, crane, 2½-ton, 6 x 6, M108, w/winch. TRUCK, wrecker, crane, 2½-ton, 6 x 6, M214, w/winch. TRUCK, wrecker, crane, 2½-ton, 6 x 6, M60, w/winch.	

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

Nomenclature in ordnance logistical tables		Ordnance nomenclature [a] [c]	Remarks [b] [c]
(1)		(2)	(3)
49	TRUCK, cargo, 5-ton	TRUCK, cargo, 5-ton, 6 x 6, M41 [d]	
		TRUCK, cargo, 5-ton, 6 x 6, M54 [d]	
		TRUCK, cargo, 5-ton, 6 x 6, M55, w/ winch.	
		TRUCK, stake, 5-ton, 4 x 2	
50	TRUCK, dump, 5-ton	TRUCK, dump, 5-ton, 4 x 2	
51	TRUCK TRACTOR, 5-ton	TRUCK TRACTOR, 5-ton, 4 x 2, commercial type.	
		TRUCK TRACTOR, 5-ton, 6 x 6, M52 [d].	
52	TRUCK, wrecker, 5-ton	TRUCK TRACTOR, wrecker, 5-ton, 6 x 6, M246, w/winch.	
		TRUCK, wrecker, medium, 5-ton, 6 x 6, M52, w/winch.	
53	TRUCK TRACTOR, 10-ton	TRUCK TRACTOR, 10-ton, 6 x 6, M123, w/single midship winch.	
		TRUCK TRACTOR, 10-ton, 6 x 6, M123, w/dual midship winches.	
54	TRUCK TRACTOR, 12-ton	TRUCK TRACTOR, 12-ton, 6 x 6, M26A2, w/winch.	
		TRUCK TRACTOR, 12-ton, 6 x 6, M26, w/winch.	
		TRUCK TRACTOR, 12-ton, 6 x 6, M26A1, w/winch.	Not listed in SB 9-122
55	TRUCK TRACTOR, 15-ton		
56	TRUCK, van, expansible, 2½-ton.	TRUCK, van, expansible, 2½-ton, 6 x 6, M292.	Refer to line 21
57	TRUCK, gun lifting, heavy	TRUCK, gun lifting, heavy, 4 x 4, front, M249.	
		TRUCK, gun lifting, heavy, 4 x 4, rear, M250.	Refer to line 10
58	CARRIAGE, motor, heavy mortar.	MORTAR, self-propelled, full tracked, 4.2-inch, M84.	Refer to line 16
59	CARRIAGE, motor, twin 40-mm gun.	GUN, self-propelled, full tracked, twin 40-mm, M42A1.	
		GUN, self-propelled, full tracked, twin 40-mm, M19A1.	
		GUN, self-propelled, full tracked, twin 40-mm, M42.	
60	CARRIAGE, motor, 105-mm howitzer.	HOWITZER, self-propelled, full tracked, 105-mm, M52A1.	Refer to line 17
		HOWITZER, self-propelled, full tracked, 105-mm, M7B1.	
		HOWITZER, self-propelled, full tracked, 105-mm, M7B2.	
		HOWITZER, self-propelled, full tracked, 105-mm, M37.	
		HOWITZER, self-propelled, full tracked, 105-mm, M52.	
61	CARRIAGE, motor, 155-mm howitzer.	HOWITZER, self-propelled, full tracked, 155-mm, M44A1.	Refer to line 18
		HOWITZER, self-propelled, full tracked, 155-mm, M44.	

See footnotes at end of table.

