Technical Bulletin

WARRANTY PROGRAM

FOR

10 KW, 400 HZ GENERATOR SET

CONTRACT DAAK01–88-D-D016

NSN: 6115-00–465-1027

Approved for public release. Distribution is unlimited.

Headquarters, Department of the Army
Washington, DC

5 OCTOBER 1989

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Reporting Errors and Recommending Improvements: You can help improve the manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letters, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 direct to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

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1. GENERAL - The purpose to this technical bulletin is to outline the procedures for identifying warranted items of the 10 kW, 400 Hz Generator Set Assembly being procured under contract DAAK01-88-D-D016 from Libby Corporation, Kansas City, Missouri.

2. EXPLANATION OF TERMS - The definitions that apply to this Warranty Technical Bulletin can be found in Appendix A.

3. COVERAGE - The contractor, Libby Corporation, guarantees the 10 kW, 400 Hz Generator Set and all parts thereof, at the time of acceptance or delivery, to be free from all defects in material and workmanship for 1500 operating hours or 24 months, whichever occurs first. Expendable items such as filters (air, fuel and oil), or any expendable items provided as part of spares, are not covered under the warranty of this contract.

4. CONTRACTOR RESPONSIBILITIES - The contractor is responsible for providing repair or replacement of warranted items, as prescribed in this Technical Bulletin, within 30 days after receiving a properly completed Material Deficiency Report (MDR) listing the failure(s).

a. In the event of a failure of any warranted line item thereof to meet the conditions specified in paragraph 3 above:

(1) The contractor shall promptly repair, replace or modify such parts as necessary to correct defects, and the contractor shall bear the cost thereof; or

(2) If the contractor fails to repair, replace or modify such parts promptly, as determined by the Contracting Officer, the Contractor shall pay cost incurred by the Government in procuring such parts from another source and in accomplishing the repair or replacement.

(3) If the Government determines that a defective or nonconforming warranted itme is within the maintenance capability of the user to repair or replace, does not require contractor repair or replacement, then the Government shall be entitled, from the Contractor, those costs incurred, including detail parts, material and labor necessary to restore a generator set to an operational status.

b. In all situations when repair or replacement requires transportation of the nonconforming or defective item(s), shipping cost from the original line item delivery point to the Contractor's plant and return shall be at the expense of the Contractor. Transportation costs from other than the original delivery point shall be at the expense of the Government.

(1) On items used within the Continental 48 states of the United States and the District of Columbia, the guarantee shall include the furnishing of new or repaired items to replace any that prove to be nonconforming and/or defective within the warranty period.

(2) On items outside the Continental 48 states of the United States and outside the District of Columbia, the guarantee shall include the furnishing of new or repaired items to replace any that prove to be nonconforming and/or defective within the warranty period. Such items shall be delivered via air by the Contractor to the destination designated by the Government. The Contractor shall be responsible for transportation costs not to exceed the greater of F.O.B. Contractor's plant or the original line item destination, whichever is more advantageous to the Government. Return of defective items to the Contractor shall be at the option and at the expense of the Contractor.

5. GOVERNMENT RESPONSIBILITIES - Using units are responsible for reporting failures to: U.S. ARMY TROOP SUPPORT COMMAND, 4300 GOODFELLOW BLVD., ATTN: AMSTR-QE, ST. LOUIS, MO 63120-1798. AUTOVON 693-9457, COML (314) 263-9457). The Government shall be responsible for notifying the Contractor of any defective or nonconforming items.

a. GOVERNMENT MAINTENANCE - Using units are allowed to perform troubleshooting, preventive maintenance and replacement of defective components as authorized by the Technical Manual and Maintenance Allocation Chart.

b. ALTERATIONS - Alterations and/or modifications shall not be made unless expressly authorized or directed by: U.S. ARMY TROOP SUPPORT COMMAND, 4300 GOODFELLOW BLVD., ATTN: AMSTR-QE, ST. LOUIS, MO 63102-1798, AUTOVON 693-9457, COML (314) 263-9457.

6. NULLIFICATIONS TO WARRANTY - Failure or performance deficiencies attributable to:

a. Installation, utilization or operation not in accordance with the operating instructions and technical data provided with the unit.

b. Operation, repair or alteration by individuals not trained in proper operation or maintenance of the unit.

c. Repair with, or an addition of, items not supplied by or approved by Libby Corporation.

d. Failure to perform operation and maintenance in accordance with the applicable technical manuals and maintenance allocation chart.

e. Any abuse, such as improper use, repair or handling of warranted items, shall nullify the warranty.

f. Damage caused by combat conditions.

