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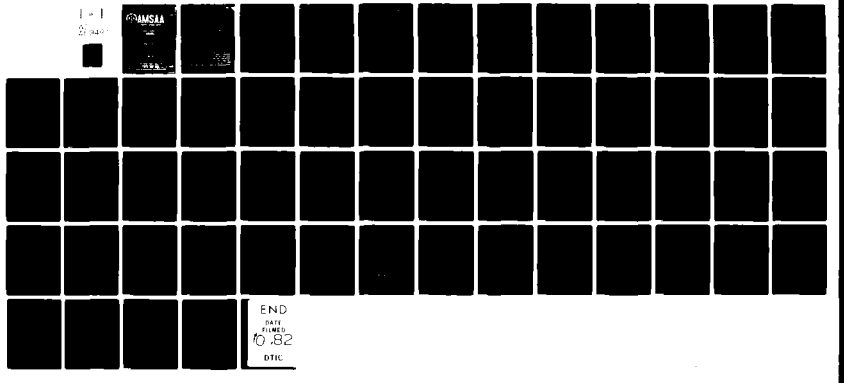

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PROJECT NUMBER 037

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WARRANTY DECISION PROCESS

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DEPARTMENT OF THE ARMY
U.S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
LOGISTICS STUDIES OFFICE
FORT LEE, VIRGINIA 23801

REPLY TO ATTENTION OF
DRXSY-FLSO

21 September 1982

SUBJECT: LSO Project 037, Warranty Decision Process

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Equipment; Warranty; Procurement; Cost Effectiveness; Decision Making

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study has two objectives. It seeks first to determine how the newly published Army warranty program regulation, AR 702-13, has been received and implemented within the Army. Secondly, the study seeks to develop a decision methodology for use by those who acquire warranties. The report reveals that although the regulation was neither well known nor much used, attempts to manage warranties were discovered. Some acquiring commands within DARCOM have established systems to manage warranties, but they are not effective. Many installations have also established warranty management systems, and some of

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20. (continued)

them are effective. The motivation for these warranty management systems appears to be DA initiatives other than the AR. The report recommends wider distribution of AR 702-13, some actions to establish and standardize the management of warranties within the Army, and offers a warranty acquisition methodology for approval.

WARRANTY DECISION PROCESS

LOGISTICS STUDIES OFFICE
PROJECT NUMBER 037

FINAL REPORT
JANUARY 1982

JOHN R. LENASSI

US ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
LOGISTICS STUDIES OFFICE
FORT LEE, VIRGINIA 23801

ABSTRACT

This study has two objectives. It first determines how the newly published Army warranty program regulation, AR 702-13, has been received and implemented within the Army. Secondly, the study develops a decision methodology for use by those who acquire warranties. The report reveals that although the regulation was neither well-known nor much used, attempts to manage warranties were discovered. Some acquiring commands within DARCOM have established systems to manage warranties, but they are not effective. Many installations have also established warranty management systems, and some of them are effective. The motivation for these warranty management systems appears to be DA initiatives other than the AR. The report recommends wider distribution of AR 702-13, some actions to establish and standardize the management of warranties within the Army, and outlines a warranty acquisition decision methodology.

Report Title: Warranty Decision Process

Study Number: LSO 037

Study Initiator and Sponsor: Deputy Chief of Staff for Logistics (DALO-SML)
Headquarters, Department of the Army

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EXECUTIVE SUMMARY

1. Authority for the Study. The sponsor of this study is the Office of the Deputy Chief of Staff for Logistics (ODCSLOG), Department of the Army (DA). Tasking was made through Headquarters, US Army Materiel Development and Readiness Command via a Research and Technology Work Unit Summary, DD Form 1498, dated 30 January 1981, subject: Warranty Decision Process.

2. Background. Army Regulation 702-13, Army Warranty Program, was published to provide the policies, procedures and guidance necessary to establish an effective program of warranty management within the Army. The regulation contains a decision logic tree designed to assist the individual who must decide whether or not to acquire a warranty; this study was initiated by the sponsor to expand or supplement the logic tree which is now so general in nature as to be of little use to many of those who would use it. The decision logic was also to assist the unit with warranted items to decide when a warranty should be exercised. The study effort was conducted in two phases. The first examined how AR 702-13 has been received and implemented within the Army, and the second--using the information and analyses of the first--developed a warranty decision process to satisfy the Headquarters, Department of the Army (HQDA) requirement.

3. Objectives.

a. To determine the impact of AR 702-13 on the Army warranty program.

b. To determine what, if any, warranty management systems now exist and how effective they are.

c. To develop a decision process to assist in the acquisition of warranties.

4. Limits and Scope. This unclassified study focuses primarily on the warranties offered by the manufacturer warranting that his equipment will meet or exceed

specified operating standards over a specific period. The Reliability Improvement Warranty is not within the scope of the study.