Table XXIV. Equipment Nomenclature and Replacement Trends—Continued

	Nomenclature in ordnance logistical tables	Ordnance nomenclature [a] [c]	Remarks [b] [c]
	(1)	(2)	(3)
62	CARRIAGE, motor, 8-inch howitzer.	HOWITZER, self-propelled, full tracked, 8-inch, M55.	Refer to line 19
63	CARRIAGE, motor, 90-mm gun.	GUN, self-propelled, full tracked, 90-mm, M56.	Refer to line 13
64	TANK, 76-mm gun	TANK, combat, full tracked, 76-mm gun, M41A2.	Refer to line 12
		TANK, combat, full tracked, 76-mm gun, M41A3.	
		TANK, combat, full tracked, 76-mm gun, M41.	
		TANK, combat, full tracked, 76-mm gun, M41A1.	
65	TANK, 90-mm gun	TANK, combat, full tracked, 90-mm gun, M48A2.	Refer to line 13
		TANK, combat, full tracked, 90-mm gun, M47.	
		TANK, combat, full tracked, 90-mm gun, M48.	
		TANK, combat, full tracked, 90-mm gun, M48A1.	
66	TRACTOR, cargo, light	TRACTOR, full tracked, high speed, 13-ton, M5.	
		TRACTOR, full tracked, high speed, 13-ton, M5A1.	
		TRACTOR, full tracked, high speed, 13-ton, M5A2.	
		TRACTOR, full tracked, high speed, 13-ton, M5A3.	
		TRACTOR, full tracked, high speed, 13-ton, M5A4.	
		TRACTOR, full tracked, high speed, M85.	
67	TRACTOR, cargo, medium	TRACTOR, full tracked, high speed, 18-ton, M4.	
		TRACTOR, full tracked, high speed, 18-ton, M4A1.	
		TRACTOR, full tracked, high speed, 18-ton, M4A1C.	
		TRACTOR, full tracked, high speed, 18-ton, M4C.	
		TRACTOR, full tracked, high speed, M8A1.	
		TRACTOR, full tracked, high speed, M8A2.	
68	VEHICLE, infantry, armored	CARRIER, personnel, full tracked, armored, M59.	
		CARRIER, personnel, full tracked, armored, M75.	
69	VEHICLE, recovery, medium	TANK RECOVERY VEHICLE, medium, M74.	Tank Recovery Vehicle, M32B3 declared obsolete per OCM 36786.
		TANK RECOVERY VEHICLE, M32B3.	

[a] Ordnance nomenclature extracted from SB 9–122.
[b] Further information pertaining to replacement trends cannot be given because of security restrictions.
[c] All ordnance materiel listed includes related equipment required to ready the end item for its intended use.
[c] All ordnance materiel listed includes related equipment required to ready the end item for its intended uses.

42. Logistical Conversion Data

Table XXV contains logistical conversion data which may be helpful to staff officers and other personnel who use the other data tables contained in this manual.

Table XXV. Logistical Conversion Data

WEIGHT

	Unit	Long tons	Metric tons	Short tons	Kilograms	Pounds
	(1)	(2)	(3)	(4)	(5)	(6)
1	1 Long Ton equals		1.0160	1.1200	1,016	2,240
2	1 Metric Ton equals	0.9842		1.1023	1,000	2,204.6
3	1 Short Ton equals	0.8929	0.9072		907.2	2,000
4	1 Kilogram equals					2.2

LINEAR MEASURE

	Unit	Statute miles	Kilometers	Meters	Yards	Feet	Inches	Centimeters
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5	1 Statute Mile equals		1,6093	1,609.3	1,760	5,280	63,360	160,933
6	1 Kilometer equals	0.6214		1,000	1,093.6	3,281	39,370	100,000
7	1 Meter equals				1.0936	3,281	39.37	100
8	1 Yard equals			0.9144		3	36	91.44
9	1 Foot equals			0.3048	0.3333		12	30.48
10	1 Inch equals					0.0833		2.540
11	1 Centimeter equals					0.0328	0.3937	

SURFACE MEASURE

	Unit	Square miles	Square kilometers	Acres	Square Rods	Square meters	Square yards	Square feet
	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
12	1 Square Mile equals		2.59	640	102,400	2,589,945	3,097,600	
13	1 Square Kilometer equals	0.3861		247.1	39,537	1,000,000	1,196,010	
14	1 Acre equals				160	4,047	4,840	43,560
15	1 Square Rod equals					25.29	30.25	272.25
16	1 Square Meter equals				0.03954		1.1960	10.764
17	1 Square Yard equals				0.03306	0.8361		9,000

VOLUME

	Unit	Cubic feet	Imperial gallons	U. S. gallons	Liters	Quarts
	(23)	(24)	(25)	(26)	(27)	(28)
18	1 Cubic Foot equals		6.229	7.481	28.32	29.92
19	1 Imperial Gallon equals	0.16054		1.2010	4.546	4.804
20	1 U. S. Gallon equals	0.13368	0.8327		3.785	4.000
21	1 Liter equals	0.03532	0.2201	0.2642		1.0567
22	1 Measurement Ton equals	40.0				