7. CLAIMS PROCEDURES - Warranty claim forms, DA Form 2407 and Quality Deficiency Reports (QDRs) from using field units are to be forwarded to the TROSCOM Warranty Control Office (WARCO), ATTN: AMSTR-QE. The TROSCOM WARCO will initiate Warranty Claim Actions (WCAs) and forward a Material Deficiency Report (MDR) to the contractor.

a. FORMS - DA FORMS 2402 (Exchange Tag) and 2407 (Maintenance Request) are used by the field in reporting warranty claim actions. The purpose of these forms are for the seller to repair or replace any defective part so the equipment can be returned to an operational readiness mode.

b. DA FORM 2402 - The following are instructions on completing DA Form 2402 by block number and title:

(1) SUPPORT AGENCY (DODAAC). Enter the UIC of the support activity that will receive, hold or work on the item for you.

(2) DATE. Enter the Julian date the form was initiated.

(3) ORGANIZATION (DODAAC). Enter the UIC of the owning unit or organization.

(4) EIR EXHIBIT/EXCHANGE. Mark the block to show the use of the form.

(5) NSN. Enter the NSN of the item.

(6) NOUN NOMENCLATURE. Print the noun abbreviation of the item to be exchanged.

(7) PD. Enter the priority designator (PD) that applies to the action. The unit or organization listed in Block 3 normally assigns the PD. When the form supports a customer maintenance request, use the PD of the maintenance request.

(8) PD AUTHENTICATION.

a. The commander or the designated representative signs when a PD of 01 through 10 is in Block 7.

b. Enter the job order number when a PD of 01 through 10 is taken from a maintenance request.

(9) END ITEM NOMENCLATURE. Enter the noun abbreviation of the end item for the part or component in Block 6.

(10) MODEL. Enter the model number of the end item.

(11) SERIAL NO. Enter the serial number of the end item.

(12) DEFICIENCY OR SYMPTOM. Briefly describe the problem.

(13) DATED ACCEPTED. When the form is used as a receipt, the support unit will enter the Julian date.

(14) SIGNATURE. The person who receives the item signs.

(15) NMCS. Print the word "Yes" for an NMC condition.

(16) JON. The facility that will repair the item enters the job order number. For warranty claims actions, use the control number instead of the JON.

(17) INITIALS. The person receiving the item for repair initials in this block.

(18) DATE REPAIRED. The person doing the work enters the date the work was finished.

(19) INITIALS. The person doing the work initials in this block.

Edition of Sep 73 is obsolete.

EXCHANGE TAG (TM 38-750)

1. SUPPORT AGENCY (DODAAC)		2. DATE	COPY 1
3. ORGANIZATION (DODAAC)		4. ☐ EIR EXHIBIT ☐ EXCHANGE	
5. NSN		6. NOUN NOMENCLATURE	
7. PD	8. PD AUTHENTICATION		
END ITEM IDENTIFICATION	9. END ITEM NOUN NOMENCLATURE		
	10. MODEL	11. SERIAL NO.	
12. DEFICIENCY OR SYMPTOM			
13. DATE ACCEPTED	14. SIGNATURE	15. NMCS	DA FORM 2402 MAY 81
16. JON		17. INITIALS	
18. DATE REPAIRED		19. INITIALS	

8. DA FORM 2407 - The following instructions on completing DA Form 2407 by block number and title heading:

Page No. Enter the Page number.

No. of Pages. Enter total number of pages when section II is completed. Attach DA Form 2407-1.

Work Order Number. Enter the Army or contractor work or job order number. This number will help the WARCO and managers identify the specific WCA if questions arise.

NOTE: Newer versions of the DA Form 2407 do not have a control number. Any automated system manager requiring a control number in addition to or in place of the work order number must create a control number. For that purpose the control number will be made at the level or activity requiring the control number as follows: owning unit UIC (6 places), the 2 digit year (86 for 1986 for example) and a sequence number.

WESDC. Enter the End Item Code (EIC) if the time is reported under AR 700-138 or SAMS, or part of an item or system reported.

ORG PD. Enter the priority designator for the action. When a contractor/dealer will perform warranty repairs, explain what the PD means and how urgent the repair is.

PD Authentication.

a. The CO or CO's designated representative signs for all priority 01 through 10 requests. The signature approves the use of the PD.

b. Leave blank if the PD comes from an already signed DA Form 2402 or DA Form 2407.

c. Leave blank if the form is used solely to report dealer/contractor work.

Warranty Claim. Mark the warrany claim box.

