



DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

MAINTENANCE EXPENDITURE LIMITS FOR

FSC GROUP 10

FSC CLASSES 1000, 1005, 1010, 1015  
1025, 1030, 1055, 1090 and 1095

Headquarters, Department of the Army, Washington, DC

12 MAY 1988

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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	Paragraph	Page
<b>SECTION I. GENERAL</b>		
<b>Purpose</b> .....	1	3
<b>Scope</b> .....	2	3
<b>SECTION II. ONE TIME REPAIR EXPENDITURE LIMITS</b>		
Procedure .....	3	3
Expenditure Limits .....	4	3
<b>SECTION III. TECHNICAL INSPECTIONS</b>		
Procedure .....	5	3
Forms .....	6	4

\*This bulletin supersedes TB 43-0002-73, 3 March 1986.

This copy is a reprint which includes current pages from Changes 1 and 2.

		Paragraph	Page
SECTION IV.	..... COMPUTATION OF REPAIR COST ESTIMATES		
	Cost Factors .....	7	4
	Procedure .....	8	12
SECTION V.	DISPOSITION INSTRUCTION		
	Eligibility of Materiel -or Evacuation to Depot Maintenance .....	9	14
	Disposition Instructions .....	10	14
APPENDIX	REFERENCES .....		16

CHANGE

NO.2

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, D.C. 26 May 1992

**MAINTENANCE EXPENDITURE LIMITS FOR  
FSC GROUP 10**

**FSC CLASSES 1000, 1005, 1010, 1015,  
1025, 1030, 1055, 1090 AND 1095**

TB 43-0002-73, 12 May 1988, is changed as follows:

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CHANGE

NO. 1

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC 31 October 1990

MAINTENANCE EXPENDITURE LIMITS FOR

FSC GROUP 10

FSC CLASSES 1000, 1005, 1010, 1015,  
1025, 1030, 1055, 1090 AND 1095

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## Section I. GENERAL

**1. Purpose.** This bulletin contains guidelines for maintenance expenditure limits of AMCCOM materiel to be used when determining the economical repairability of that materiel. It specifies the technical inspection criteria and detailed data for computing repair cost estimates to prevent the evacuation of uneconomically repairable equipment unless specifically required and directed.

### 2. Scope.

a. This bulletin is applicable to all U.S. Army organizations, installations and activities, and the Reserve Components worldwide.

b. This bulletin is applicable to all U.S. Army procured end items of materiel, selected repair parts, and assemblies requiring repair or overhaul (either by contractor or in-house), except materiel provided to allied nations under the Military Assistance Program or International Logistics Agreements.

## Section II. ONE TIME REPAIR EXPENDITURE LIMITS

3. Procedure. Maintenance expenditure limits will provide guidance for determining the economical repair of Army materiel in order to prevent evacuation of uneconomically repairable equipment, make uneconomically repairable equipment eligible for disposal, and preclude the loss of materiel to the Army solely on the basis of the age of the materiel (AR 750-1).

4. Expenditure Limits. Table 1 provides current replacement cost and maintenance expenditure limitation criteria in the form of one-time repair expenditure. The items are listed by Federal Supply Classification (FSC), and indicate life expectancy of the item and the expenditure limit (dependent on the current age of the item). Serial numbers for those weapons having no DA Form 2408-4, 8, or 9 are available at HQ, AMCCOM. Inquiries containing nomenclature of the weapon, National Stock Number, and serial number should be addressed to: Commander, HQ, AMCCOM, ATTN: AMSMC-MML, Rock Island, IL 61299-6000.

The maintenance expenditure limit is expressed as a percentage of the total repair cost estimate (refer to para 7 and 8) relative to the total cost of the item. The maintenance expenditure limit, in conjunction with technical inspections, will be used as a guideline for the determination of the useful future of the item (i.e., whether the item is to be returned for maintenance or disposal). AR 750-1 cites the maximum expenditure limit at depot level for repair, transportation, and handling.

## Section III. TECHNICAL INSPECTIONS

5. Procedure. Technical inspections will be conducted by qualified personnel who must be familiar with maintenance operations and standards to determine the work required and thereby arrive at an equitable maintenance classification. All inspections will be performed

in accordance with instructions contained in pertinent equipment publications listed in table 1. If required repairs are beyond general support maintenance category, the item will be returned to a specified depot as economically repairable. The item will be further evaluated by the depot to ensure repair or overhaul eligibility.

Field personnel preparing technical inspection reports will list materiel known or suspected to require restoration to a serviceable condition at depot level, and will provide other pertinent information available to assist higher authority in determining repair or overhaul eligibility. Final determination, relative to the level of repair or complete disposal of the item, will be made per provisions of paragraph 7d. (Items listed in table 2 as "No Depot Maintenance Equipment" will not be considered as candidates for potential depot level maintenance; general support maintenance will consequently be the highest maintenance level authorized to repair (or completely dispose) these items.)

6. Forms. DA Form 2404 (Equipment Inspection and Maintenance Worksheet) will be used to record results of technical inspections. Instructions on preparation and use of this form are found in DA PAM 738-750 (The Army Maintenance Management System (TAMMS)).

#### **Section IV. COMPUTATION OF REPAIR COST ESTIMATES**

7. Cost Factors.

a. Repair cost estimates will be based on the cost to return materiel to serviceable condition at the authorized maintenance category undertaking the repair, in accordance with appropriate publications. Required repairs will not be broken into separate 3ob estimates for the purpose of circumventing prescribed repair expenditure limits.

b. If repairs are expected to be within the scope of direct or general support maintenance and the item is to be repaired at that level for return to user, serviceability standards and maximum wear limits applicable for the appropriate maintenance category will be used in computing the repair cost estimate.

c. If required repairs are beyond general support maintenance capability and must be accomplished as depot maintenance, the repair cost estimate will be based upon the return of the item to specified serviceability standards.

d. Repair eligibility will be determined by comparing the repair cost estimate with the product of the prescribed expenditure limit percentage times the current replacement cost (table 1) for the unserviceable item. For an item to be eligible for repair, the repair cost estimate must not exceed the prescribed percentage of cost of replacement (i.e., the product obtained from above arithmetic function).

Waiver from this repair eligibility requirement may be granted by the Major Army Commander; Chief, National Guard Bureau; or CG, AMCCOM.



Table 1. Maintenance Expenditure Limits Applicable to AMCCOM (FSC Group 10)

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1005-00-001-9246	Mount, Gun, 'Ring, 7.62-MM, for	\$186.00	30	65%	65%	65%	TM 9-1005-245-14
1005-00-014-0369	Bsyonet-Knlfe, M6, with (W/) M548 Carrier	4.40	30	65	65	65	TM 9-1005-237-23&P
1005-00-017-9701	Bayonet-Knife, M7, W/	8.74	30	65	65	65	TM 9-1005-237-23&P
1005-01-227-1739	M9 Multi-Purpose Bayonet System Scabbard	45.00	30	65	65	65	TM 9-1005-237-23&P
1005-00-072-5011	Rifle, 7.62-MM Automatic, M14A1	450.00	30	65	65	65	TM 9-1005-223-10, -12P, -20, -34
1005-00-073-8938	Bayonet-Knife, M6, Ceremonial	30.15	30	65	65	65	TM 9-1005-237-15P -24&P
1005-00-073-9421	Rifle, 5.56-MM, M16A1	354.98	25	65	65	65	TM 9-1005-249-10, -24&P
1005-01-128-9936	Riffle, 5.56-MM, M16A2	506.00	25	65	65	65	TM 9-1005-319-10, -24
1005-00-077-2354	Machine Gun, 7.62-MM, M219	7, 140.95	20	65	65	55	TM 9-1005-233-10,
1005-00-179-0300	Rifle 7.62-MM, M21, Snipers	1, 278.00	25	65	65	65	TM 9-1005-221-23&P
1005-01-240-2636	Rifle, M24 Sniper Weapon System	5, 000.00	30	65	65	65	TM 9-1005-306-10
1005-00-183-5957	Rifle, Cal. .22, Mossberg, M144US	42.31	15	65	65	65	TM 9-1005-206-14P/4
1005-00-322-9715	Machine Gun, Cal. .50, M2, Heavy Barrel, Flexible Ground	9, 092.98	30	65	65	65	TM 9-1005-213-10, -23, -23P, -25
1005-00-322-9716	Mount, Tripod, Machine Gun, Cal. .50, M3	487.83	25	65	65	65	TM 9-1005-213-10, -23, -23P, -25
1005-00-419-7041	Pedestal, Gun Mount, M4	293.00	30	65	65	65	TM 9-1005-245-14
1005-00-589-1271	Rifle, 7.62-MM, M14	138.00	30	65	65	65	TM 9-1005-223-10, -12P, -20, -34