APPENDIX I

REFERENCES

Pamphlets

DA Pam 108–1——Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings.
DA Pam 310–1——Index of Administrative Publications.
DA Pam 310–2——Index of Blank Forms.
DA Pam 310–3——Index of Training Publications.
*DA Pam 310–4——Index of Technical Manuals, Technical Bulletins, Lubrication Orders, and Modification Work Orders.
DA Pam 310–5——Index of Graphic Training Aids and Devices.
*DA Pam 310–7——Index of Tables of Organization and Equipment, Tables of Organization, Type Tables of Distribution, and Tables of Allowances.
DA Pam 310–21——Index of Supply Manuals—Signal Corps.
DA Pam 310–22——Index of Supply Manuals—Transportation Corps.
DA Pam 310–23——Index of Supply Manuals; Chemical Corps.
DA Pam 310–25——Index of Supply Manuals; Corps of Engineers.
*DA Pam 310–29——Index of Supply Manuals; Ordnance Corps.
DA Pam 310–30——Index of Supply Manuals; Quartermaster Corps.

Army Regulations

AR 320–5——Dictionary of United States Army Terms.
AR 320–50——Authorized Abbreviations and Brevity Codes.
AR 700–5——Organization and Operation of Inventory Control Points.
AR 710–60——Supply Replacement Factors and Consumption Rates for Army Materiel.
AR 711–16——Installation Stock Control and Supply Procedures.
AR 740–15——Storage and Shipment of Supplies and Equipment—Preservation, Packaging, and Packing.
AR 740–20——Storage and Shipment of Supplies and Equipment—Preparation for Shipment.
AR 743–41——Shed and Open Storage of Supplies.
*AR 750–4——Major Overhaul Policy and Program for Oversea Commands.
AR 750–5——Maintenance Responsibilities and Shop Operation.

Special Regulations

SR 700–51 Series——(Logistic Responsibilities).
*SR 705–30–10——Limitations on Materiel for Air Transport.

Field Manuals

FM 1–100——Army Aviation.
FM 3–5——Tactics and Techniques of Chemical, Biological, and Radiological (CBR) Warfare.
*FM 3–8——Chemical Corps Reference Handbook.
FM 5–34——Engineer Field Data.
*FM 5–35——Engineer's Reference and Logistical Data.
FM 8–55——Medical Reference Data.
*FM 9–1——Ordnance Service in the Field.

See footnote on p. 105.

Field Manual—Continued

*FM 9–6 ..... Ordnance Ammunition Service in the Field.
*FM 10–13 ..... Quartermaster Reference Data.
FM 21–5 ..... Military Training.
FM 21–6 ..... Techniques of Military Instruction.
FM 21–15 ..... Care and Use of Individual Clothing and Equipment.
FM 21–30 ..... Military Symbols.
FM 21–40 ..... Small Unit Procedure in Atomic, Biological, and Chemical Warfare.
FM 31–21 ..... Guerilla Warfare and Special Forces Operations.
FM 38–1 ..... Logistics Supply Management.
FM 57–30 ..... Airborne Operations.
FM 100–5 ..... Field Service Regulations; Operations.
FM 100–10 ..... Field Service Regulations; Administration.
FM 101–1 ..... The G–1 Manual.
FM 101–5 ..... Staff Officers' Field Manual; Staff Organization and Procedure.
*FM 101–10 ..... Staff Officers' Field Manual; Organization, Technical, and Logistical Data.

Technical Manuals

*TM 9–1100 ..... Inspection of Ordnance Materiel in Hands of Troops.
*TM 9–1900 ..... Ammunition, General.
*TM 9–1901 ..... Artillery Ammunition.
TM 9–1903 ..... Care, Handling, Preservation, and Destruction of Ammunition.
*TM 9–2200 ..... Small Arms Materiel and Associated Equipment.
TM 9–2205 ..... Fundamentals of Small Arms.
TM 9–2210 ..... Small Arms Accidents, Malfunctions, and their causes.
*TM 9–2300 ..... Artillery Materiel and Associated Equipment.
TM 9–2800 ..... Military Vehicles.
*TM 9–2800–1 ..... Military Vehicles (Ordnance Corps Responsibility).
TM 9–2810 ..... Preventive Maintenance, Supply, Inspection, and Training Procedures; Tactical Motor Vehicles.
TM 9–3305–1 ..... Principles of Artillery: Weapons.
TM 9–3305–2 ..... Principles of Fire Control Materiel.