1a. Organization. Enter name of the unit originating the WCA.

1b. Location. Enter location of unit in block 1a. Overseas units list APO.

1c. Unit Ident Code. Enter unit identification code (UIC) of the unit shown in block 1a.

2. Serial Number.

a. Enter serial number of the end item. Include USA Registration Number for administrative use of vehicles.

b. For ammunition, put in the lot number.

c. For floating craft, list the Department of the Army Hull number.

3. Noun Nomenclature. Put in the noun abbreviation of the end item for which the WCA was stated.

4. Line Number. Enter the item's Line Item Number (LIN) found in SB 700-20.

5. Model. Put in the end item model number.

6. National Stock Number. Put in the National Stock Number of the equipment identified in block 3.

7. Maintenance Activity. Put in the name of the support activity.

7a. Level. Put in the code of the maintenance level of the organization in block 7.

O - Organizational (ORG) UNIT

F - Direct Support (DS)

H - General Support (GS)

D - Depot

L - Special Repair Activity

8. Utilization Code. Enter the Utilization Code that applies to this end item and your unit. See Appendix C, Table C-1.

9. MCSR ITEM. Print the word "YES" or the letter "Y" if the item is reported under AR 700-138 or SAMS. This also applies to components and subsystems of an item or system reported. Not mission capable time must be counted if the warranty fail is also an NMC fault. Otherwise, leave blank.

9a. ERC. Leave blank unless needed locally.

9b. Pacing Item. Leave blank unless needed locally.

10. Hours. Enter the hour reading from the hourmeter mounted on the equipment in block 3. Round to the nearest hour. If the equipment has no hourmeter, leave blank.

11. Miles. Enter the miles or kilometers on the odometer on the equipment in block 3. Round to the nearest mile or kilometer. Put the letter "M" before the number for miles. Put the letter "K" before the number for kilometers. If the equipment has no odometer, leave blank.

12. Rounds. Enter the total equivalent full charge (EFC) rounds fired (from the item's DA Form 2408-4). If rounds do not apply, leave blank.

13. Starts. Leave blank.

14. Failure Detected During. Mark the box that best describes when the failure was found.

15. First Indication of Trouble. Mark the box that best described the conditions when you first found the trouble. Enter a code. See Appendix C, Table C-2.

16. Describe deficiencies or symptoms on the basis of complete checkout and diagnostic procedure in Equipment TM.

a. Enter brief but specific description of failure as a result of complete checkout and diagnosis.

b. Include such factors as weather conditions and type of operations. Give your opinion of why it failed. If more room is needed, use DA Form 2407-1.

c. When the warranty technical bulletin provides instructions to ship the failed warranted item to another location, the WARCO will enter the "shipped to" DODAAC.

16a. Remarks.

a. Enter the warranty start date of the component/end item. That date will be on the warranty decal on the item or on the DA Form 2408-9 on the item.

b. The WARCO will enter his or her name, complete telephone number (AUTOVON or commercial with area code) and UIC.

SECTION II - WORK ACCOMPLISHED

17a. Repair Organization/Activity. Enter the name of the activity/vendor/contractor or representative providing the repair.

17b. Location. Enter the location of the activity in block 17a.

17c. Unit Ident Code. Enter the UIC of the activity in block l7a. For commercial contractors or manufacturers, put the letter "K" before FSCM. If not known, leave blank.

18. Type of Organization/Activity Accomplishing Work. Put a check or "X" in the block that applies to the activity providing the repair.

19. AMS Account Code. Enter the contract number of the warranted item. This entry will be confirmed by the WARCO.

Section II

a. Section II will be completed whether the Army repairs the failure or the contractor's representative does the work.

b. The first line entries in columns 20 a through 20k will be used to identify the warranted component or item when it is different from the end item, described in blocks 2 through 6. List the warranted component noun, NSN, model number, serial number, manufacturer's name, and any other data needed to identify the failed warranted item. lf the warranty TB specifies a transportation cost for moving or towing warranted items, enter that information also.

20a. ACT Code. Enter the code that applies from Appendix C, Table C-3.

20b. Failure Code. Enter the failure code that applies from Appendix C, Table C-4.

20c. Component/Part Noun, Service. List the component or part noun or the service/adjustment description.

20d. CB Code. Disregard. Use this space for column 20c instructions.

20e. REF Designator. Disregard. Use this space for column 20c instructions.

20f. MFR Code. When a part with no NSN is replaced, enter the FSCM for the part's manufacturer.