Table 1. Maintenance Expenditure Limits Applicable to AMCCOM (FSC Group 10)-- Continued

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1005-00-726-5655	Pistol, Cal. .45, Automatic, M1911A1	\$274.00	30	65%	65%	55	TM 9-1005-211-12, -35
1005-00-605-7710 -24, -24P, -34P,	Machine Gun, 7.62-MM, M60 W/E	1,967.141	20	65	65	55	TM 9-1005-2214-10,
1005-00-672-1771	Submachine Gun, Cal. .145, M3AI	111.00	30	65	65	65	TM 9-1005-229-12, -35
1005-00-673-3216	Mount, Machine Gun, Cal. .50, Antiaircraft, M63	472.00	30	65	65	65	TM 9-1005-213-10, -23, -23P, -25
1005-00-678-9828	Rifle, 7.62-MM, CR M14 (National Match)	316.00	25	65	65	65	TM 9-1005-223-10, -12P, -20, -31
1005-00-678-9829	Rifle, 7.62-MM, M14 Modified	350.00	30	65	65	65	TM 9-1005-223-10, -12P, -20, -34
1005-00-690-2190	Machine Gun, Cal. .50, M85, fixed	22, 587.47	20	65	65	65	TM 9-1005-231-10, -20&P
1005-00-701-2810	Mount, Machine Gun Ring, M66	2, 836.00	30	65	65	65	TM 9-1005-245-14
1005-00-704-6650	Mount, Machine Gun, Cal. .50	249.00	30	65	65	65	TM 9-1005-245-14
1005-00-710-5599	Mount, Tripod, Machine Gun, 7.62-MM, M122	363.92	25	65	65	65	TM 9-1005-224-10, -24, -24P, -34P,
1005-00-711-6202	Bipod, Rifle, 7.62-MM, M2	34.84	15	65	65	65	TM 9-1005-223-10,
1005-00-722-3098	Launcher Grenade, Rifle, M76	2.78	15	10	10	10	TM 9-1005-234-14P
1005-00-178-8812	Launcher, Grenade, M76 W/E	6.08	15	10	10	10	TM 9-1005-234-14P
1005-00-783-5494	Mount, Gun, Ring, Cal. .50, M66 Marine Corps	2, 711.00	30	65	65	65	TM 9-1005-245-14
1005-00-854-4463	Mount, Gun, M142 for M60 Machine Gun	216.00	30	65	65	65	TM 9-1005-245-14
			<b>Change 1 I6</b>				

Table 1. Maintenance Expenditure Limits Applicable to AMCCOM (FSC Group 10)--continued

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1005-00-859-0458	Pistol, Cal. .38, Colt, Gold Cup,	\$125.00	25	65%	65%	65%	TM 9-1005-206-14P/3
1005-00-890-2609	Bipod, Rifle, 5.56-MM, M3	5.09	10	65	65	65	TM 9-1005-249-10, -24&P,
1005-00-903-0751	Machine Gun, 7.62-MM, M134	9, 541.00	14	65	45	35	TM 9-1090-202-12, -20P, -34, -35P
1005-00-909-3002	Machine Gun, 7.62-MM, Aircraft Mounted, M60D	1, 574.26	20	65	65	55	TM 9-1005-224-10, -24, -24P, -34P
1005-00-921-5483	Shotgun, 12 Gage, Winchester	108.00	25	65	65	65	TM 9-1005-303-14
1005-00-933-6242	Armament, Subsystem, Helicopter, 7.62-MM Machine Gun, M27E1	55, 938.00	15	65	50	35	TM 9-1005-298-12, -20P, -34, -35P, -ESC
1005-00-937-5839	Revolver Cal. .38, S&W, M10, Round Butt, 4-inch Barrel	90.54	25	65	65	65	TM 9-1005-206-14&P-1
1005-00-937-5840	Revolver, Col. .38, S&W, M10 Round Butt, 4-inch Barrel	90.54	25	65	65	65	TM 9-1005-206-14&P-1
1005-00-957-3893	Machine Gun, Cal. .50, M2 for; Round Butt, 2-Inch Barrel	10, 508.11	30	65	65	65	TM 9-1005-213-25
1005-00-971-5039	Pistol, Cal. .38, Automatic, S&W, Chrysler Mount	150.00	25	65	65	65	TM 9-1005-206-14P/3
1005-00-973-2833	Mount, Machine Gun 7.62-MH, M52	509.00	30	65	65	65	TM 9-1005-245-14
1005-00-976-9231	Pistol, Cal. .22, Automatic HI Pedestal on Truck M151, W/ EM142 and M4	31.42	25	65	65	65	TM 9-1005-206-14P/3
1005-00-994-9512	Pistol, Cal. .45 Automatic Standard Supermatic Tournament	568.00	50	65	65	65	TM 9-1005-211-12P,
1005-01-118-2640	Pistol, Semi-Automatic, 9-MM, M9 M1911A1, National Match-35	179.00	30	65	65	65	TM 9-1005-317-10, -23&P
1005-01-025-8095	Machine Gun, 7.62-MM, M240	1, 376.17	20	65	65	50	TM 9-1005-313-10, -23, -23P

Table 1. Maintenance Expenditure Limits Applicable to AMCCOM (FSC Group 10)--Continued

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1005-01-034-5198	Mount, Machine Gun, 7.62-MM,	\$834.00	30	65%	65%	65%	TM 9-1005-245-14
1005-01-040-8989	Revolver, Cal. .38 Special Modified M142	118.00	25	65	65	65	TM 9-1005-206-14&P-1
1005-01-040-8990	Revolver, Cal. .38 Special, Ruger Service Six, 4-inch Barrel M108, W/lanard Loop	125.00	25	65	65	65	TM 9-1005-206-14&P-1
1005-01-086-1400	Gun, Automatic; 25-MM, M242	35, 633.00	30	65	65	50	TM 9-1005-200-20&P, -30&P
1005-01-127-7510	Machine Gun, 5.56-MM, M249	1, 998.67	20	65	65	50	TM 9-1005-201-23&P -24&P
1010-00-179-6447	Launcher, Grenade, 40-MM, M203	214.00	15	65	65	65	TM 9-1010-221-10,
1010-00-322-9739	Rifle, Recoilless, 57-MM, M18A1	1, 490.00	2, 500 rds	0-1000 rds 65	1000-1500 rds 50	over 1500 rds 35	TM 9-3062-34**
1010-00-673-2006	Mortar 60-MM, M2 W/Mount Ms	10, 134.00	20	65	50	30	TM 9-3071-1
1010-00-673-2010	Mortar 60-MM, M19 W/Mount M5	10, 134.00	20	65	50	30	TM 9-3071-1
1010-00-691-1382	Launcher, Grenade, 40-MM, M79	720.00	30	65	65	65	TM 9-1010-205-10, -24
1010-00-738-5810	Launcher, Grenade, 40-MM, M75	30, 204.00	16	65	40	30	TM 9-1010-207-12, -20P, -34, -34P, -ESC
1010-00-738-5811	Armament, Subsystem, Helicopter 40-MM Grenade Launcher, M5	91, 965.00	15	65	50	40	TM 9-1010-207-12, -20P, -34, -34P,
1010-00-937-1842	Launcher, Grenade, 40-MM, X129	12, 403.00	12	65	50	35	TM 9-1090-203-12, -12-1, -20-1, -20-2, -20P, -20P-1, -34, -34-1, -34-2, -34P, --34P-1

\*\* See footnote at the end of table.

