



DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

**MAINTENANCE EXPENDITURE LIMITS FOR
FSC GROUP 34
FSC CLASSES 3405, 3413, 3415, 3416,
3417, 3418, 3419, 3424, 3431, 3432,
3441, 3445, 3446, 3449, 3450, and 3460**

Headquarters, Department of the Army, Washington, DC

21 August 1996

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this bulletin. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Director, Armament and Chemical Acquisition and Logistics Activity, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630 (FAX Number: Commercial (309) 782-0726, DSN 7930726) (E-Mail: amsta-ac-nml@ria-emh2.army.mil). A reply will be furnished to you.

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Section I. GENERAL

1. Purpose. This bulletin contains guidelines for maintenance expenditure limits of ACALA 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.

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. Procedures. 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). 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 7c. (Items listed in table 2 as "No Depot Maintenance Equipment, " if any, 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)).

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
		1-5	6-10	10+	
FSC Group 3405					
3405-00-294-9591 Saw, Band, Metal Cutting	20	65%	50%	40%	TM 9-3405-205-14&P TM 9-3419-227-10
3405-00-542-1328 Saw, Band, Metal Cutting	20	65	50	40	TM 9-3405-205-14&P TM 9-3419-227-10
3405-00-729-3917 Saw, Power Hack	20	65	50	40	TM 9-3405-209-14&P TM 9-3405-214-14&P
3405-00-812-1593 Saw, Power Hack, 10 x 10 Capacity	20	65	50	40	TM 9-3405-209-14&P TM 9-3405-214-14&P
3405-01-143-4040 Saw, Band, 8 x 16 Rectangular	20	65	50	40	TM 9-3405-203-24P TM 9-3405-216-14&P TM 9-9094-2
FSC GROUP 3413					
3413-00-223-6343 Drilling Machine, Radial, Floor	15	55	45	30	TM 9-3413-230-14&P
3413-00-240-6152 Drilling Machine, Upright, Floor, 3 HP	15	55	45	30	TM 9-3413-222-12 TM 9-3413-226-14&P
FSC GROUP 3415					
3415-00-223-6336 Grinding Machine, Surface Reciprocating	15	55	45	30	TM 9-3415-232-14&P
3415-00-223-6567 Grinding Machine	15	55	45	30	Commercial Literature
3415-00-517-1076 Grinding Machine, Internal	15	55	45	30	Commercial Literature
3415-00-684-5703 Grinding Machine	15	55	45	30	Commercial Literature
3415-01-069-5685 Grinding Machine Tool and Cutter	15	55	45	30	TM 9-3415-230-10 Commercial Literature

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)--Continued
(Refer to the AMDF for current replacement cost)**

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
		1-5	6-10	10+	
FSC Group 3405					
3416-00-057-6960 Lathe, Engine	20	65%	50%	40%	Commercial Literature
3416-00-174-9171 Lathe, Engine	20	65	50	40	TM 9-3416-244-14&P Commercial Literature
3416-00-235-0551 Lathe, Engine 9-1/4- Inch swing	20	65	50	40	TM 9-3416-235-14&P Commercial Literature
3416-00-242-8816 Lathe, Engine	20	65	50	40	Commercial Literature
3416-00-242-8824 Lathe, Engine	20	65	50	40	TM 9-3416-245-14&P Commercial Literature
3416-00-243-9075 Lathe, Turret, Horizontal, 2 HP	20	65	50	40	Commercial Literature
3416-00-250-6549 Lathe, Engine	20	65	50	40	Commercial Literature
3416-00-250-6550 Lathe, Engine	20	65	50	40	TM 9-3416-236-14&P Commercial Literature
3416-00-252-7094 Lathe, Engine Floor Mounted	20	65	50	40	TM 9-3416-239-14&P TM 9-3416-241-14&P
3416-00-387-9521 Lathe, Engine 7-1/2 HP	20	65	50	40	Commercial Literature
3416-00-449-7188 Lathe, Engine Bench, 3/4 HP	20	65	50	40	TM 9-3416-233-14&P Commercial Literature
3416-00-449-7192 Lathe, Engine 20-25 HP	20	65	50	40	Commercial Literature
3416-00-473-6360 Lathe, Engine	20	65	50	40	Commercial Literature
3416-00-517-1051 Lathe, Engine Floor, 14-Inch	20	65	50	40	TM 9-3416-230-14&P