5. Methodology. The first phase of the study effort was accomplished primarily through visits to selected organizations and interviews of personnel involved in the Army warranty program. Reports and studies dealing with warranties were also perused.

6. Conclusions.

a. The Army warranty regulation is not yet widely known or used by those who procure or who use warranted items. This is because the regulation was not distributed below DA MACOM level.

b. In the organizations surveyed, the acquisition of warranties is not being managed adequately. In the instances that warranty management systems have been developed by acquiring commands, they are not effective.

c. DA interest in warranty management has caused the Command Logistic Review Team (CLRT) at LEA and TRADOC, and the Logistics Assessment and Assistance Team (LAAT) at FORSCOM, to include the subject as an item of special interest on their visits. This, in turn, has resulted in increased attention to warranties at the visited installations and the development of effective systems to manage warranty use at many of the installations.

d. Warranty management systems can benefit the Army. A system which insures that a warranty is acquired only when it will benefit the service--or when it is an unavoidable part of a commercial item package--and that then insures that the warranty is widely publicized, is included in the technical publications, and insures that the warranted items are clearly marked to provide warranty data to the user, will do much to promote exercise of the warranty by the using units. Likewise, a management system to encourage use of the warranty, when appropriate,

can serve to decrease the resources spent by the units on repair of the warranted equipment when valid warranty claims exist. The failure to take advantage of warranties does waste funds in that every warranty acquired did cost the Army something to procure.

e. The number of warranted items which a major acquiring command (e.g. TACOM) must manage is potentially great and can exceed that which a single manager could manage efficiently. The materiel manager, i.e. the project or the item manager, should be the individual responsible for management of any warranties on his equipment, with the acquiring command appointing a single administrator to insure that warranties are managed properly.

f. Warranty use should be managed centrally at each installation, and the warranty manager at the installation level should be the focal point in the system to exercise warranties. The DIO, which now receives, inspects, accepts, records and arranges delivery of newly issued equipment, should establish the warranty manager. The MACOMs should perform a supervisory role only in warranty management.

g. In CONUS, the DIO maintenance division should perform warranty services to include validation of the warranty claim, coordination with the dealer/ contractor's representative, settlement of disputes or escalation of unresolved disputes to the acquiring command or the manufacturer for resolution, delivery/ retrieval of equipment to/from the dealer, acquisition of repair parts usage and labor usage data from the dealer and provision of such data to the acquiring command warranty manager (i.e. PM or item manager) and the using unit. OCONUS, a similar system should be employed based on local organization.

7. Recommendations.

a. Army Regulation 702-13 be distributed at least to the level of major acquiring commands and installations.

b. Warranty programs at major acquiring commands be managed by individual materiel managers, i.e. PM or item managers, handling warranted equipment.

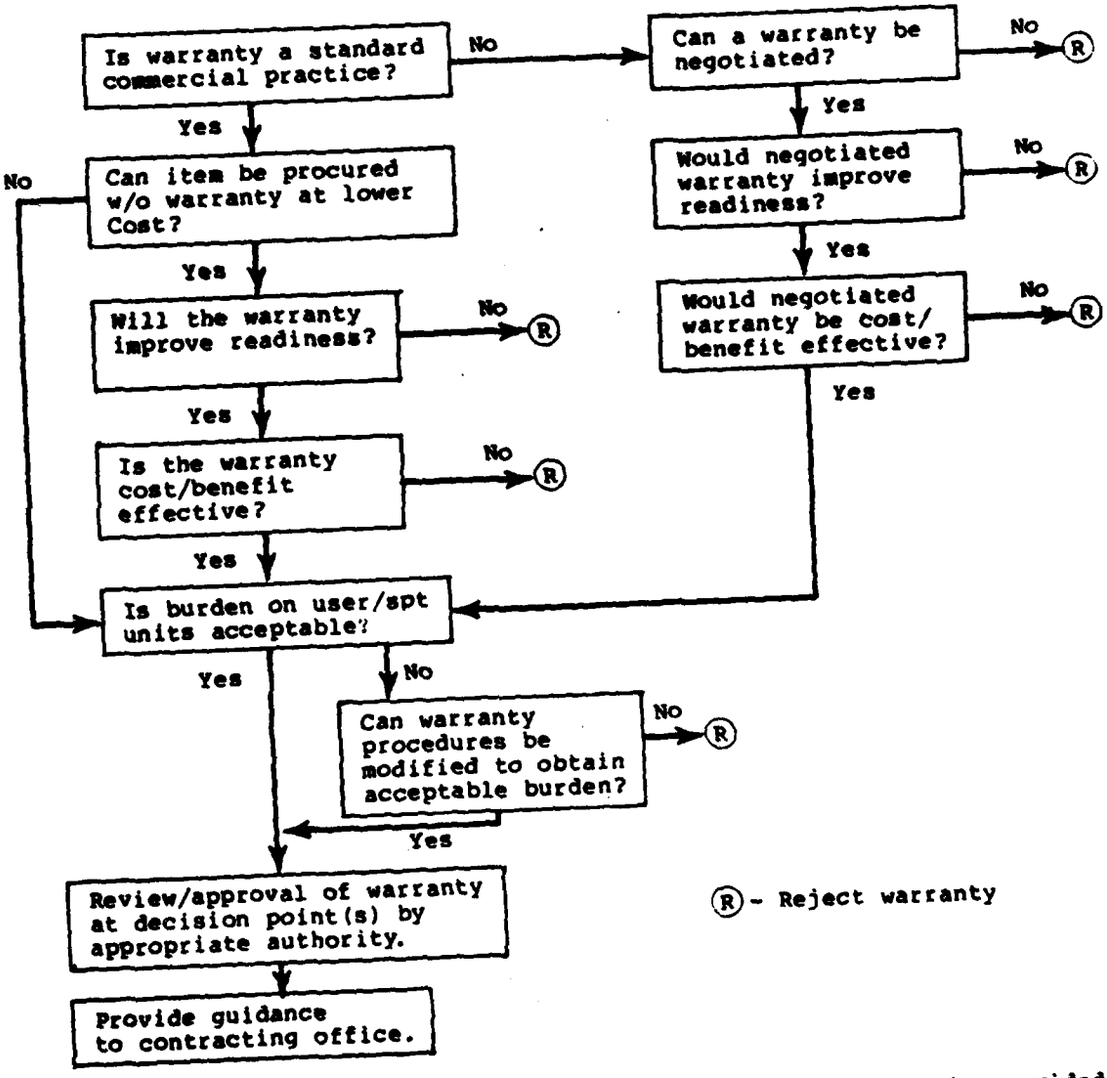
c. The proposed addition to paragraph 6, AR 702-13, at Appendix G be approved; the addition establishes a warranty management system within the DIO at the installation level.