Table 1. Maintenance Expenditure Limits Applicable to AMCCOM (FSC Group 10)

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1010-01-014-6506	Launcher, ProJectile, Riot Control, 64-MM, M234	\$ 152.00	20	65%	65%	65%	TM 9-1010-224-10, -20&P, TM 43-0001-26-2
1010-01-020-5626	Mortar, 60-MM, M224	10,134.00	20	65	50	30	TM 9-1010-223-10, -20&P, -34&P
1015-00-086-8164	Howitzer. Light, Towed, 105-MM, M102	210,229.00	20	65	50	30	TB 746-95-1, TM 9-1000-257-BD, TM9-1015-234-10 -12, -20, -20P, -34 -34P, -35, TM43-0001-28-10
1015-00-133-8484	Rifle, Recoilless, 106-MM,	19, 835.00	3, 000 rds	0-1500 rds 65	1500-2000 rds 50	over 2000 rds 35	TM 9-1000-205-12, TM 9-1015-221-12, -20P, -34, -34P, -35, -ESC, TM 55-1000-205-20-1, TM 55-015-221-10-2
1015-00-133-8485	Rifle, Recoilless, 106-MM, M40A4/Mount M92 Tripod M27	7, 933.00	3, 000 rds	0-1500 rds 65	1500-2000 rds 50	over 2000 rds 35	TM 9-1000-205-12, TM 9-1015-221-12, -20P, -34, -34P, -35, -ESC, TM 55-1000-205-20-1
1015-00-322-9752	Howitzer, Light, Towed, 105-MM, MIOIA1	152, 855.00	20	65	50	30	TM 55-1015-221-10-2 TB 746-95-1, TM 9-1015-203-12, -12-HR, -20P, -34, -34P, -35P, -ESC, TM 9-3007, TM 43-0001-28-10
1015-00-657-7534	Rifle, Recoilless, 90-MM, M67	6, 768.372, 000	rds 1000	o-1500 rds	1000-1500 rds	over rds	TM 9-1015-223-12, -23p. -30
1015-00-691-1289	Rifle, Recoilless, 75-MM, M20 W/E	1, 429.00	2, 000 rds	0-1000 rds	1000-1500 rds	over 1500 rds	TM 9-3140-34***
1015-00-694-9766	Howitzer, Saluting, 75-MM, M120	5, 948.00	30	65	50	30	TM 9-3051****

\*\* See footnote at the end of table.

\*\*\* See footnote at the end of table.

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1015-00-840-1840	Mortar, 4.2 Inch, M30 W/Mount, M24A1	\$ 49, 575.00	20	65%	50%	30%	TM 9-1015-215-10, -20&P, -30, -30P
1015-00-999-7794	Mortar, 81-MM, M29A1	12, 035 00	20	65	50	30	TM 9-1015-200-10,
1025-00-322-9768	Howitzer, 155-MM, M114A1, W/ M1A2 Carriage	228, 715.00	20	65	50	30	TB 746-95-1, TM 9-1025-200-12, -12P, -20P, -34, -34P, -35, -35P, -ESC, TM 43-0001-28-8, -9
1025-01-025-9857	Howitzer, 155-MM, M114A2, W M1A2 Cannon	/288, 715.00	20	65	50	30	TB 746-95-1, TM 9-1025-200-12, -12&P, -20P, -34, -34P, -35, -35P, -ESC
1025-01-026-6648	Howitzer, Medium, Towed, 155-MM) M198	443, 474.00	20	65	50	30	TB 9-1025-211-34, TB 746-95-1, TM 9-1000-258-BD, TM 9-1025-211-10, -20&P, -34, -34P, TM 43-0001-28-7, TM 55-1025-211-14
1055-00-840-1841	Launcher, Roc:(et, 3.5 Inch, M20A1	72.00	30	65	50	35	TM 9-1055-201-12, -35
1055-00-840-1842	Launcher, Rocket, 3.5 Inch, M20A11	101.00	30	65	50	35	TM 9-1055-201-12, -35
1090-00-081-1046	Armament Subsystem, Helicopter, Grenade Launcher M28A2 7.62-MM Machine Gun, 40-MM	205, 291.00	14	65	55	45	TM 9-1090-203-12, -20-2, 20P, -20-P-1, -12-1, -20, -20-1, -20P, -30, -34, -34-1, -34P, -34P-1
1090-00-134-3071	Armament Subsystem, Helicopter, 7.62-MM Machine Gun, 40-MM Grenade Launcher, M28A1	157, 490.00	14	65	55	45	TM 9-1090-203-12, 20, -20-1, -20-2, -20P, -34, -34P
1090-00-317-2424	Mount, Tripod, Rifle, M74	208.00	30	65	50	35	TM 9-3140***

\*\*\* See footnote at the end of table.

NSN	Nomenclature	Current Replacement Cost	Life Expectancy (Years)	Expenditure Limit % Age of Item (Years)			Equipment Publications
				1-5	6-10	over 10	
1090-00-923-5971	Armament Subsystem, Helicopter 7.62-MM Machine Gun, M21 H	\$100D229.00	12	65%	50%	35%	TM 9-1090-202-12, -20P, -19, -22P, -ESC
1090-00-930-5018	Mount, Multiarmament Helicopter, M156	25, 972.00	18	65	50	40	TM 9-1090-204-12, 1-20P, 34P, -35, -ESC
1090-01-030-0095	Armament, Subsystem Helicopter 7.62-MM Machine Gun, 40- M Grenade Launcher, M28A3	208, 081.00	14	65	55	45	TM 9-1090-203-12-1, 20,3P 30
1095-00-223-7164	Scabbard, Bayonet, M10I	2.04	10	65	65	65	ITM 9-1005-237-15P
1095-00-508-0339	Scabbard, Bayonet Knife, MeA1	2.04	10	65	65	65	TM 9-1005-237-15P
1095-00-726-5657	Pistol, Pyrotechnic, AN-M8, W/ Mount M1	28.63	30	65	65	65	TM 9-1095-201-15, -25P
1095-00-726-5820	Pistol, Pyrotechnic, AN-MO, 1.5	35.00	30	65	65	65	iTM 9-1095-201-13, I-25P
1095-00-731-2570	projector, Signal, Ground, MIA130.00	30		65	65	65	TM 9-1095-201-15, -25P
1005-01-063-4762	Armament, Subsystem helicopter 20-MM Automatic Gun, M97A1	,228, 516.00	20	65	65	65	TM 9-1090-206-20-2, i -23P, -30
1090-01-100-4469	Armament, Subsystem Helicopter, 20-MM Automatic Gun, M97A2	405, 000.00	20	65	65	65	TM 9-1090-206-20-1, -23P, -30
N/A	Armament, Subsystem Helicopter <sub>1</sub> 1Door Gun, 7.62-MM Machine Gun, 1: <sup>14C</sup>	10, 500.00	20	65	65	65	TM 9-1005-262-13, -23P, -24P,
11095-01-036-6886	Dispenser, General Purpose,	3, 540.00	15	65	65	65	TM 9-1095-206-13&P
109 500397-3456	Dispenser, Mine, Ground Vehicle, M128 IAircraft, M130	326, 215.00	20	65	65	65	10-201

\* Rescinded for Active Army use only by DA Circular 310-7, 13 December 1971.

\*\*Rescinded for Active Army use only by DA Circular 310-29, 7 February 1972.

\*\*\*Rescinded for Active Army use only by DA Circular 310-92, 5 January 1975.

e. The repair (overhaul) cost estimate will be based on all costs (except those specifically excluded herein) necessary to convert the given item to the required condition specified in applicable DA Equipment Publications (table 1).

f. Depot maintenance activities, upon request, also will provide guidance and assistance to field personnel to facilitate repair cost estimates and technical inspections on materiel to be evacuated to the depot.

8. Procedure. The following direct and indirect costs will apply to determine repair cost estimates when deficiencies are found during technical inspections.

a. Direct Costs.

(1) Direct labor. Direct labor is that labor (civilian or military) which can be specifically identified to the repair/overhaul 3ob to be performed. Direct labor involves only personnel in direct productive contact with the item or service involved.

(a) Direct labor costs. To estimate direct labor costs, determine/estimate the direct labor man-hours to be applied and apply the appropriate computed direct labor hourly rate to these man-hours.

(b) Direct labor man-hours. The determination of the direct labor man-hours to be applied will be based on working hour requirements for maintenance tasks listed in applicable equipment publications; commercial flat rate manuals, when appropriate; similar work performed previously; or individual experience. The direct labor man-hours will be periodically reviewed and updated, if necessary.

(c) Civilian labor rates. The cost of civilian labor will be based on a labor rate for the work center which will perform the work. Procedures described in AR 37-110 will be used to convert working years to average productive working hours when civilian labor pay scales are stated in terms of annual salaries. Labor rates, whether determined from annual salaries or hourly wage rates, will be computed (to include provisions for the cost of annual, sick, other leave, and government contributed fringe benefits) in accordance with AR 37-110.

(d) Military labor rates. Labor rates used for military personnel will be the average military wage rate for the work center performing the work, based on standard rates published in AR 37-108.

(e) Labor rates including indirect expenses. Major Army commanders and heads of agencies may establish and use standard hourly rates for direct labor (including indirect or overhead) so long as such rates are consistent with AR 37-55 and AR 37-110. When such standard rates are established, separate rates will be established for each category of supportable items or weapons systems (e.g., aircraft, automotive equipment, combat vehicles, construction equipment,



electronics and communications equipment, missile systems, ships, munitions armament, weapons armament, rail equipment, general equipment, and commodity groups of equipment); depot maintenance and direct/general support maintenance; and each major geographical area where wage levels vary significantly.