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
		1-5	6-10	10+	
FSC GROUP 3416 (continued)					
3416-00-517-1172 Lathe, Engine Floor, 30 HP	20	65%	50%	40%	Commercial Literature
3416-00-517-1173 Lathe, Engine, Floor, 25 HP	20	65	50	40	Commercial Literature
3416-00-542-1100 Lathe, Engine Floor, 10 HP	20	65	50	40	Commercial Literature
3416-00-725-3508 Lathe, Engine Floor Mounted, 5 HP	20	65	50	40	TM 9-3416-221-10 TM 9-3416-240-14&P
3416-01-030-8195 Lathe, Engine Bench Mounted	20	65	50	40	TM 9-3416-223-12 TM 9-3416-225-12
FSC GROUP 3417					
3417-00-238-7553 Milling Machine, Hori- zontal, Floor 2	20	65	50	40	Commercial Literature
3417-00-240-1303 Milling Machine, Hori- zontal, Floor 1	20	65	50	40	TM 9-3417-209-10
3417-00-357-1948 Milling Machine, Hori- zontal, plain	20	65	50	40	TM 9-3417-215-14&P
3417-00-624-4254 Milling Machine, Adjust able swivel	20	65	50	40	TM 9-3417-210-10
FSC GROUP 3418					
3418-00-223-0960 Shaper, Metal Cutting	20	65	50	40	TM 9-3418-200-14&P Commercial Literature
3418-00-242-5961 Shaper, Metal Cutting	20	65	50	40	Commercial Literature

**Table 1. Maintenance Expenditure Limits Applicable to ACALE
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
		1-5	6-10	10+	
FSC GROUP 3418 (continued)					
3418-00-808-0475 Shaper, Metal Cutting	20	65%	50%	40%	TM 9-3418-201-14&P TM 9-3418-201-14&P
FSC GROUP 3419					
3419-00-220-9101 Threading Machine,	20	65	50	40	Commercial Literature TM 9-3419-234-14&P
FSC GROUP 3431					
3431-00-021-8696 Welding Machine	10	45	30		Commercial Literature
3431-00-067-6742 Welding Machine	13	55	45	30	Commercial Literature
3431-00-081-8059 Welding Machine	13	55	45	30	TM 5-3431-204-15 TM 5-3431-207-20P TM 5-3431-207-35P
3431-00-114-0858 Welding Machine	13	55	45	30	TM 5-3431-225-15 TM5-3431-225-25P
3431-00-163-4345 Welding Machine	10	45	30		Commercial Literature
3431-00-204-3831 Welding Machine	10	45	30		Commercial Literature
3431-00-212-6279 Welding Machine	18	65	50	35	Commercial Literature
3431-00-226-1569 Welding Machine	13	55	45	30	TM 5-3431-217-15
3431-00-235-4728 Welding Machine	15	55	45	30	TM 5-3431-228-14 TM 5-3431-228-20P TM 5-3431-228-34P
3431-00-235-4728 Welding Machine	13	55	45	30	TM 5-3431-213-14 Commercial Literature

