



DEPARTMENT OF THE ARMY TECHNICAL BULLETIN
MAINTENANCE EXPENDITURE LIMITS FOR
FSC GROUP 66
FSC CLASS 6665

Headquarters, Department of the Army, Washington, DC
3 March 1982

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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Section I. GENERAL

1. Purpose. This bulletin contains guidelines for maintenance expenditure limits of ARRCOM materiel to be used when determining the economical reparability 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.

b. This bulletin is applicable to all US 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.

2. Scope.

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

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 material to the Army solely on the basis of the age of the material (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). 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. The current replacement cost has been adjusted to reflect an annual inflation factor as of the end of calendar 1980. These figures should be reviewed and adjusted annually. The adjustment will be based on an annual inflation factor.

NOTE

If the item is classified other than STANDARD A, same information will be indicated for other classification.

*This bulletin supersedes TB 43-0002-72, 20 August 1974.

Table 1. Maintenance Expenditure Limits Applicable to ARRCOM (FSC Group 66)

NSN	Nomenclature	Current replacement cost	Life expectancy (years)	Expenditure limit % age of item (years)			Equipment publications
				1-5	6-10	over 10	
6665-00-110-9492	Mounting Kit, Chemical Agent, Automatic Alarm: Low Profile, M182	590	14	50	40	30	TM 3-6665-273-20
6665-00-179-9053	Cable Assembly, Power, Electrical: M168 (Part of Winterization Kit: M253)	\$197	14	20	10	10	TM 3-6665-225-12
6665-00-479-2716	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Truck, Utility, 1/4 ton, M11	50	10	20	15		TM 3-6665-274-20
6665-00-479-2717	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Truck, 3/4 ton, M12	41	10	20	15		TM 3-6665-274-20
6665-00-479-2718	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Truck, 2-1/2 ton, M13	78	10	20	15		TM 3-6665-27420
6665-00-479-2719	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Full-Tracked Armored Personnel Carriers and Recovery Vehicles, M14	623	10	20	15		TM 3-6665-274-20
6665-00-479-2720	Installation Kit, Alarm, Chemical Agent, Automatic: Portable for Carrier, Command and Reconnaissance Armored, M15	88	10	20	15		TM 3-6665-274-20
6665-00-854-4147	Test Set, Chemical Agent, Automatic Alarm: M74	1,949	19	65	54	29	TM 3-6665-260-14, -24P
6665-00-859-2201	Detector Unit, Chemical Agent, Automatic Alarm, M43	1,422	19	65	54	29	TM 3-6665-302-20P, -34,
6665-00-859-2212	Mounting Kit, Chemical Agent, Automatic Alarm: High Profile, M228	240	14	50	40	30	TM 3-6665-273-20
6665-00-859-2215	Alarm Unit, Chemical Agent, Automatic Alarm: M42	137	19	65	54	29	TM 3-6665-302-20P, -34, -34P
6665-00-859-2225	Power Supply, Chemical Agent, Automatic Alarm: M10	517	19	65	54	29	TM 3-6665-261-14, -24P
		2					

Table 1. Maintenance Expenditure Limits Applicable to ARRCOM (FSC Group 66)-Continued

NSN	Nomenclature	Current replacement cost	Life expectancy (years)	Expenditure limit % age of item (years)			Equipment publications
				1-5	6-10	over 10	
6665-00-169-1446	Alarm, Chemical Agent, Automatic Portable, Fixed Emplacement, M10	\$2,922	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1447	Alarm, Chemical Agent, Automatic: Portable, for Truck, Utility, 1/4 ton, M11	2,660	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1448	Alarm, Chemical Agent, Automatic: Portable, for Truck, 3/4 ton, M12	2,101	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1449	Alarm, Chemical Agent, Automatic: Portable, for Truck, 2-1/2 ton, M13	2,658	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1450	Alarm, Chemical Agent, Automatic: Portable, for Full-Tracked Armored Personnel Carriers and Recovery Vehicles, M14	3,243	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1451	Alarm, Chemical Agent, Automatic: Portable, for Carrier, Command and Reconnaissance, Armored, M15	2,573	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1452	Alarm, Chemical Agent, Automatic: Portable, W/Power Supply for Truck, Utility, 1/4 ton, M16	2,528	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1453	Alarm, Chemical Agent, Automatic: Portable, W/Power Supply for Truck, 3/4 ton, M17	2,484	19*	65	54	29	TM 3-6665-225-12
6665-00-169-1454	Alarm, Chemical Agent, Automatic: Portable, W/Power Supply, 2-1/2 ton, M18	3,361	19*	65	54	29	TM 3-6665-225-12
6665-00-935-6955	Alarm, Chemical Agent, Automatic: Portable Manpack, M8	1,818	19*	65	54	29	TM 3-6665-225-12
NOTE							
No maintenance is authorized when the equipment age exceeds the life expectancy. With the exception of the M229 Refill Kit and the BA 3517/U and BA 3030 batteries which are expendable.							
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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 insure repair or overhaul eligibility. Field personnel preparing technical inspection reports will list material 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 TM 38-750.

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 job estimates for the purpose of circumvent 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 service-ability standards.

d. Repair eligibility will be determined by comparing the repair cost estimate with the product of the prescribed expenditure limit percentage (table 1) times the standard price of a replacement for the unserviceable item (i.e., total cost of the 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 ARRCOM).

e. The repair (or 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 material to be evacuated to the depot.

8. Procedures. 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 job 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 man-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 man-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, and 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 manual. 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 component.

(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 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 onsite, 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 items list.

(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. AHU 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 ARRCOM 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." Items which are "No Depot Maintenance Equipment" will be listed by NSN and nomenclature, and arranged in numerical sequence in table 2.

10. Disposition Instructions. Disposition instructions will be provided by ARRCOM 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 appropriate DA letters.

Table 2. Listing of No Depot Maintenance Equipment

NSN	Nomenclature
6665-00-110-9492	Mounting Kit, Chemical Agent, Automatic Alarm: Low Profile, M182
6665-00-179-9053	Cable Assembly, Power, Electrical: M168 (Part of Winterization Kit; M253)
6665-00-479-2716	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Truck, Utility, 1/4 Ton, M11
6665-00-479-2717	Installation Kit, Alarm, Chemical Agent, Automatic- Portable, for Truck, 314 Ton, M12
6665-00-479-2718	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Truck, 2-1/2 Ton, M13
6665-00-479-2719	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Full-Tracked Armored Personnel Carriers and Recovery Vehicles, M14
6665-00-479-2720	Installation Kit, Alarm, Chemical Agent, Automatic: Portable, for Carrier, Command and Reconnaissance, Armored, M15
6665-00-859-2212	Mounting Kit, Chemical Agent, Automatic Alarm: High Profile, M228

**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 7004 Logistic Assistance Program
AR 750-1 Army Materiel Maintenance Concepts and Policies
DA Form 2028 Recommended Changes to Publications and Blank Forms
DA Form 2404 Equipment Inspection and Maintenance Worksheet
TM 38-750 The Army Maintenance Management System (TAMMS)

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