(f) Depot maintenance labor rate. When considered necessary for determining the proper depot maintenance labor rate, assistance may be requested as authorized by AR 700-4.

(2) Materials. The cost to repair will include all materials directly applied to, and identifiable with, the particular equipment undergoing repair.

(a) Consumable items received from the supply system may be costed as billed by the supply agency. If no billing is available, consumables will be costed at the standard inventory price as published in appropriate supply manuals. Items procured from local sources will be priced at the latest invoice cost. Cost of items fabricated will be based on actual cost for like items, where possible. When actual cost is not available, engineering estimates, including indirect expenses, will be used.

(b) Replacement components and assemblies used in the repair process will be costed at the standard inventory price. Credit will be taken for the return of the repairable component in an amount equal to the current standard inventory price, less the estimated cost to repair the components.

(3) Freight and packaging. Freight will not be included as an element of cost when the equipment to be repaired is located in CONUS. When the equipment to be repaired is located overseas and no local capability to repair exists, the cost of freight to CONUS will be included as an element of cost. The cost of freight includes all cost involved in preparing the item for shipment at point of use, and all transportation and handling cost from point of use to designated CONUS point of repair. When equipment cannot be repaired on site, and cost must be incurred to prepare the equipment for shipment regardless of destination, such cost (including materials) will be included in the estimate of cost to repair.

b. Indirect Costs. Indirect cost to be included will be determined by applying the indirect expense rates to the estimated direct labor man-hours. The cost to repair will include the following indirect expenses.

(1) Indirect maintenance expense rate. This will include manufacturing or production expenses (i.e., indirect costs incurred within or identifiable to the maintenance' shop or organization performing the repair work, although not identifiable to particular jobs).

(2) General and administrative expense rate. This will include the costs incurred in the general management or supervision of the installation as a whole which are allocated among maintenance and other activities.

c. Miscellaneous Costs. The cost of repair will include all contractual services acquired incidental to and identifiable with the performance of all or a portion of the specific maintenance job. Any other charges required to accomplish the repair and directly identifiable to the equipment will be included (although not specifically mentioned herein), except those directly named in d below.

d. Exclusions. The following costs will not be included in the estimate of cost to repair: (1) Replacement of basic issue list items.

(2) Items of operating expense, such as the replacement of tires, batteries, petroleum products, and tools, except where replacement is the result of accidental damage.

(3) The labor cost of applying modification work orders.

(4) The cost to overhaul or replace accessory items used to adapt equipment for special uses; this would include such items as winterization kits, flashing lights, two-way radios, tool kits, and similar items. Individual estimates to overhaul such items will be made as appropriate and required.

### **Section V. DISPOSITION INSTRUCTIONS**

9. Eligibility of Materiel for Evacuation to Depot Maintenance. All equipment covered by this bulletin is eligible for evacuation to depot maintenance, if the below criteria are met: a. Depot maintenance authorized in the Maintenance Allocation Chart or by the AMCCOM National Inventory Control Point (NICP).

b. The technical inspection performed at the general support maintenance level indicates that required repairs are not authorized for performance at the general support maintenance level, and the estimated cost of repair does not exceed the one-time repair expenditure limit (table 1).

c. The item is not listed in table 2 as a "No Depot Maintenance Equipment."

10. Disposition Instructions. Disposition instructions will be provided by AMCCOM for all items when repairs are required beyond those repairs authorized for performance at the general support maintenance level regardless of the repair expenditure limit, and with exception to those items listed in table 2. The reporting of materiel to the National Inventory Control Point (NICP) for disposition instructions will be in accordance with AR 725-50 or appropriate DA letters.

Table 2. Listing of No Depot Maintenance Equipment

NSN	Nomenclature
1005-00-183-5957	Rifle, Cal. .22, Mossberg M144US
1005-00-214-0934	Revolver, Cal. .38, S/W M10, Square Butt
1005-00-694-4123	Rifle, Cal. .22, Remington, M40XI
1005-00-859-0458	Pistol, Cal. .38 Colt, Gold Cup, National Match
1005-00-890-2609	Bipod, Rifle, 5.56-MM, M3
1005-00-921-5483	Shotgun, 12 Gage, Winchester, Riot Type, M1200
1005-00-937-5839	Revolver, Cal. .38, S&W M10, Round Butt
1005-00-937-5840	Revolver, Cal. .38, S&W M10
1005-00-971-5039	Pistol, Cal. .38, Automatic, S&W M52
1005-00-976-9231	Pistol, Cal. .22, Automatic, Hi-Standard Supermatic Tournament
1005-00-999-1187	Rifle, Cal. .22, Winchester, Model 52D
1005-01-040-8989	Revolver, Cal. .38, Special Ruger Service Six, 4-Inch Barrel, M108 Without Lanyard Loop
1005-01-040-8990	Revolver, Cal. .38, Special Ruger Service Six, 4-Inch Barrel, M108 W/Lanyard Loop
1010-01-014-6506	Launcher, Projectile, Riot Control 64-MM, M234
1005-01-086-1400	Gun, Automatic; 25-MM, M242
1005-01-227-1739	M9 Multi-Purpose Bayonet System (MPBS)
1095-00-223-7164	Scabbard, Bayonet, M100
1095-00-508-0339	Scabbard, Bayonet Knife, M8A1

## APPENDIX

## REFERENCES

This appendix lists all Army Regulations, forms, and technical manuals referenced in this bulletin.

AR 37-55	Uniform Depot Maintenance Cost Accounting and Production Reporting System
AR 37-108	General Accounting and Reporting for Finance and Accounting Offices
AR 37-110	Budgeting, Accounting, Reporting, and Responsibilities for Industrial Funded Installations and Activities
AR 700-4	Logistic Assistance Program
AR 725-50	Requisitioning, Receipt, and Issue System
AR 750-1	Army Materiel Maintenance Concepts and Policies
DA Form 2028 Forms	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA PAM 738-750	The Army Maintenance Management System (TAMMS)
TM 9-1005-245-14	Operator's, Organizational, Direct Support and General Support Maintenance Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools): Various Machine Gun Mounts and Combinations Used On Tactical and Armored Vehicles; Mounts, Machine Gun (NSNs 1005-00-774-6861, 1005-00-854-4463) (M142), (NSNs 1005-00-704-6650, 1005-00-836-7286, 1005-00-706-8880, 1005-00-654-0733, 1005-00-659-0045); Mounts, Machine Gun, M48 Tank Cupola (NSNs 1005-00-736-4875, 1005-00-834-6119); Pedestal, Gun Mounts (NSN 1005-00-419-7041) (M4), (NSN 1005-00-736-0400) (M31A1), (NSN 1005-00-706-9767) (M31C); Mounts, Gun Ring, Machine Gun (NSN 1005-00-317-2425) (M36), (NSN 1005-00-317-2427) (M36A1), (NSN 1005-00-317-2428) (M36A2), (NSN 1005-00-655-4500) (M49), (NSN 1005-00-711-5031) (M49C), (NSN 1005-00-732-3017) (M49A1), (NSN 1005-00-890-2610) (M66), (NSN 1005-00-702-8676) (M68),

(NSN 1005-00-797-6451) (M68E1), (NSN 1005-00-797-6450) (M68E1 W/Supports), (NSN 1005-00-219-8135) (M81), (NSN 1005-00-783-5494) (M548 Carrier) and (NSN 1005-00-774-6836) (M548 Carrier)

TM 9-1005-223-10	Operator's Manual For Rifle, 7.62-MM, M14, W/E (NSN 1005-00-589-1271); M14A1, W/E (NSN 1005-00-072-5011), and Bipod, Rifle: M2 (NSN 1005-00-711-6202) (Reprinted W/Basic Incl. C1-2)
TM 9-1005-223-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools List For Rifle: 7.62-MM, M14 (National Match), and M14(M) (Reprinted W/Basic Incl CI)
TM 9-1005-223-20	Organizational Maintenance Manual (Including Repair Parts and Special Tools List) For Rifle, 7.62-MM, M1i W/E (NSN 1005-00-589-1271), M14A1, W/E (NSN 1005-00-072-5011), and Bipod, Rifle, M2 (NSN 1005-00-711-6202)
TM 9-1005-223-34	Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) For Rifle: 7.62-MM, M14, W/E (NSN 1005-00-589-1271), M14A1 W/E (NSN 1005-00-072-5011), and Bipod, Rifle: M2 (NSN 1005-00-711-6202)
TM 9-1005-249-10	Operator's Manual For Rifle, 5.56-MM, M16 (NSN 1005-00-856-6885)
TM 9-1005-249-24&P	Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List For Rifle, 5.56-MM, M16 (NSN 1005-00-856-6885) and M16A1 (NSN 1005-00-073-9421)
TM 9-1005-233-10	Operator's Manual: M73 (NSN 1005-00-869-8816), M73A1 (NSN 1005-00-937-7323), and M219 (NSN 1005-00-077-2354), Machine Guns (Reprinted W/Basic Incl CI)
TM 9-1005-233-24	Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tool Lists (Including Depot