20g. Man-Hours. Enter the number of hours used to make the repair, replace the part, or perform the service/adjustment. The equipment TM Maintenance Allocation Chart will help with the information.

20h. National Stock Number. Put in the NSN of the failed part. When an NSN is not available, enter the part number. One or the other must be listed.

20i. Part Source Code. Leave blank.

20j. Qty. List how many of these parts you replaced.

20k. Parts Cost. List the cost of the part(s). Source of price is vendor's invoice, AMDF, DX List, and local data. OCONUS units dealing with in-country dealers who report parts cost in the currency of that country may enter the figure reported by the in-country dealer. However, the currency must be specifically identified. For example, if the dealer lists the parts cost in Deutsch Marks, put that figure in block 20k, however, at the bottom of the form on the last open line, print "Parts cost reported in Blocks 20k and 20n reflect Deutsch Marks not US Dollars."

20l. Total Man-Hours. Add up all the hours and tenths used and enter total.

20m. Total Man-Hours Cost.

a. Multiply the hours in column 20l times the current labor rate (per hour rate of the shop labor) and enter the total. Leave blank if you do not know the hourly rate.

b. Leave blank when military man-hours are used.

20n. Total Parts Cost. Add up all of the parts costs and list the total.

21-22. Delay - Data Transcribed. Leave blank.

23. Submitted By. The person making out the DA Form 2407, requesting warranty work, will sign in Block 23. This may be a maintenance supervisor, mechanic or WARCO. Enter the date submitted. Use two digits for the day, two digits for the month, two digits for the year (for example, 06 12 84 for Dec 6, 1984), or enter the Julian date.

24. Received By.

a. If Army does the repair work, the person who received the work request signs or initials and enters the date of receipt.

b. Otherwise, leave blank.

25. Work Started By.

a. If Army does the repair work, the person assigned the job signs or initials and enters the Julian date.

b. Otherwise, leave blank.

27. Accepted By. The person accepting the equipment for the owner signs or initials and enters the Julian date.

28. Disposition. Leave blank.

Note: If sufficient copies are not available and the WARCO initiates a new form to submit for warranty action, all blocks will be completed as usual except blocks 21, 22, and 24-28 will be blank.

MAINTENANCE REQUEST

For use of this form, see DA PAM 738-750 and 738-751. The proponent agency is DCSLOG.

PAGE NO.	NO. OF PAGES	REQUIREMENT CONTROL SYMBOL CSGLD-1047(R1)

SECTION I – EQUIPMENT DATA

CONTROL NUMBER	WORK ORDER NUMBER	WESDC	ORG PD	PD AUTHENTICATION

☐ WORK REQUEST ☐ MWO ☐ WARRANTY CLAIM	1a. ORGANIZATION	b. LOCATION	c. UNIT IDENT CODE

2. SERIAL NO.	3. NOUN NOMENCLATURE	4. LINE NO.	5. MODEL	6. NATIONAL STOCK NUMBER

7. MAINTENANCE ACTIVITY	a. LEVEL	8. UTILIZATION CODE	9. MCSR ITEM	a. ERC	b. PACING ITEM	10. HOURS	11. MILES	12. ROUNDS	13. STARTS

14. FAILURE DETECTED DURING (Select one – use ✓ or X)

☐ A Scheduled Maintenance ☐ C Test ☐ E Storage ☐ G Flight
☐ B Handling ☐ D Normal Op ☐ F Inspection ☐ H Other

15. FIRST INDICATION OF TROUBLE (Select one – use ✓ or X)

☐ 866 Inoperative ☐ 758 Overheating ☐ 799 Out of Adjustment
☐ 808 Noisy ☐ 787 Low Performance ☐ Other

16. DESCRIBE DEFICIENCIES OR SYMPTOMS ON THE BASIS OF COMPLETE CHECKOUT AND DIAGNOSTIC PROCEDURE IN EQUIPMENT TM (Do not prescribe repairs)

16a. REMARKS

SECTION II – WORK ACCOMPLISHED

17a. REPAIR ORGANIZATION/ACTIVITY	c. UNIT IDENT CODE	18. TYPE ORGANIZATION/ACTIVITY ACCOMPLISHING WORK (Select one – use ✓ or X) ☐ 1 TOE ☐ 2 TD ☐ 3 CONTRACTOR	19. AMS ACCOUNT CODE
b. LOCATION			