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
		1-5	6-10	10+	
FSC GROUP 3431 (continued)					
3431-00-239-8186 Welding Machine	10	45%	30%	%	TM 5-3431-204-20P TM 5-3431-204-35P
3431-00-253-0558 Welding Machine	10	45	30		TM 5-3431-221-15 TM 5-3431-221-25P
3431-00-351-9209 Welding Machine	10	45	30		TM 5-3431-204-20P TM 5-3431-204-35P
3431-00-360-2787 Welding Machine	10	45	30		Commercial Literature
3431-00-376-8991 Welding Machine	13	55	45	30	Commercial Literature
3431-00-529-1409 Welding Machine	10	45	30		Commercial Literature
3431-00-542-0598 Welding Machine	15	55	45	30	Commercial Literature
3431-00-565-6077 Welding Machine	13	55	45	30	Commercial Literature
3431-00-633-4652 Welding Machine	13	55	45	30	Commercial Literature
3431-00-810-9696 Welding Machine	10	45	30		TM 5-3431-205-15 TM 5-3431-205-20P TM 5-3431-205-35P
3431-00-862-6669 Welding Machine	13	55	45	30	Commercial Literature
3431-00-862-6670 Welding Machine	13	55	30	30	TM 5-3431-203-15
3431-00-883-5495 Welding Machine	13	55	45	30	Commercial Literature
3431-00-894-1573 Welding Machine	13	55	45	30	TM 5-3431-201-10

**Table 1. Maintenance Expenditure Limits Applicable to ACALE
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
FSC GROUP 3431 (continued)		1-5	6-10	10+	
3431-00-894-1575 Welding Machine	13	55%	45%	30%	Commercial Literature
3431-00-899-5358 Welding Machine	13	55	45	30	Commercial Literature
3431-00-926-3746 Welding Machine	13	55	45	30	TM 5-3431-213-14
3431-00-991-2961 Welding Machine	10	45	30		TM 5-3431-205-15 TM 5-3431-205-20P TM 5-3431-205-35P
3431-01-032-6289 Welding Machine Model GCC-300W	15	55	30	20	TM 9-3431-254-14&P
3431-01-079-8439 Welding Machine Model DCC-353-P	15	60	30	20	TM 9-3431-266-14&P-1 TM 9-3431-266-14&P-2
3431-01-079-8439 Welding Machine	10	45	30		TM 5-3431-205-15 TM 5-3431-205-20P TM 5-3431-205-35P
3431-01-090-1231 Welding Shop, Trailer Mounted, Model 491996	15	60	30	20	TM 9-3431-265-14&P
FSC GROUP 3432					
3432-00-241-7899 Welding Machine Resistance, Air	15	55	45	30	TM 9-3432-221-14&P
FSC GROUP 3441					
3441-00-190-3295 Brake Machine	25	65	50	35	TM 3-3441-104-14&P
3441-00-265-7137 Brake Machine	25	65	50	35	TM 9-3441-100-14&P

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
FSC GROUP 3445		1-5	6-10	10+	
3445-00-239-0706 Shearing Machine, Metal Squaring	15	55%	45%	30%	TM 9-3445-102-14&P
3445-00-277-9100 Shearing Machine, Metal Squaring	15	55	45	30	TM 9-3445-106-14&P TM 9-3445-465-14&P
3445-00-294-6467 Shearing Machine, Metal	15	55	45	30	TM 9-3445-101-14&P
3445-00-357-6789 Punching Machine, Metal, Hand	15	55	45	30	TM 9-3445-100-14&P
3445-00-528-9783 Punching Shearing Machine,	15	55	45	30	Commercial Literature
FSC GROUP 3446					
3446-00-241-8284 Forging Machine, Hammer, 14-Inch Throat	20	65	50	35	Commercial Literature
3446-00-262-4249 Forging Machine, Hammer, Vertical Floor	20	65	50	35	Commercial Literature
3446-00-266-9573 Forging Machine, Hammer, 27-1/2	20	65	50	35	Commercial Literature
FSC GROUP 3449					
3449-00-263-0097 Sharpening Machine, 75-100 PSI	10	55	45		Commercial Literature
3449-00-263-0098 Sharpening Machine	10	55	45		Commercial Literature

**Table 1. Maintenance Expenditure Limits Applicable to ACALA
(FSC Group 34)--Continued**

(Refer to the AMDF for current replacement cost)