Maintenance Repair Parts and Special Tools)  
 For Machine Gun, 7.62-MM, M73 (NSN 1005-00-869-8816), M73A1 (NSN 1005-00-937-7323), and M219 (NSN 1005-00-077-2354) (Reprinted\_ W/Basic Incl CI-5)

TM 9-1005-206-14&P-1

Operators, Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List For Revolver, Cal. .38 Special: Smith and Wesson, Military and Police, M10, Round Butt, 4-Inch Barrel (NSN 1005-00-937-5839), 2-Inch Barrel (NSN 1005-00-937-5840); Square Butt, 4-Inch Barrel (NSN 1005-00-214-0934) and Revolver, Cal. .38 Special: Ruger Service Six, 4-Inch Barrel, M108; Square Butt W/O Lanyard Loop (NSN 1005-01-040-8989); W/Lanyard Loop (NSN 1005-01-040-8990) and Round Butt W/Lanyard Loop (NSN 1005-01-094-7045)

TM 9-1005-206-14P/3

Operator's, Organizational, Direct Support and General Support Maintenance Repair Parts and Special Tools List: Pistol, Cal. .38, Automatic: Colt, Gold Cup National Match (NSN 1005-00-859-0458); Cal. .45, Automatic Colt, Gold Cup National Match (NSN 1005-00-591-8046); Cal. .32, Automatic Colt, Model M, W/E (NSN 1005-00-317-2469); Cal. .22, Automatic: Smith and Wesson, Model 52 (NSN 1005-00-971-5039)

TM 9-1005-206-14P/4

Operator's, Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools List: Rifle, Cal. .22 Remington (Model 40X-H1), W/E (Match Grade) (NSN 1005-00-694-4123); Winchester Model 52D, W/E (Match Grade) (NSN 1005-00-999-1187); Mossberg Model 144US, W/E (Training Grade) (NSN 1005-00-183-5957); Remington Model 513-T, W/E (Training Grade) (NSN 1005-00-840-3758); Winchester Model 70 Chambered For 30-06, W/E (Match Grade) (NSN 1005-00-322-9736); Winchester Model 70 Chambered For .300 H arid H Magnum, W/E (Match Grade) (NSN 1005-00-894-4257)

TM 9-1005-213-10

Operator's Manual: Machine Gun, Cal. .50, Browning, M2, Heavy Barrel, Flexible, W/E (NSN 1005-00-322-9716) and Mount, Machine Gun, Antiaircraft: Cal. .5C, M63 W/E (NSN 1005-00-673-3246) (Reprinted W/Basic Incl C1-6)

TM 9-1005-213-25 Organizational, Direct Support, General Support, and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists): Machine Gun, Cal. .50, Browning: M2, Heavy Barrel, Flexible, W/E (NSN 1005-00-322-9715); Mount, Tripod, Machine Gun: M3, W/E (NSN 1005-00-322-9716); Mount, Machine Gun: Anti-aircraft, M63, W/E (NSN 1005-00-673-3246); Machine Gun, Cal. .50, Browning: M2, Heavy Barrel, Flexible For Vehicles (NSN 1005-00-726-5636); Machine Gun, Cal. .50, Browning: M2, Heavy Barrel, Turret Types For: M1 Cupola (NSN 1005-00-957-3893) and Commander's Cupola (NSN 1005-00-013-6944) (Reprinted W/Basic Incl C1-3)

TM 9-1005-211-12P Operator and Organizational Maintenance Repair Parts and Special Tools List For Pistol, Caliber .45 Automatic, M1911A1 (National Match) W/Adjustable Rear Sight (Reprinted W/Basic Incl C1)

TM 9-1005-211-35 Direct Support, General Support and Depot Maintenance Manual (Including Repair Parts and Special Tools List): Pistol, Cal. .45, M1911A1 W/Holster (NSN 1005-00-673-7965) and M1911A1 (NSN 1005-00-561-2003) (Reprinted W/Basic Incl C1-4)

TM 9-1005-224-10 Operator's Manual For Machine Gun, 7.62-MM, M60, W/E (NSN 1005-00-605-7710); Mount Tripod, MG, 7.62-MM, M122 (NSN 1005-00-710-5599) and M60D, W/E (NSN 1005-00-909-3002)

TM 9-1005-224-24 Organizational, Direct Support, and General Support Maintenance Manual For Machine Gun, 7.62-MM, M60, W/E (NSN 1005-00-605-7710), Mount, Tripod, Machine Gun, 7.62-MM, M122 (NSN 1005-00-710-5599) and M60D, W/E (NSN 1005-00-909-3002)

TM 9-1005-224-24P Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List): Machine Gun: 7.62-MM, M60, W/E (NSN 1005-00-605-7710) and Mount, Tripod: Machine Gun, 7.62-MM, M122 (NSN 1005-00-710-5599) and M60D, W/E (NSN 1005-00-909-3002)

TM 9-1005-229-12	Operator's and Organizational Maintenance Manual (Including Repair Parts and Special Tools List): Sub-Machine Gun, Cal. .45, M5 W/E (NSN 1005-00-672-1767) and M3AL W/E (NSN 1005-00-672-1771) (Reprinted W/Basic Incl C1-2)
TM 9-1005-229-35	Direct Support, General Support, and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists) For Submachine Gun, Cal. .45, M3, W/E (NSN 1005-00-672-1767) and M3A1, W/E (NSN 1005-00-672-1771) (Reprinted W/Basic Incl CI)
TM 9-1005-231-10	Operator's Manual For Machine Gun, Cal. .50, Fixed, M85 (NSN 1005-00-690-2790)
TM 9-1005-231-24&P	Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List Including Depot Maintenance Repair Parts For Machine Gun, Cal. .50, Fixed, M85 (NSN 1005-00-690-2790)
TM 9-1005-234-14P	Operator, Organizational, Direct Support and General Support Maintenance Repair Parts and Special Tools List For Launcher, Grenade, M7A3 and M76
TM 9-1090-202-12	Aviation Unit Maintenance Manual: Armament Subsystem, Helicopter: 7.62-MM Machine Gun 2.75-Inch Rocket Launcher: M21 (NSN 1090-00-923-5971) (Used On UH-1B and UH-1C Helicopters) (Reprinted W/Basic Incl CI-5)
TM 9-1090-202-20P	Aviation Unit Maintenance Repair Parts and Special Tool Lists: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 2.75-Inch Rocket Launcher: M21 (NSN 1090-00-923-5971) (Used On UH-1B and UH-1C Helicopters)
TM 9-1090-202-34Aviation Intermediate Maintenance Manual:	Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 2.76-Inch Rocket Launcher: M21 (NSN 1090-00-923-5971) (Used On UH-1B and UH-1C Helicopters)
TM 9-1005-237-23&P	Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) For Bayonet-Knife, M6, With Bayonet-Knife, Scabbard, M10 (NSN 1005-00-014-0369) and Bayonet-Knife, M7, with Bayonet-Knife Scabbard, M10 (NSN 1005-00-017-9701)



TM 9-1090-202-35P	Aviation Intermediate and Depot Maintenance Repair Parts and Special Tool Lists: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 2.75-Inch Rocket Launcher: M21 (NSN 1090-00-923-5971) (Used On UH-1B and UH-1C Helicopters)
TM 9-1090-202-ESC	Equipment Serviceability Criteria For Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 2.75-Inch Rocket Launcher: Twin, High-Rate, M21 (Used On UH-1B Helicopter) (NSN 1090-00-923-5971)
TM 9-1005-303-14	Operator's, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) Shotgun, 12 Gage, Winchester Model 1200, Riot Type, 20-Inch Barrel, W/E (NSN 1005-00-921-5483) (Reprinted W/Basic Incl C1-3)
TM 9-1005-298-12 High Rate, M27E1 (NSN 1005-00-933-6242)	Aviation Unit Maintenance Manual: Armament Subsystem, Helicopter, 7.62-MM Machine Gun:  (OH-6A Helicopter)
TM q-1005-298-20P	Aviation Unit Maintenance Repair Parts and Special Tool Lists: Armament Subsystem Helicopter: 7.62-MM Machine Gun: High Rate, M27E1 (NSN 1005-00-933-6242) (Used On OH-6A and OH-58A Helicopters)
TM 9-1005-298-34	Aviation Intermediate Maintenance Manual: Armament Subsystem, Helicopter, 7.62-MM Machine Gun: High Rate, M27E1 (NSN 1005-00-933-6242) (Used On OH-6A Helicopters) (Reprinted W/Basic Incl C1-3)
TM 9-1005-298-35P	Aviation Intermediate and Depot Maintenance Repair Parts and Special Tool Lists: Armament Subsystem Helicopter: 7.62-MM Machine Gun, High Rate, M27E1 (NSN 1005-00-933-6242) (Used On OH-6A and OH-58A Helicopters)
TM 9-1005-298-ESC	Equipment Serviceability Criteria For Armament Subsystem Helicopter, 7.62-MM Machine Gun: High Rate, XM27E1 (Used On OH-6A and OH-58A Helicopters)
TM 9-1005-313-10	Operator's Manual For Machine Gun, 7.62-MM, M240 (NSN 1005-01-025-8095) and M240C (NSN 1005-01-085-4758)