Technical Bulletins

*TB 9–AMM–2 ..... Ammunition; Restricted or Suspended.
TB 9–AMM–4 ..... Small Arms Ammunition; Lots and Grades.
TB 9–AMM–5 ..... Ammunition; Federal Stock Number and Department of Defense Ammunition Code.
TB 9–OSSC–A ..... Ordnance Storage and Shipment Chart, Group A, Major Items and Major Combinations of Group A.
TB 9–OSSC–B ..... Ordnance Storage and Shipment Chart, Group B, Major Items and Major Combinations of Group B.
TB 9–OSSC–C ..... Ordnance Storage and Shipment Chart, Group C, Major Items and Major Combinations of Group C.
TB 9–OSSC–D ..... Ordnance Storage and Shipment Chart, Group D, Major Items and Major Combinations of Group D.
TB 9–OSSC–F ..... Ordnance Storage and Shipment Chart, Group F, Major Items and Major Combinations of Group F.
TB 9–OSSC–G ..... Ordnance Storage and Shipment Chart, Group G, Major Items and Major Combinations of Group G.
TB 9–OSSC–J ..... Ordnance Storage and Shipment Chart, Group J, Machine Tools.
TB 9–OSSC–L ..... Ordnance Storage and Shipment Chart, Group L, Targets and Target Equipment.

See footnote on p. 105.

Supply Bulletins

*SB 9–1	Ordnance Major Items and Major Combinations and Pertinent Publications.
*SB 9–101 (O)	Wartime Replacement Factors; Ordnance Corps.
*SB 9–107	Peacetime Replacement Factors; Ordnance Corps.
*SB 9–122	Ordnance Corps Adopted Items of Materiel.
SB 9–129	Cross Reference List of Atomic Energy Commission Stock Numbers to Approved Technical Service Stock Numbers.
SB 9–130	Authorized Commercial Type Vehicles in Category III and AAA (Mobile) TOE Units and Authorized Tactical Vehicle Substitutes.
*SB 9–136	Obsolete Major Items and Equipment.
SB 9–140	Operation of Maintenance Floats; Major Items of Equipment Authorized for Stockage.
SB 9–150	Requisitioning of Repair Parts and Assemblies Added by Modification Work Orders.
SB 38–8–1	Storage of Army Supplies and Equipment in Shed and Open Storage.
*SB 38–26 (C)	Ground Ammunition Day of Supply (U).
SB 38–100	Preservation, Packaging, and Packing Materials, Supplies and Equipment Used by the Army.
SB 708–401	Federal Supply Classification; Part I, Groups and Classes.
SB 708–402	Federal Supply Classification; Part II, Numeric Index of Classes.
SB 708–403	Federal Supply Classification; Part III, Alphabetic Index.

* Denotes military publications of primary importance to Ordnance logistical planning.
(C) Confidential
(O) Official Use Only
(U) Unclassified Title

APPENDIX II

PLANNING TROOP LIST FOR BALANCED FORCE

(Referenced TOE's Prior to 1 July 1958)

Unit	TOE	Corps	Army	Army total
COMBAT DIVISIONS				
Armd Div	17	1	0	3
Inf Div	7	3	0	9
SUPPORTING UNITS				
Armor				
Armd Cav Regt	17–51	1	2	5
Hq & Hq Co Armor Gp	17–32	1	0	3
Tank Bn 90-mm Gun	17–25	3	0	9
AAA				
Hq & Hq Btry AAA Brig	44–101	0	1	1
Hq & Hq Btry, AAA Gp	44–12	2	3	9
AAA AW Bn (SP)	44–75	6	3	21
AAA Bn 75-mm (MBL)	44–35	3	4	13
AAA Bn (90-mm)	44–15	2	2	8
AAA Bn (NIKE)	44–145	0	6	6
Field artillery				
Hq & Hq Btry, Army Arty	6–601	0	1	1
Hq & Hq Btry, Corps Arty	6–501	1	0	3
Hq & Hq Btry, FA Gp	6–401	4	0	12
105 How Bn (SP)	6–315	1	0	3
155 How Bn (SP)	6–325	5	0	15
155 How Bn (Towed)	6–135	3	0	9
155 Gun Bn (SP)	6–435	1	0	3
8" How Bn (SP)	6–435	4	0	12
8" How Bn (Towed)	6–415	3	0	9
280-mm Gun Bn	6–535	0	1	1
762-mm Rkt Bn (HJ)	6–525	3	0	9
Msl Bn *CORPORAL*	6–545	1	0	3
Msl Bn *REDSTONE*	6–635	0	1	1
FA Obsn Bn	6–575	1	0	3
FA Slt Bn	6–558	1	0	3
Hq & Hq Btry FA Msl Gp (Hvy)	6–611	0	1	1
Aviation				
Hq & Hq Det Avn Gp	1–102	0	1	1
Hq & Hq Co Avn Bn (Tactical Transport)	1–106	0	4	4
Avn Co FW Tactical Transport (Light)	1–107	0	4	4
Avn Co RW Tactical Transport (Light)	1–108	0	12	12
Avn Co RW Tactical Transport (Medium)	1–109	0	4	4
Army Avn Co	1–137	0	1	1
Corps Avn Co	1–127	1	0	3
Corps Arty Avn Co	1–117	1	0	3
Chemical				
Hq & Hq Det Cml Smoke Gen Bn	3–266	0	2	2
Chemical Smoke Gen Co	3–267	0	8	8
Chemical Combat Support Co	3–7	0	3	3
Hq & Hq Det Cml Gp (Fld)	3–32	0	1	1
Hq & Hq Det Cml Bn (Svc)	3–36	0	1	1
Chemical Maint Co	3–47	0	1	1