20a. ACT CODE	FAILURE CODE b	c. COMPONENT/PART NOUN, SVC OR MWO NO — d. CS CODE	e. REF DESIGNATOR / MFR CODE	MANHOURS (H & tenths) f	NATIONAL STOCK NUMBER h	PART SOURCE CODE i	QTY j	PARTS COST k
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				.				
				.				
				.				
			TOTAL MANHOURS		m. TOTAL MANHOURS COST $		n. TOTAL PARTS COST $	

21. DELAY (Select one) ☐ 1 Parts ☐ 2 Manpower ☐ 3 Facilities ☐ 4 Funds ☐ 5 Tools

22. ☐ DATA TRANSCRIBED

23. SUBMITTED BY	24. RECEIVED BY	25. WORK STARTED BY	26. INSPECTED BY	27. ACCEPTED BY	28. DISPOSITION (Select one)
JULIAN DATE	JULIAN DATE	JULIAN DATE	JULIAN DATE	JULIAN DATE	☐ A To User ☐ C Salvaged ☐ B To Stock ☐ D Evacuated ☐ E Cannibalization

DA FORM 2407, MAY 81 — EDITION OF JUL 79 IS OBSOLETE — HMP COPY 2

9. REPORTING - Reporting or recording action on a failed item shall be as specified in DA PAM 738-750 or DA PAM 738-751.

10. FALSE RETURNS - If items are returned to the Contractor that are found to be serviceable, nullified in accordance with paragraph 6 or determined that the failure was not subject to the guarantee set forth, then the contract price will be equitably adjusted.

11. STORAGE - Storage of the equipment or its components shall be as prescribed in applicable technical manuals.

12. SHIPMENT - Instructions for shipment of components will be provided by the TROSCOM Warranty Control Officer.

APPENDIX A

Terms

1. Abuse. The improper use, repair, or handling of warranted items such that the warranty may become void.

2. Acceptance Date. The date an item of equipment is accepted into the Army's inventory by the execution of the acceptance block and signing of a DD Form 250 or approved acceptance document, by an authorized representative of the government.

3. Alterations/Modifications. Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.

4. Defect. Any condition or characteristic in any supplies or services furnished by the contractor under the contract that is not in compliance with the requirements of the contract.

5. Failed Item. A part, component, or end item that fails to perform its intended use.

6. False Return Rate. The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.

7. Reimbursement. A written provision in a warranty contract whereby the user may make the necessary repairs with or without prior approval of the contractor and the Government will be reimbursed for the repair parts and/or labor costs.

8. Repair. To restore an item to serviceable condition without affecting the warranty.

9. Reparable. An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.

10. Serviceable. The condition of an item which may be new or used that meets all the requirements and performs the functions for which it was originally intended.

11. WARCO. Warranty Control Offices established at the intermediate General Support/Director of Industrial Operations Level or equivalent who serve as the intermediary between the troops owning the equipment and the local dealer, contractor, manufacturer, or the National Maintenance Point (NMP). All warranty claim actions will be processed through the WARCO.

12. Warranty. A promise or statement of fact from a seller to a purchaser on the nature, usefulness, or condition of the supplies or performance of service to be furnished. The main purpose of a warranty in a government contract is to outline the rights and obligations of the contractor and the government for defective items and services. It also serves to foster quality performance by the contractor but is not a substitute for an adequate quality assurance program.

13. Warranty Claim. Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.

14. Warranty Period. Time during which the warranty is In effect. Normally measured as the maximum number of years, months, days, miles, or hours used.

15. Warranty Start Date. The date the warranty is put into effect.

APPENDIX B

TROSCOM WARRANTY CONTROL OFFICES (WARCOs)

Command	Location/Station	Address	Phone AV/COMM
TROSCOM	HEADQUARTERS	Cdr, TROSCOM ATTN: AMSTR-Q 4300 Goodfellow Blvd. St. Louis, MO 63120-1798	AUTOVON 693-945/ COMMERCIAL (314) 263-9457

Refer to Table J-1 of DA PAM 738-750 Maintenance Management Update (latest issue) for worldwide WARCO offices.

APPENDIX C

Code and Tables

This appendix contains the lists of codes and various conversions tables for recording data on TAMMS Forms.