NSN ----- Nomenclature	Life Expectancy (Years)	Expenditure Limit %			Equipment Publications
		Item Age (Years)			
FCS GROUP 3450		1-5	6-10	10+	
3450-00-715-9290 Saw, Power Hack, Portable	20	65%	50%	35%	Commercial Literature
FSC GROUP 3460					
3460-00-243-9607 Grinding Machine, Tool Attachment	15	55	45	30	TM 9-3460-209-10 TM 9-3460-215-10 TM 9-3460-216-14&P TM 9-3460-217-14&P

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 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, ACALA.

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 materiel 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 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, 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, consumable will be costed at the standard inventory prices 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 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 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 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 be 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 ACALA 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 as a "No Depot Maintenance Equipment.

10. Disposition Instructions. Disposition instructions will be provided by ACALA 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 as "No Depot Maintenance Equipment." 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.

**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 (Reprinted w/Basic Incl C1-3)
AR 37-110	Budgeting, Accounting, Reporting, and Responsibilities for Industrial Funded Installations and Activities
AR 700-4	The Logistics Assistance
AR 725-50	Requisition and Issue of Supplies and Equipment; Requisitioning, Receipt, and Issue System
AR 750-1	Army Materiel Maintenance Policy and Retail Maintenance Operations
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA PAM 738-750	Functional Users Manual for the Army Maintenance Management System (TAMMS)
TM 5-3431-201-10	Operator's Manual: Welding Machine Arc; Generator, Diesel-Driven, Single Operator, Remote Control, 300 Amp, DC, Arc, Skid Mtd, 60 Amp, 20 V Min. 375 Amp at 40 V Max Current, 115 V, 3 KW, Auxiliary Power (Libby, Model ODW300) (NSN 3431-00-894-1573) (Reprinted w/Basic Incl C3)
TM 5-3431-203-15	Operators, Organizational, Direct and General Support, and Depot Maintenance Manual (Including Repair Parts) for Welding Machine Arc; Inert Gas Shielded Transformer, 300 Amp, 10 to 400 Amp, AC, Straight Polarity, 10 to 300 Amp, DC, Reverse Polarity (Midstates, Model MAG300 AC/DC T134) (NSN 3431-00-862-6670) (Reprinted w/Basic Incl C1)
TM 5-3431-204-20P	Organizational Maintenance Repair Parts and Special Tools List for Welding Machine Arc; Generator, Gasoline Engine Driven, Single Operator, Remote Control, 300 Amp, DC, Arc, Skid Mtd, 60 Amp at 20 V Min. 375 Amp at 40 V Max Current, DC, 115 V, 3 KW, Auxiliary Power, MIL SPEC-W-13768 (Hobart, Model GH-3153) (NSN 3431 00-351-9209) (Model GH-3153-S) (NSN 3431-00-239 8186)

TM 5-3431-204-35P Field and Depot Maintenance Repair Parts and Special Tools List: Welding Machine Arc; Generator, Gasoline Engine Driven, Single Operator, Remote Control, 300 Amp, DC, Arc, Skid Mtd, 60 Amp at 20 V Min. 375 Amp at 40 V Max Current, DC, 115 V, 3 KW, Auxiliary Power, MIL SPEC-W-13768 (Hobart, Model GH-3153) (NSN 3431 00-351-9209) (Model GH-3153-S) (NSN 3431-00-239 8186) (Reprinted w/Basic Incl C1)

TM 5-3431-205-15 Operator's, Organizational, Direct and General Support, and Depot Maintenance Manual: Welding Machine, Arc; Generator, Gasoline Engine Driven, 300 Amp, DC (Libby, Model LE300) (NSN 3431-00 810-9696) (Libby, Model LEW300) (NSN 3431-00 991-2961) (Libby, Model LEB300) (NSN 3431-01 079-8439) (Reprinted w/Basic Incl C2-3)