Unit	TOE	Corps	Army	Army total
Chemical—Continued				
Chemical Depot Co	3–67	0	1	1
Chemical TSID, Tm IB	3–500	0	1	1
Engineer				
Hq & Hq Co, Engr Brig	5–301	1	0	3
Hq & Hq Co, Engr Gp (C)	5–192	2	3	9
Engr C Bn (Army)	5–35	6	9	27
Engr Lt Eqp Co	5–367	2	3	9
Engr Panel Bridge Co	5–137	2	3	9
Engr Float Bridge Co	5–138	2	9	15
Engr Topo Co	5–167	1	0	3
Engr Topo Bn	5–55	0	1	1
Hq & Hq Det Engr Cam Co	5–96	0	1	1
Engr Cam Co	5–97	0	3	3
Hq & Hq Co Engr Constr Gp	5–312	0	2	2
Engr Constr Bn	5–315	0	6	6
Engr Dump Truck Co	5–324	1	5	8
Engr Hvy Eqp Co	5–328	0	2	2
Hq & Hq Co, Engr Maint & Supply Gp	5–262	0	1	1
Engr Depot Co	5–267	0	1	1
Engr Supply Point Co	5–48	0	3	3
Engr Field Maint Co	5–157	1	2	5
Engr Water Supply Co	5–67	0	1	1
Engr Parts Depot Co	5–279	0	1	1
Engr Fire Fighting Teams (FA, FC)	5–500	0	5	5
Engr Spec Eqp Maint Team (BC)	5–500	1	0	3
Engr Tech Intel Team (IO)	5–500	1	0	3
Engr Tech Intel Team (IH)	5–500	0	1	1
Engr Utility Team (HG)	5–500	0	1	1
Engr Terrain Team (IX)	5–500	0	1	1
Engr Fld Maint Team (FG) Guided Missile/*CORPORAL*	5–500	0	1	1
Engr Fld Maint Tm (EF) AAA	5–500	1	4	7
Engr Co (*REDSTONE*)	5–464	0	1	1
Infantry				
Inf Battle Gp SEP	7–11	0	3	3
Inf Scout Dog Plat	7–167	3	0	9
Inf Tactical Carrier Bn		See *Transportation*		
Path Finder Det Abn	7–168	0	4	4
Medical				
Hq & Hq Det Med Svc Gp	8–22	1	0	3
Hq & Hq Det Med Svc Bn	8–26	3	0	9
Ambulance Co Separate	8–17	3	0	9
Air Ambulance Co	8–29	1	0	3
Field Hospital (300 Bed)	8–510	5	0	15
Evac Hospital (400 Bed)	8–581	6	0	18
Hq Prof Svc (Team AG)	8–500	0	1	1
Vet Food Insp Det (Team HA)	8–500	1	1	4
Surg Det (Team KA)	8–500	10	0	30
Orthopedic Det (Team KB)	8–500	4	0	12
Shock Det (Team KC)	8–500	4	3	15
Maxillo Facial Det (Team KD)	8–500	1	1	4
Neurosurgical Det (Team KE)	8–500	1	1	4
Thoracic Surg Det (Team KF)	8–500	2	0	6
GAS Det (Team KG)	8–500	1	1	4
Dental Svc Det (Team KJ)	8–500	1	0	3
Psychiatric Det (Team KO)	8–500	1	1	4
Gen Disp (Team MA)	8–500	1	0	3
Med Det (Team DA)	8–500	6	2	20
Convalescent Center	8–590	0	1	1
Clr Co Sep	8–18	1	2	5