TM 9-1005-313-23	Organizational and Direct Support Maintenance Manual For Machine Gun, 7.62-MM, M240 (NSN 1005-01-025-8095) and M240C (NSN 1005-01-085-4758)
TM 9-1005-313-23P	Organizational and Direct Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) For Machine Gun, 7.62-MM, M240 (NSN 1005-01-025-8095) and M240C (NSN 1005-01-085-4758)
TM 9-1010-221-10	Operator's Manual For 40-MM Grenade Launcher, M203 (NSN 1010-00-179-6447)
TM 9-1010-221-24&P	Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List For Launcher, Grenade, 40-MM, M203, W/E (NSN 1010-00-179-6447)
TM 9-3071-1	Field Maintenance For 60-MM Mortars, M2 and M19; 60-MM Mortar Mount: M2; 60-MM Mortar Baseplate, M1; 81-MM Mortars, M1 and M29 and 81-MM Mortar
TM 9-1010-205-10	Operator's Manual For 40-MM Grenade Launcher, M79 (NSN 1010-00-691-1382)
TM 9-1010-205-24&P	Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) For 40-MM Grenade Launcher, M79 (NSN 1010-00-691-1382) (Reprinted W/Basic Incl C1-3)
TM 9-1005-200-20&P	Organizational Maintenance Manual Including Repair Parts and Special Tools List For Gun, Automatic: 25-MM, M242 (NSN 1005-01-086-1400)
TM 9-1005-200-30&P	Direct Support Maintenance Manual Including Repair Parts and Special Tools List For Gun, Automatic: 25-MM, M242 (NSN 1005-01-086-1400)
TM 9-1005-237-23&P	Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) For Bayonet-Knife Scabbard, M10 (NSN 1005-00-014-0369) and Bayonet-Knife. M7, With Bayonet-Knife Scabbard, M10 (NSN 1. 5-00-017-9701)

TM 9-1010-207-12 Aviation Unit Maintenance Manual: Armament Subsystem, Helicopter 40-MM Grenade Launcher: M5 (NSN 1010-00-738-5811) (Used On UH-1B Or UH-1C Helicopter) (Reprinted W/Basic Incl C2-3)

TM 9-1010-207-20P Aviation Unit Maintenance Repair Parts and Special Tools List: Armament Subsystem, Helicopter: 40-MM Grenade Launcher, M5 (NSN 1010-00-738-5811) (Used On UH-1B Or UH-1C Helicopters)

TM 9-1010-207-34 Aviation Intermediate Maintenance Manual: Armament Subsystem, Helicopter: 40-MM Grenade Launcher, M5 (NSN 1010-00-738-5811) (Used On UH-1B Or UH-1C Helicopters)

TM 9-1010-207-34P Aviation Intermediate Maintenance Repair Parts and Special Tools List: Armament Subsystem, Helicopter: 40-MM Grenade Launcher: M5 (NSN 1010-00-738-5811) (Used On UH-1B Or UH-1C Helicopters)

TM 9-1010-207-ESC Equipment Serviceability Criteria For Armament Subsystem, Helicopter, 40-MM Grenade Launcher: M5 (Used On UH-1B Helicopter) (NSN 1010-00-738-5811)

TM 9-1090-203-12 Aviation Unit Maintenance Manual: Armament Subsystem Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher: M28A1 (NSN 1090-00-134-3071) (Used On AH-1G Helicopter) (Reprinted W/Basic Incl C1-3)

TM 9-1090-203-12-1 Aviation Unit Maintenance Manual: Armament Subsystem Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher: M28A1E1 (NSN 1090-00-081-1046) (Used On AH-1Q Helicopter) (Reprinted W/Basic Incl CI)

TM 9-1090-203-20-1 Mechanical Troubleshooting Guide For Aircraft Armament Subsystem, M28A1

TM 9-1090-203-20-2 Electrical Troubleshooting Guide: Aircraft Armament Subsystem M28A1

TM 9-1090-203-20P Aviation Unit Maintenance Repair Parts and Special Tools List: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher M28A1E1 (NSN 1090-00-081-1046) (Used On AH-1Q and AH-1S (MOD) Helicopters) (Reprinted W/Basic Incl C1-2)

TM 9-1090-203-20P-1	Aviation Unit Maintenance Repair Parts and Special Tools List: Armament Subsystem, Helicopter, 7.62-MM Machine Gun, 40-MM Grenade Launcher; M28A1E1 (NSN 1090-00-081-1046) (Used On AH-1Q and AH-1S (MOD) Helicopters) (Reprinted W/Basic Incl C1-2)
TM 9-1090-203-34	Aviation Intermediate Maintenance Manual: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher: M28A1 (NSN 1090-00-134-3071) (Used On AH-1G Helicopter) (Reprinted W/Basic Incl C1)
TM 9-1090-203-34-1	Aviation Intermediate Maintenance Manual For Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher, M28A2 (NSN 1090-00-081-1046) and M28A3 (NSN 1090-01-030-0095) (Used On AH-1S (MOD/PROD) Helicopters)
TM 9-1090-203-34-2	Aviation Intermediate Maintenance: Armament Subsystem Helicopter, 7.62-MM Machine Gun, 40-MM Grenade Launcher For M28A1E2 (NSN 1090-01-030-0095) (Used On AH-IS Helicopter)
TM 9-1090-203-34P	Aviation Intermediate Maintenance Repair Parts and Special Tool Lists: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher: M28A1 (NSN 1090-00-134-3071) (Used On AH-1G Helicopter) (Reprinted W/Basic Incl C1)
TM 9-1090-203-34P-1	Aviation Intermediate Maintenance Repair Parts and Special Tools List: Armament Subsystem, Helicopter: 7.62-MM Machine Gun, 40-MM Grenade Launcher: M28A1E1 (NSN 1090-00-081-1046) (Used On AH-1Q and AH-1S (MOD) Helicopter) (Reprinted W/Basic Incl C1-2)
TM 9-1010-224-10	Operator's Manual For Launcher, Projectile, 64-MM: Riot Control, M234 (NSN 1010-01-014-6506)
TM 9-1010-224-20&P	Organizational Maintenance Manual Including Repair Parts and Special Tools List For Launcher, Projectile, 64-MM: Riot Control, M234 (NSN 1010-01-014-6506)
TM 43-0001-26-2	Army Equipment Data Sheets: Small Caliber Ammunition (FSC 1305) (Reprinted W/Basic Incl

TB 746-95-1	Color, Marking, and Camouflage Pattern Painting For Armament Command Equipment (Reprinted W/Basic Incl C1)
TM 9-1015-234-10	Operator's Maintenance Manual For Howitzer, Light, Towed: 105-MM, M102 (NSN 1015-00-086-8164)
TM 9-1015-234-12	Operator and Organizational Maintenance Manual: Howitzer, Light; Towed, 105-MM, M102 (NSN 1015-00-086-8164) (Reprinted W/Basic Incl C1-14)
TM 9-1015-234-20	Organizational Maintenance Manual For Howitzer, Light Towed: 105-MM, M102 (NSN 1015-00-086-8164)
TM 9-1015-234-20P	Organizational Maintenance Repair Parts and Special Tools List For Howitzer, Light, Towed: 105-MM, M102 (NSN 1015-00-086-8164)
TM 9-1015-234-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) For Howitzer, Light, Towed: 105-MM, M102, W/E (NSN 1015-00-086-8164) (Reprinted W/Basic Incl C1)
TM 9-1015-234-35	Direct Support, General Support, and Depot Maintenance Manual: Howitzer, Light, Towed: 105-MM, M102 (NSN 1015-00-086-8164) (Reprinted W/Basic Incl C1-9)
TM 43-0001-28-10	Artillery Ammunition: Authorized Projectile Fuze and Propelling Charge Combinations For Howitzer, Light, Towed: 105-MM, M101, MIOIA1, and M102
TM 9-1000-205-12	Operator's and Organizational Maintenance Manual: Rifle, Recoilless, 106-MM: M40A2, W/E (NSN 1015-00-133-8434) and M40A 4W/E (NSN 1015-00-133-8485) (Reprinted W/Basic Incl C1-8)
TM 9-1015-221-20P	Organizational Maintenance Repair Parts and Special Tools List For Rifle, Recoilless, 106-MM: M40A2 (NSN 1015-00-133-3484) and M40A4 (NSN 1015-00-133-8485) (Reprinted W/Basic Incl C1)
TM 9-1005-319-10	Operator's Manual of Components List, Rifle, 5.56-MM, M16A2, W/E (NSN 1005-01-128-9936) (TM-05538C-10/1)