TM 5-3431-205-20P Organizational Maintenance Repair Parts and Special Tools List: Welding Machine Arc; Generator, GED, 300 Amp, DC (Libby Welding, Model LE300) (NSN 3431-00-810-9696) (Model LEW300) (NSN 3431-00-991-2961) (Model LEB300) (NSN 3431-01-079-8439)

TM 5-3431-205-35P Direct and General Support and Depot Maintenance Repair Parts and Special Tools List: Welding Machine, Arc; Generator, GED, 300 Amp, DC (Libby Welding Co., Model LE300) (NSN 3431-00-810-9696) (Model LEW300) (NSN 3431-00-991-2961) (Model LEB300) (NSN 3431-01-079-8439)

TM 5-3431-207-15 Operator's, Organizational, Field and Depot Maintenance Manual: Welding Machine Arc; Generator, Electric-Motor Driven, AC, 220 V, 3-Phase, 60-Cycle, Single Operator, Remote Control, 300 Amp, DC, Arc, Wheel-Mounted, 4 Wheels, Steel Tires, 60 Amp at 20 V Min. 375 Amp at 40 V Max Current (Libby, Model LA300) (NSN 3431-00-081-8059) (Reprinted w/Basic Incl C1)

TM 5-3431-207-20P Organizational Maintenance Repair Parts and Special Tools List for Welding Machine Arc; Generator, Electric Motor Driven, AC, 220 V, 3-Phase, 60 HZ, Single Operator, Remote Control, 300 Amp, DC, Arc, Wheel Mtd, 4 Wheels, Steel Tires; 60 Amp at 20 V Min. 375 Amp at 40 V Max Current (Libby, Model LA300) (NSN 3431-00-081-8059)

TM 5-3431-207-35P Direct and General Support and Depot Maintenance Repair Parts and Special Tools List: Welding Machine, Arc; Generator, Electric Motor Driven, AC, 220 V, 3-Phase, 60 HZ, Single Operator, Remote Control, 300 Amp, DC, Arc, Wheel Mtd, 4 Wheels, Steel Tires, 60 Amp at 20 V Min. 375 Amp at 40 V Max Current (Libby, Model LA300) (NSN 3431-00-081-8059)

- TM 5-3431-213-14 Operator's, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List): Welding Machine, Arc; General and Inert Gas Shielded, Transformer-Rectifier Type, AC and DC, 300 Amp Rating at 60 Deg Duty Cycle (Harnischfeger, Model DAR-300HFSG) (NSN 3431-00-235-4728) (Harnischfeger, Model 2100H2007) (NSN 3431-00-926-3746) (Reprinted w/Basic Incl C1)
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TM 5-3431-228-34P Direct Support, General Support, and Depot Maintenance Repair Parts and Special Tools List: Welding Machine Arc; AC/DC, 300 Amp Transformer Rectifier, Constant Current, Base Mounted (Eutectic Corp., Model 301FED) (NSN 3431-00-235-4728)

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TM 9-3416-223-12 Organizational Maintenance Manual for Lathe, Engine, Bench Mtd, Solid Bed Type, 10-Inch Swing, No. 2 Morse Taper Center, 1-3/8 Spindle Hole, 110 V, 60 HZ, Single-Phase; 3/4 HP w/Army Dwg No. 7550151 Bench (Sheldon Machine Co., Inc., Model XL) (NSN 3416-01-030-8195) (Reprinted w/Basic Incl C1)

TM 9-3416-225-12 Organizational Maintenance Manual for Lathe, Engine, Bench Mtd, Solid Bed Type; 10-Inch Swing, No. 2 Morse Taper Center, 1-3/8 Spindle Hole, 110 V, 60 HZ, Single-Phase, 3/4 HP w/Army Dwg No. 7550151 Bench (Standard Modern Tool Series 2.000, Model 11-Inch) (NSN 3416-01-030-8195) (Reprinted w/Basic Incl C1-2)

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Chief of Staff

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