Unit	TOE	Corps	Army	Army total	
Military Police					
MP Bn, Army	19–35	0	4	4	
MP Bn, Hq & Hq Det (IAD, IMA, INA)	19–500	0	1	1	
MP Co Corps and Army	19–37	1	1	4	
MP Esct Gd Co	19–47	0	3	3	
MP Guard Co	19–247	0	2	2	
MP Det CI (ME)	19–500	0	3	3	
MP Det CI (MD)	19–500	0	1	1	
MP Det Stockade (INA, INB)	19–500	0	1	1	
Ordnance					
Hq & Hq Det Ord (M&S) Gp	9–12R	1	1	4	
Hq & Hq Co Ord (Ammo) Gp	9–22C	0	1	1	
Hq & Hq Det Ord (Ammo) Bn	9–86C	1	1	4	
Hq & Hq Det Ord (M&S) Bn	9–76R	2	10	16	
Ord Co, DAS	9–127	4	18	30	
Ord Co, DS	9–7	4	3	15	
Ord Co, GS	9–9	0	10	10	
Ord Co, Fld Sup	9–57	2	6	12	
Ord Co, GAS	9–197	0	14	14	
Ord Co, Recovery and Class	9–167	0	3	3	
Ord Co, Park	9–137	0	1	1	
Ord Co, Ammo	9–17	3	3	12	
Ord Co, SW & MSL, DS	9–47	1	1	4	
Ord Co, SW & MSL, GS	9–87	0	1	1	
Ord Co, GM DS (REDSTONE)	9–127	0	1	1	
Ord Det, FA (NIKE)	9–510	0	6	6	
Ord Det, FB (CORPORAL)	9–510	1	0	3	
Ord Det, (AA), EOD	9–510	0	8	8	
Ord Det, (AB), EOD (Aug)	9–510	0	2	2	
Ord Det, (AC), EOD (Control)	9–510	0	1	1	
Ord Det, (BA), Ball and Tech Svc	9–510	0	2	2	
Ord Det, (BB), Tech Intel	9–510	2	1	7	
Ord Det, (BC), Tech Intel Control	9–510	0	1	1	
Ord Det, (CC), IFCR M33	9–510	1	1	4	
Ord Det, (CD), IFCR M38	9–510	3	4	13	
Ord Det, (CF), Hvy, Arty Repair	9–510	0	1	1	
Ord Team, (CA), Hvy AAA Repair	9–500	2	2	8	
Ord Det, (DA), Ammo Renovation	9–510	0	0	0	(3)
Ord Det, (EB), Class II & IV Stk Con	9–510	0	1	1	
Ord Det, (GA), SW Calibration	9–510	0	0	0	(1)
Ord Team, GM GS (NIKE)	9–500	0	3	3	
Ord Team, GM GS (CORPORAL)	9–500	1	0	3	
Stock Account EAM Team FA	29–500	0	1	1	
Ord Co, SWW & MSL, Depot Spt	9–377	0	0	0	(3)
Ord Co, Tire Repair	9–347	0	1	1	
Ord Co, Collecting Point	9–348	0	0	0	(3)
Ord Co, Supply Depot	9–367	0	0	0	(12)
Quartermaster					
Hq & Hq Det, QM Gp	10–22	0	4	4	
Hq & Hq Det, QM Bn	10–536	0	11	11	
QM Svc Co	10–67	0	16	16	
QM Petroleum Supply	10–77	0	5	5	
QM Petroleum Depot Co	10–377	0	1	1	
QM Bakery Co	10–147	0	5	5	
QM Sales Co	10–157	0	1	1	
QM Laundry Co	10–167	0	8	8	
QM Salvage Co	10–197	0	4	4	
QM Subs Supply Co	10–197	0	4	4	
QM Clo & Gen Sup Depot Co	10–227	0	1	1	