Table C-1

Utilization Codes

Code	Description
0	Active Components (except as otherwise listed)
1	Depot Stock
2	Post Supply Activities
3	(not used)
4	Operational Readiness Float (ORF)
5	Installation Maintenance and Service Equipment
6	(not used)
7	Army National Guard, except MATES
8	Army National Guard (MATES)
9	Air Force National Guard Units
A	Army Reserve Units, except Equipment Pools
B	Army Reserve Unit, Equipment Pools
C	Air Force Reserve
D	Army ROTC

Table C-1

Utilization Codes

(continued)

Code	Description
E	Air Force ROTC
G	Defense Atomic Support Agency
H	US Army Intelligence and Security Command
J	Defense Communications Security Agency
K	US Army Training and Doctrine Command
L	US Army Test and Evaluation Comnand
M	Civilian Support Units
N	Prepositioned Stock in Europe except POMCUS
P	Depot Installation Equipment
Q	Equipment Assigned to Service Schools and Training Centers
R	Military Assistance Program (MAP)
S	Overhaul Facility, Military
T	Overhaul Facility, Commercial
U	Manufacturing Facility
V	Passenger-Carrying and General Purpose
W	This Code No Longer Used
X	Repair Cycle Float (RCF)

Table C-1

Utilization Codes

(continued)

Code	Description
Y	POMCUS in Europe

Table C-2

First Indication of Trouble Codes

Code	Description
008	Noisy
068	Inoperative
258	Overheating
387	Low Performance
790	Out of Adjustment
*360	Intermittent
*432	Off Frequency
*680	Unstable
*077	Accident (Motor Vehicle)
*777	Mid-service Life
*099	Other

These codes will be used to record the first indication of trouble data, when completing DA Form 2407.

* ' The asterisk denotes code numbers not listed in block 15, DA Form 2407. When selecting one of these codes, the appropriate code number must be entered in the space designated "Other," block 15.

Table C-3

Action Codes

These codes will be used to record maintenance actions taken on an item when completing DA Form 2407.

Code	Description
A	Replaced. This code will be used when an item (repair parts, components, etc.) is removed and replaced concurrently (or at a later time) by a like or an equivalent item (except for gun/howitzer tubes and hourmeters/odometers, see codes W and X). For the purpose of avionics, when the equivalent item changes the avionic system designation, use action codes "R" and "S" in lieu of action code "A".
B	Adjusted. This code will be used when tightening, adjusting, bleeding, rigging or activating reset buttons or switches, regulating, etc.
C	Repaired. This code will be used when a reparable item is repaired. This will include, but not be limited to disassembly, cleaning incidental to repair action, inspection, adjustment, internal lubrication, replacement of integral parts, assemblies and subassemblies, and welding.
D	Manufacture/Fabrication Of Repair Parts. This code will be used when repair parts are manufactured or fabricated from stock. This will include but not be limited to such items as hydraulic tubes, lines and hose, and noncritical airframe members and brackets.
E	Services. This code will be used to report all service actions performed by maintenance personnel, to include but not be limited to compliance with Lube Orders (LO) and performance of preventive maintenance services (PMS).
F	Initial Inspection. This code will be used when inspecting items to establish maintenance action(s) required to return item to serviceable status.
G	Final Inspection. This code will be used when inspecting items to determine acceptability of maintenance accomplished.
H	MWO. This code will be used to identify the application of Modification Work Orders.
I	Not Used.

Table C-3

Action Codes

(continued)

Code	Description
	Tested. This code will be used when performing diagnostic or mechanical tests which are used to measure the performance of an item against established serviceability.
	In Process Inspection.
	Removed and Installed. This code will be used when an item is removed for any reason and the same item is reinstalled.
M	Checked - NRTS. This code will be used when an item is checked or tested and it is determined to be "Not Reparable at This Station or site."

Note: Local policy may prescribe use of NRTS codes in Table C-5.

N	Checked - Not Reparable. This code will be used when an item is checked or tested and it is determined to be nonreparable (condemned). This code applies also for items beyond economic repair limitations.
	Overhaul.
	Checked - Serviceable. This code will be used for items checked or tested and no repair is required. This code is applicable only if it is determined that a reported fault does not exist or cannot be duplicated.
Q	MWO Removal. This code will be used to identify the removal of a DAMWO as a result of cancellation of the DAMWO requirement.
R	Removed. This code will be used when an item is removed, and only the removal time is to be accounted for.
S	Installed. This code will be used when an item is installed, and only the installation time is to be accounted for.
T	TB Compliance. This code will be used to identify the compliance with the Instructions of a specifically cited technical bulletin.