- TM 9-1015-221-34P Direct Support and General Support Maintenance Repair Parts and Special Tools List For Rifle, Recoilless, 106-MM, M40A2 (NSN 1015-00-133-8484) and M40A4 (NSN 1015-00-133-8485)
- TM 9-1015-221-35 Direct Support, General Support, and Depot Maintenance Manual: Rifle, Recoilless: 106-MM, M40A2 (NSN 1015-00-133-8484) and M40A4 (NSN 1015-00-133-8485) and Gun, Sub-caliber: Cal. .30, M9 (Reprinted W/Basic Incl C1-3)
- TM 9-1015-221-ESC Equipment Serviceability Criteria For Rifle, Recoilless, 106-MM: M40A2, W/Gun, Spotting, Cal. .50, M8C On Mount, M79 (NSN 1015-00-133-8484); Rifle, Recoilless, 106-MM: M40A4, W/Gun, Spotting, Cal. .50, M8C On Mount, M92 and Gun, Subcaliber: Cal. .30, M9 (Reprinted W/Basic Incl C1-3)
- TM 55-1000-205-20-1 Air Transportability Procedures For M38A1C and M151A1C 1/4-Ton Trucks With Mounted 106-MM Recoilless Rifles In CH-47 Helicopter
- TM 55-1015-221-10-2 Air Transportability Guidance: External Transport Of The 106-MM Recoilless Rifle Mounted On The M151A1C, 1/4-Ton Truck By UH-1B Helicopter
- TM 9-1015-203-12 Operator/Crew and Organizational Maintenance Manual For Howitzer, Light: Towed, 105-MM, M101 (NSN 1015-00-322-9728) and M101A1 (NSN 1015-00-322-9752) (Reprinted W/Basic Incl C1-8)
- TM 9-1005-201-23&P Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) For Machine Gun, 5.56-MM, M249 (NSN 1005-01-127-7510) (TM-08671A-23&P/2)
- TM 9-1015-203-20P Organizational Maintenance Repair Parts and Special Tools List For Howitzer, Light, Towed: 105-MM, M101 (NSN 1015-00-322-9728) and M101A1 (NSN 1015-00-322-9752)
- TM 9-1015-203-35P Direct Support, General Support, and Depot Maintenance Repair Parts and Special Tools List For Howitzer, Light, Towed: 105-MM, M101 (NSN 1015-00-322-9728) and M101A1 (NSN 1015-00-322-9752) and Gun, Subcaliber, 37-MM, M13 (NSN 1010-00-672-4847)

TM 9-1015-203-ESC	Equipment Serviceability Criteria For Howitzer, Light, Towed: 105-MM, M101 (NSN 1015-00-322-9728) and MIOIAI (NSN 10105-00-322-9752)
TM 9-3007	Direct Support, General Support and Depot Maintenance Manual: Howitzer, Light, Towed: 105-MM, M101 and MIOIAI (Reprinted W/Basic Incl CI)
TM 9-1015-223-12	Operator's and Organizational Maintenance Manual For 90-MM Recoilless Rifle: M87 W/E (NSN 1015-00-657-7534)
TM 9-1015-223-23P	Organizational and Direct Support Maintenance Repair Parts and Special Tools List For 90-MM Recoilless Rifle, M67 W/E (NSN 1015-00-657-7534)
TM 9-1015-223-30	Direct Support Maintenance Manual For 90-MM Recoilless Rifle: M67 W/E (NSN 1015-00-657-7534)
TM 9-1015-215-10	Operator's Manual For 4.2-Inch Mortar, M30 (NSN 1015-00-840-1840)
TM 9-1015-215-20&P	Organizational Maintenance Manual Including Repair Parts and Special Tools List For Mortar, 4.2-Inch: M30 (Cannon M30 On Mount M24A1) (NSN 1015-00-840-1840) and Trainer, Subcaliber, 60-MM: M31 (8429878)
TM 9-1015-215-30	Direct Support Maintenance Manual For Mortar, 4.2-Inch: M30 (Cannon, M30 On Mount, M24A1) (NSN 1015-00-840-1840) and Trainer, Subcaliber, 60-MM, M31 (8429878)
TM 9-1015-215-30P	Direct Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) For Mortar, 4.2-Inch, M30 (Cannon, M30, On Mount, M24A1) (NSN 1015-00-840-1840) and Trainer, Subcaliber, 60-MM, M31 (8429878)
TM 9-1005-317-10	Operator's Manual For Pistol, Semi-Automatic, 9-MM, M9 (NSN 1005-01-118-2640) (NAVSW 370-AA-OP1-010-9-MM: TO 11W3-3-5-1; TM-1005A-10/1; COMDINST M8370.6)
TM 9-1005-317-23&P	Unit and Intermediate Direct Support Maintenance Manual Including Repair Parts and Special Tools List For Pistol, Semi-automatic, 9-MM, M9 (NSN 1005-01-118-2640) (TM-1005A-23&P/2; SW 370-AA-MMO-010/9MM; TO 11W3-3-5-4)

TM 9-1015-200-10	Operator's Manual For Mortar, 81-MM: M29A1 (NSN 1015-00-999-7794)
TM 9-1015-200-20&P	Organizational Maintenance Manual Including Repair Parts and Special Tools List For 81-MM Mortar, M29A1 (NSN 1015-00-999-7794)
TM 9-1015-200-30&P	Direct Support Maintenance Manual Including Repair Parts and Special Tools List Including Depot Maintenance Repair Parts and Special Tools For 81-MM Mortar, M29A1 (NSN 1015-00-999-7794)
TM 9-1025-200-12	Operator's and Organizational Maintenance Manual: Howitzer, Medium, Towed: 155-MM, M114 (NSN 1025-00-322-9755), M114A1 (NSN 1025-00-322-9768), and M114A2 (NSN 1025-01-025-9857) (Reprinted W/Basic Incl C1-17)
TM 9-1025-200-20P	Organizational Maintenance Repair Parts and Special Tools List For Howitzer, Medium, Towed, 155-MM, M114 and M114A1 and Howitzer, Medium, Towed, Auxiliary Propelled, 155-MM, M123A1 (Reprinted W/Basic Incl C1-3)
TM 9-1025-200-35	Direct Support, General Support, and Depot Maintenance Manual For Howitzer, Medium, Towed: 155-MM, M114 (NSN 1025-00-322-9755), M114A1 (NSN 1025-00-322-9768), and M114A2 (NSN 1025-01-025-9857) (Reprinted W/Basic Incl CI-5)
TM 9-1025-200-35P	Direct Support, General Support, and Depot Maintenance Repair Parts and Special Tools List For Howitzer, Medium: Towed, 155-MM, M114 (NSN 1025-00-322-9755), M114A1 (NSN 1025-00-322-9768) and M114A2 (NSN 1025-01-025-9857) (Reprinted W/Basic Incl C1-2)
TM 9-1025-200-ESC	Equipment Serviceability Criteria For Howitzer, Medium, Towed: 155-MM, M114 (NSN 1025-00-322-9755) and M114A1 (NSN 1025-00-322-9768)
TM 9-1005-319-24&P	Organizational and Intermediate Maintenance Manual (Including Repair Parts and Special Tools List) Rifle, 5.56-MM, M16A2, W/E (NSN 1005-01-128-9936)