Unit	TOE	Corps	Army	Army total
Quartermaster—Continued				
QM Parts Co	10–127	0	1	1
QM Reclamation & Maint Co	10–237	0	4	4
QM Refrig Co	10–247	0	1	1
QM Bath Co	10–257	0	4	4
QM Graves Registration Co	10–297	0	4	4
QM Subs Depot Co	10–357	0	1	1
QM Tech Intel Det (KA)	10–500	0	4	4
QM Petr Prod Lab Mob (KC)	10–500	0	1	1
Signal				
Hq & Hq Det, Sig Gp	11–22	0	1	1
Hq & Hq Det, Army Area, Sig Gp	11–32	0	1	1
Sig Bn, Army	11–95	0	1	1
Sig Bn, Combat Area (Army)	11–85	0	6	6
Sig Bn, Cable Const	11–45	0	1	1
Sig Com Ctr Opn Co	11–137D	0	1	1
Sig Bn, Corps	11–15	1	0	3
Sig Bn, EW	11–65	0	1	1
Sig Plt, Electronics (AA)		2	3	9
Sig Det, Auto Data Proc System (A)		1	1	4
Sig Det, Auto Data Proc System (B)		2	0	6
Sig Det, Crypto Distribution (NA)	11–500	0	3	3
Sig Det, Dqp Eval (TD)	11–500	0	1	1
Sig Det, Intel (TA)	11–500	1	0	3
Sig Det, Intel (TB)	11–500	4	0	12
Sig Det, Intel Collection (TC)	11–500	0	2	2
Sig Sup & Maint Bn (Fld Army)	11–155	0	1	1
Sig Det Radar Maint (RQ)	11–500	0	18	18
Transportation				
Trans Acft Maint & Supply Gp Hq & Hq Det	55–452	0	1	1
Trans Army Acft Maint Bn Hq & Hq Det	55–456	0	5	5
Trans Acft Dir Spt Co	55–457	0	3	3
Trans Acft Intermediate Spt Co	55–458	0	4	4
Trans Transport Acft Sup Co	55–467	0	2	2
Trans Transport Acft Maint Co	55–468	0	4	4
Trans Transport Hcpter Maint Co	55–469	0	4	4
Trans Gen Spt Acft Sup Co	55–477	0	1	1
Trans Gen Spt Acft Maint Co	55–478	0	1	1
Trans Gen Spt Hcpter Maint Co	55–479	0	2	2
Trans Truck Gp, Hq & Hq Det	55–12	0	2	2
Trans Truck Bn, Hq & Hq Det	55–16	0	9	9
Trans Mvt Control Gp	55–500	0	1	1
Trans Hvy Reg Pt Team	55–500	0	12	12
Trans Lt Truck Co	55–17	0	30	30
Trans Med Truck Co (Petrl)	55–18	0	3	3
Trans Med Truck Co (S&P)	55–18	0	3	3
Trans Car Co	55–19	0	4	4
Trans Tech Intel Strategic (HB)	55–500	0	1	1
Trans Tech Intel Combat (HA)	55–500	0	3	3
Trans Hvy Truck Co	55–28	0	1	1
Trans Tact Carrier Bn, Corps	55–46D	2	0	6
MISCELLANEOUS				
Adjutant General				
Army Band	12–107	0	1	1
MRU Type Z (Consolidating) (MBL)	12–510	0	1	1
MRU Type Z (MBL)	12–510	0	4	4
Postal Regulating Detachment	12–47	0	2	2
APU Type Z	12–605	0	4	4
Special Services Co	12–17	0	1	1