Table C-3

Action Codes

(continued)

Code	Description
U	Not Used.
V	SPA apply/applied.
W	Hour Meter/Odometer Change. This code will be used to indicate the replacement of an hour meter and/or odometer.
X	Gun/Howitzer Tube Change. This code will be used to indicate the replacement of an hour meter and/or howitzer.
Y	SMA apply/applied.
Z	SRO apply/applied.
ON	Modification By Replacement. This code will be used when modification (DAMWO) of an end item is accomplished by replacing an unmodified component/assembly with a modified component/assembly.
1	Servicing-Scheduled (aircraft only). This code will be used when servicing actions that include replenishment or removal of consumable items used during flight operations (such as fuel, oil, water, alcohol, hydraulic fluid, oxygen, air nitrogen, ammunition, bombs, etc.) is accomplished at intervals specified in pertinent maintenance manuals and inspection checklists.
2	Servicing-Unscheduled (aircraft only). This code will be used when servicing actions, which include replenishment or removal of consumable items used during flight operations (such as fuel, oil, water, alcohol, hydraulic fluid, oxygen, air nitrogen, ammunition, etc.) are accomplished at unspecified intervals.
3	Preventive Maintenance - Daily (aircraft only). This code will be used to report accomplishment of the visual inspection effort of the PMD. Other action codes will be used for corrective actions related thereto, as appropriate.

Table C-3

Action Codes

(continued)

Code	Description
4	Preventive Maintenance - Intermediate (aircraft only). This code will be used to report accomplishment of the visual inspection effort of the PMI. Other action codes will be used for corrective action related thereto, as appropriate.
5	Preventive Maintenance - Periodic, Phased or Progressive Phased Maintenance (aircraft only). This code will be used to report accomplishment of the visual inspection effort of the PMP. Other action codes will be used for corrective actions related thereto, as appropriate.
6	Special Inspection (aircraft only). Use this code when a specific action or inspection required is not otherwise covered. This code will be used for recording temporary storage inspections. This code will be used for the visual inspection of fort only. Other action codes will be used for corrective actions related thereto, as appropriate, This code will not be used instead of codes 3, 4, or 5.
7	Ground Handling (aircraft only). Use this code for ground support actions such as towing, jacking, parking removal or installation of ground safety pins mooring, etc.
8	Maintenance action not able to be performed (SAMS Unique).
9	Modification by replacement.

Table C-4

Failure Codes - Alphabetical

Code	Description
717	Accident Damage
127	Adjustment Improper
031	Alignment Improper
007	Arcing, Arced
693	Audio Faulty
129	Backfiring
731	Battle Damage
710	Bearing Bushing Failure
135	Binding includes Friction Excessive, Seized, Locked, Jammed
060	Brittle
070	Broken includes Cracked, Cut, Torn, Punctured, Fractured, Sheared
109	Buckled includes Collapsed, Warped, Bent, Dented, Sprung, Twisted
900	Burned includes Charred, Blistered, Shorted
171	Burred includes Pitted
910	Chipped includes Frayed, Nicked, Flaking
180	Clogged includes Pinched
026	Cold Solder Joint

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
160	Contact/Connection Defective
230	Contaminated, Fuel, Oil
114	Controls Inoperative
844	Corona Effect
170	Corroded (Metal) includes Rusting
845	Crystallized
020	Deterioration includes Worn Excessively
968	Dioding
201	Distorted
235	Dry
231	Elongated
233	End Play Excessive
015	Excessive Noise (Electronics)
290	Fails Diagnostic/Automatic Tests
051	Fails to Tune or Drifts
602	Failure Caused by Other Component Failure
281	Faulty Reading
055	Feedback Incorrect

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
069	Flame Out
037	Fluctuates, Unstable
748	Frequency, Erratic or Incorrect
280	Fungus Effect
061	Fused includes Melted
001	Gassy
120	Grated
214	Grooved
320	High Voltage Breakdown
065	High VSWR
916	Impending or Incipient Failure Indicated by Spectrometric Oil Analysis
703	Improper Amplitude
627	Improper Attenuation
688	Improper Energy Response
239	Improper Fit, Form, Function
689	Improper Source Output
088	Incorrect Gain

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
064	Incorrect Modulation
169	Incorrect Voltage
350	Insulation Breakdown
081	Interference
360	Intermittent
381	Leaking (Liquid)
382	Liquid/Vapor Lock
383	Lock-On Malfunction
730	Loose
181	Low Compression
004	Low GM or Emission
537	Low Power, Thrust, or Performance
500	Lubrication (Over or Under)
979	Maintenance Error
225	Manufacturer Defect
009	Microphonics
253	Misfires
750	Missing