TM 43-0001-28-8	Artillery Ammunition: Authorized Projectile, Fuze and Propelling Charge Combinations For Howitzer, Medium, Towed: 155-MM, M114A2, W/Cannon, M1A2, and Howitzer, Medium, Self-Propelled: 155-MM, M109, W/Cannon, M126A1
TM 43-0001-28-9	Artillery Ammunition: Authorized Projectile, Fuze and Propelling Charge Combinations For Howitzer, Medium, Towed: 155-MM, M114A1, W/Cannon, M1A1
TB 9-1025-211-34	Repair Welding Procedures For Howitzer, Medium: Towed, 155-MM, M198 (NSN 1025-01-026-6648)
TM 9-1025-211-10	Operator's Manual (Crew) For Howitzer, Medium, Towed: 155-MM, M198 (NSN 1025-01-026-6648) (Reprinted W/Basic Incl C1-4)
TM 9-1025-211-20&P	Organizational Maintenance Manual (Including Repair Parts and Special Tools List) For Howitzer, Medium, Towed: 155-MM, M198 (NSN 1025-01-026-6648) (Reprinted W/Basic Incl C1-2)
TM 9-1025-211-34	Direct Support and General Support Maintenance Manual For Howitzer, Medium, Towed: 155-MM, M198 (NSN 1025-01-026-6648) (Reprinted W/Basic Incl C1-2)
TM 9-1025-211-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List) For Howitzer, Medium, Towed: 155-MM, M198 (NSN 1025-01-025-6648)
TM 43-0001-28-7	Artillery Ammunition: Authorized Projectile, Fuze and Propelling Charge Combinations For Howitzer, Medium, Towed: 155-MM, M198, W/Cannon, M199
TB 55-1025-211-14	Transportability Guidance: Transporting the Howitzer Medium, Towed: 155-MM, M198 By Air, Highway, Water, and Rail (NSN 1025-01-026-6648)

TM 9-1090-204-12	Operator and Organizational Maintenance Manual For Mount, Multiarmament, Helicopter: XM156 (NSN 1090-00-930-S018) (Used On UH-1B Or UH-1C Helicopters) (Reprinted W/Basic Incl C2-4)
TM 9-1090-204-20P	Aviation Unit Maintenance Repair Parts and Special Tools List: Mount, Multiarmament, Helicopter: XM156 (NSN 1090-00-930-5018) (Used On UH-1B Or UH-1C Helicopters) (Reprinted W/Basic Incl CI)
TM 9-1090-204-34P	Aviation Intermediate Maintenance Repair Parts and Special Tools List: Mount, Multiarmament, Helicopter, XM156 (NSN 1090-00-930-5018) (Used On UH-1B Or UH-1C Helicopters) (Reprinted W/Basic Incl C1-2)
TM 9-1090-204-35	Aviation Intermediate and Depot Maintenance Manual: Mount, Multiarmament, Helicopter: XM156 (NSN 1090-00-930-5018) (Reprinted W/Basic Incl C1-2)
TM 9-1090-204-ESC	Equipment Serviceability Criteria For Mount, Multiarmament, Helicopter: XM-156 (Used On UH-1B/UH-1C Helicopters) (NSN 1090-00-930-5018)
TM 9-1095-201-15	Operator's, Organizational, Field and Depot Maintenance Manual For Ground Signal Projector, M141; Hand Pyrotechnic Projector, M9 and Pyrotechnic Pistol, AN-M8 W/Pyrotechnic Pistol Mount, M1
TM 9-1095-201-25P	Organizational, Field and Depot Maintenance Repair Parts and Special Tools List For Ground Signal Projector, M141; Hand Pyrotechnic Projector, M9, and Pyrotechnic Pistol, AN-M8 W/Pyrotechnic Pistol Mount, M1
TM 9-1090-206-20-2	Aviation Unit Maintenance Manual For 20-MM Automatic Gun Helicopter Armament Subsystem: M97A1, Part No. 9324699 (NSN 1005-01-063-4762)
TM 9-1090-206-23P	Aviation Unit and Aviation Intermediate Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) For Armament Subsystems, Helicopter, 20-Mr Automatic Gun: M97A1 (Part No. 9234699) (NSN 1005-01-063-4762) and M97A2 (Part No. 9324960) (NSN 1090-01-100-4469)

TM 9-1090-206-30	Aviation Intermediate Maintenance Manual For 20-MM Automatic Gun Helicopter Armament Subsystem: M97A2, Part No. 9324960 (NSN 1005-01-100-4469) and M97A1, Part No. 9324699 (NSN 1005-01-063-4762)
TM 9-1005-262-13	Operators, Aviation Unit and Aviation Intermediate Maintenance Manual For Armament Subsystem, Helicopter, 7.62-MM Machine Gun Mounts: Door Mounted, Lightweight, Model M23, P/N 11691604 (NSN 1005-00-907-0720); Door Mounted, Lightweight, Model M24, P/N 11691606 (NSN 1005-00-763-1404); Ramp Mounted, Lightweight, Model M41, P/N 8436598 (NSN 1005-00-087-2046); and Window Mounted, Lightweight, Model M144, P/N 12011812 (NSN 1005-01-193-4878)
TM 9-1005-262-14	Operator, Organizational, Direct Support, and General Support Maintenance Manual For Armament Subsystem Helicopter: 7.62-MM Machine Gun; Door Mounted, Lightweight, M23 (NSN 1005-00-907-0720) (Used On UH-1D/UH-1H Helicopter); M24 (NSN 1005-00-763-1404) (Used On CH-47 Series Helicopter); and M41 (NSN 1005-00-087-2046) (Used On CH-47 Series Helicopter)
TM 9-1005-262-23P	Aviation Unit and Aviation Intermediate Maintenance Repair Parts and Special Tools List For Armament Subsystem Helicopter, 7.62-MM Machine Gun Mounts: Door Mounted, Lightweight, Model M23 (NSN 1005-00-907-0720), Door Mounted, Lightweight, Model M24 (NSN 1005-00-763-1404), Ramp Mounted, Lightweight, Model M41 (NSN 1005-00-087-2046), and Window Mounted, Lightweight, Model 144 (NSN 1005-01-193-4878)
TM 9-1005-262-24P	Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tool Lists: Armament Subsystem Helicopter: 7.62-MM Machine Gun; Door Mounted, Lightweight, M23 (NSN 1005-00-907-0720) (Used On UH-1D Helicopters); M24 (NSN 1005-00-763-1404) (Used On CH-47A Helicopter); and M41 (NSN 1005-00-087-2046) (Used On CH-47A Helicopter)

TM 9-1005-262-ESC	Equipment Serviceability Criteria For Armament Subsystem Helicopter, 7.62-MM Machine Gun: Door Mounted, Lightweight, M23 (NSN 1005-00-907-0720) (Used On UH-1D Helicopters); Armament Subsystem, Helicopter, 7.62-MM Machine Gun; Door Mounted, Lightweight, M24 (NSN 1005-00-763-1404) (Used On CH-47A Helicopter); and Armament Subsystem, Helicopter, 7.62-MM Machine Gun; Ramp Mounted, Lightweight XM41 (NSN 1005-00-087-2046) (Used On CH-47A Helicopters)
TM 9-1095-20-13&P	Operator's, Aviation Unit Maintenance and Aviation Intermediate Maintenance Manual Including Repair Parts and Special Tools Lists For Dispenser, General Purpose, Aircraft; M130 (NSN 1095-01-036-6886) (Reprinted W/Basic Incl C1)
TM 9-1095-205-10	Operator's Manual for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-20-1	Organizational Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-20-2	Organizational Maintenance Manual for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-20P	Unit Maintenance Repair Parts and Special Tools List for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-1	Maintenance Instructions, Direct Support/General Support Maintenance Manual for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-2	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-3	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-4	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)

TM 9-1095-205-34-5	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-6	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34-7	Maintenance Instructions, Direct Support/General Support Maintenance for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)
TM 9-1095-205-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List for M128 Ground Vehicle Mine Dispenser (NSN 1095-00-397-3456)

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**By Order of the Secretary of the Army:**

**CARL E VUONO**  
*General, United States Army*  
*Chief of Staff*

**Official:**

**R. L DILWORTH**  
*Brigadier, General United States Army*  
*The Adjutant General*

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# The Metric System and Equivalents

## Linear Measure

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3,280.8 feet

## Weights

1 centigram = 10 milligrams = .15 grain  
 1 decigram = 10 centigrams = 1.54 grains  
 1 gram = 10 decigrams = .035 ounce  
 1 dekagram = 10 grams = .35 ounce  
 1 hectogram = 10 dekagrams = 3.52 ounces  
 1 kilogram = 10 hectograms = 2.2 pounds  
 1 quintal = 100 kilograms = 220.46 pounds  
 1 metric ton = 10 quintals = 1.1 short tons

## Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.18 gallons

## Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

## Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch  
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches  
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

## Temperature (Exact)

°F	Fahrenheit	5/9 (after	Celsius	°C
	temperature	subtracting 32)	temperature	