Unit	TOE	Corps	Army	Army total	
Army					
Hq Army	51–1	0	1	1	
Hq Co Army	51–2	0	1	1	
Hq Sp Trp, Army	51–3	0	1	1	
ASA					
Hq & Hq Co, ASA Gp		0	1	1	
ASA Co (Type A)		0	3	3	
ASA Co (Type B)		0	1	1	
ASA Co (Secty)		0	1	1	
Hq & Hq Co, ASA Bn		1	0	3	
ASA Co (Type C)		4	0	12	
Civil Affairs and Military Government					
CAMG Gp (AC, AG, BB, BI, CC, CG, CK, CM, CU, DB, DE, DG, EC, EF, EI)	41–500	0	1	1	
CAMG Co (AB, AE, CB, CF, CJ, CL, CT, DA, DD, EB, EE)	41–500	1	0	3	
CAMG Plat, Divisional (AA, AD, BR, CA, CE, CL, CS, EA, ED)	41–500	4	0	12	
Corps					
Hq Corps	52–1	1	0	3	
Hq Co, Corps	52–2	1	0	3	
Finance					
Finance Disb Sec (Teams AC, FL, GA, HB)	14–500	0	15	15	
Military Intelligence					
MI Bn, Fld Army	30–15	0	1	1	
MI Elements at Fld Army Level		0	1	1	
MI Det, Corps	30–18	1	0	3	
MI Det, Division	30–17	4	0	12	
Air Recon Spt Bn	51–15	0	1	1	
Psychological Warfare					
Psy War Co	33–77	0	1	1	
Replacement Units					
Hq & Hq Det, Repl Gp	20–52	0	1	1	
Hq & Hq Det, Repl Bn	20–56	0	6	6	
Repl Co	20–57	24	24		
Logistical Command					
Hq Logistical Command C	54–201	0	0	0	(1)
Hq Co, Logistical Command C	54–202	0	0	0	(1)
Miscellaneous					
Public Information		0	0	0	

Notes.

a. The organization and personnel strengths per the PLANNING TROOP LIST contained in the table comprise the balanced force used to develop the logistical planning data and factors shown in this manual.

b. The PLANNING TROOP LIST is basically equivalent to the organization and strength of the 1957 Type Field Army plus a supporting communication zone. The PLANNING TROOP LIST is approximately equal to three (3) Corps Force Slices (FY 1958).

c. The Tactical Carrier Battalions are assumed to be transportation TOE—not infantry TOE's. Each Tactical Carrier Battalion is assumed to be composed of one (1) Hq and Hq Detachment (TOE 55–46D, dtd 17 Dec 57, being processed for publication) and three (3) Transportation Tactical Carrier Companies, Corps (TOE 55–47D, dtd 17 Dec 57, being processed for publication). In this large force, six (6) each battalions were used for the field army (2 each battalion per corps).

APPENDIX III

LIST OF TABLES

[AG 353 (2 Apr 59)]

By Order of *Wilber M. Brucker*, Secretary of the Army:

L. L. LEMNITZER,
General, United States Army,
Chief of Staff.

Official:

R. V. LEE,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

DCSPER (3)
ACSI (1)
DCSOPS (3)
DCSLOG (5)
ACSRC (1)
CUSARROTC (1)
CNGB (1)
Tech Stf, DA (3) except
  CofOrd (50)
Tech Stf Bd (5) except
  USA Ord Bd (10)
USA Maint Bd (10)
USCONARC (25)
US ARADCOM (10)
US ARADCOM Rgn (10)
OS Maj Comd (10)
OS Base Comd (10)
Log Comd (10)
MDW (2)
Armies (10) except
  First US Army (12)
Corps (5)
Div (5)
Brig (1)
Rgt/Gp/Bg (1) except
  Ord Gp (5)
Ord Bn (4)
USA Msl Comd (5)
USA Ord Tng Comd (25)
USA Ord Msl Comd (50)
USA Ord Sp Wpn Ammo Comd (25)
USA Ord Tk Autmv Comd (25)
USA Ord Wpn Comd (25)
USA Ord Sch (1600)
USA QM Sch (10)
USAARMS (10)
USAAMS (20)
USACMLCSCH (10)
USAES (10)
USA Eng-Ord Sch, Europe (20)
USAIS (10)
USATSCH (10)
USAOGMS (100)
USASIS (5)
PMGS (75)
USASCS (10)
USACGSC (20)
TJAGSA (3)
TAGSUSA (3)
AFSC (10)
USAWC (10)
USA AD Cen (5)
PMST Sr Div Units (3)
PMST Jr Div Units (3)
PMST Mil Sch Div Units (3)
GENDEP (3)
Ord Sec, GENDEP (3)
Ord Dep (10)
Trans Terminal Comd (3)
OS Sup Agcy (6)
Ord Arsenals (10)
Ord Proc Dist (2)
Ord PG (10)
USA Element, Def Atomic Spt Agcy (10)
Mil Dist (5)
USA Corps (Res) (5)
Sector Comd, USA Corps (Res) (5)
Units org under fol TOE:
  9-500 (2)
  9-510 (2)

NG: State AG (3); units—same as Active Army except allowance is one copy to each unit.

USAR: Same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.

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