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
908	Miswired
420	Moisture Saturation (Wet, Condensation)
799	No Defect
801	No Defect (MWO Compliance)
802	No Defect (Equipment (previously modified) Restored to Original Configuration)
798	No Defect (MWO not Applicable)
797	No Defect (MWO Previously Complied With)
804	No Defect (Removed for Scheduled Maintenance) (includes Mandatory Inspections)
803	No Defect (Removed for Time Change)
305	No Fuel Cutoff
367	No Indicating Lights
008	Noisy (Chattering)
022	No Oscillation
255	No Output/Incorrect Output
920	Not Determined
432	Off Frequency
396	Oil Breathing, Consumption Excessive

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
603	Oil in Induction System
405	Oil Pressure Incorrect
450	Open
003	Open Filament Tube Circuit
437	Operating Error
457	Oscillating
790	Out of Adjustment or Tolerance
258	Overheating includes Heat Damage
021	Overloaded
259	Oversize
530	Polarity Reversed
964	Poor Spectrum
567	Resistance High
568	Resistance Low
734	Rise Time Incorrect
324	RPM Beta Governing Faulty
315	RPM Fluctuation/Incorrect
740	Saturation Resistance High

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
473	Seal/Gasket Blown
807	Servo Mag Amp Time Constant
640	Slippage
163	Slip Ring or Commutator Failure
314	Slow Acceleration
318	Slow Deceleration
159	Smoking
279	Spray Pattern Defective
513	Stalls - Compressor
329	Starting Stall
660	Stripped
519	Surged
649	Sweep Malfunction
695	Sync Absent or Incorrect
274	Timing Off
379	Tooth Broken on Gear
167	Torque Incorrect
816	Total Impedance, High

Table C-4

Failure Codes - Alphabetical

(continued)

Code	Description
817	Total Impedance, Low
877	Transportation Damage
561	Unable to Adjust Limits
670	Unbalanced includes Unstable
690	Vibration Excessive
692	Video Faulty
722	Weld Cracked or Broken
950	Wrong Part

Table C-5

NRTS (Not Reparable This Station) Codes

Code	Description
1	Bench Checked - NRTS (Not Reparable This Station), Repair Not Authorized. This code will be entered when the shop is not authorized to accomplish the repair. This code will not be used unless the repair of the item is specifically prohibited by current technical directives.
2	Bench Checked - NRTS - Lack of Equipment, Tools, or Facilities. This code will be entered when repair cannot be accomplished due to lack of equipment, tools, or facilities. Lack of authorization for the required tools, equipment, or facilities does not preclude use of this code.
3	Bench Checked - NRTS - Lack of Technical Skills. This code will be entered when repair cannot be accomplished due to lack of technically qualified people.
4	Bench Checked - NRTS - Lack of Parts. This code will be entered when parts are not available to accomplish repair.
5	Bench Checked - NRTS - Shop Backing. This code will be entered when repair cannot be accomplished due to excessive shop backing.
6	Bench Checked - NRTS - Lack of Technical Data. This code will be entered when repair cannot be accomplished due to lack of maintenance manuals, drawings, etc., which describe detailed repair procedures and requirements.
7	Bench Checked - NRTS - Excess to Base Requirements. This code will be entered when repair will not be scheduled for shop repair due to item being excess to base requirements.
8	This code not used.
9	Bench Checked - Condemned. This code will be entered when the item cannot be repaired, and is to be processed for condemnation, reclamation, or salvage. This code will also be used when a "condemned" condition is discovered during support maintenance disassembly or repair.

By Order of the Secretary of the Army:

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

Official:

WILLIAM J. MEEHAN, II
Brigadier General United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Unit and Direct Support and General Support Maintenance requirements for Generator Set, Diesel Engine, Tactical, Skid Mounted, 120, 120/240, 120/208V, 10KW, 1PH/2 Wire, 1PH/3 Wires 3PH/4 Wire, (60 HZ: MEP-003A; 400HZ: MEP-112A).

☆U.S. GOVERNMENT PRINTING OFFICE: 1992 - 311-831/60292

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARDWOOD, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TB 5-6115-585-23-2	5 October 1989	Warranty Program for 10 KW, 400 HZ Generator Set

BE EXACT PIN-POINT WHERE IT IS				IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	
6	2-1 a			In line 6 of paragraph 2-1a the manual states the engine has 6 Cylenders. The engine on my set only has 4 Cylenders. Change the manual to show 4 Cylenders.
B1		4-3		Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the other.
125	line 20			I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is Wrong. Please give me a good NSN

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE
JOHN DOE, PFC (268) 317-7111	JOHN DOE

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DRSTS-M Overprint 1, 1 Nov 80

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REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2, 1 Nov 80

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U S ARMY TROOP SUPPORT COMMAND
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4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120-1798

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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 decigram = .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 temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 066804-000