d. The proposed addition to paragraph 7e, AR 702-13, at Appendix H be approved; it restricts the DA MACOM role in warranty management to the review, approval and monitoring of the installation plans.

e. The proposed warranty acquisition decision process at Appendix I be approved.

MAIN REPORT

1. Background. In January 1981, HQDA published AR 702-13 to establish the policies and procedures for the Army warranty program. It was distributed only to HQDA and to the headquarters of DA MACOM. Of the organizations visited during the course of this study, HQDA, LEA, DARCOM and TACOM had the AR available. It was found at TACOM, evidently, because someone in the command's technical library learned of the regulation's existence and procured copies. No one else interviewed knew the AR had been published. The AR provides field commands with the guidance necessary for them to implement an active warranty program within their organizations. It directs the commands that acquire equipment with warranties, and the commands that use them, to manage the warranties. This study was initiated by request of the ODCSLOG, HQDA, with the purpose of expanding the decision logic contained in Figure 1 of AR 702-13. The decision logic is reproduced as Figure 1 on the next page. The decision process was developed to assist those responsible for acquiring equipment to decide whether to procure a warranty, and to assist those using warranted equipment in deciding whether to exercise an existing warranty. Since any decision logic must necessarily build on the warranty program currently in use, it was decided first to determine how organizations are interpreting and implementing AR 702-13. Therefore, the initial effort determined the extent to which the provisions of AR 702-13 have been implemented and how the warranty program is organized in various organizations involved in the acquisition, management or utilization of warranties. The next phase developed the decision logic processes requested by HQDA.



NOTE: This logic tree is not intended to be inflexible. It is provided as a means from which an analysis can begin.

Figure 1. Warranty Acquisition and Fielding Logic Tree.

II. Objectives.

A. To determine the impact of AR 702-13 on the Army warranty program.

B. To determine what, if any, warranty management systems now exist and how effective they are.

C. To develop a decision process to assist in the acquisition of warranties.

III. Limits and Scope.

A. The study is unclassified.

B. The Reliability Improvement Warranty (RIW) is not included within the scope of this study.

C. The warranties of primary interest to this study are the commercial type; i.e., those offered by the manufacturer to warrant that his equipment will meet or exceed specified operating standards over a specified period.

IV. Methodology. To meet the first two objectives, the study agent visited various organizations which either manage or use warranties. Other organizations were contacted telephonically, but no visits were made when it was determined that no active system to manage warranties existed. In both cases, personnel who managed or worked with warranties were sought out; when found, these personnel were interviewed in depth to determine how warranties were managed and processed. Finally, studies and reports dealing with manufacturers' warranties were searched out and read. These are listed in the bibliography (Appendix A). Two which were of special interest were Army Procurement Research Office (APRO) Project Number 507, "Analysis of the Army Materiel Command's Use of Warranties," dated February 1979, which was published by DARCOM's Directorate for Quality Assurance. Appendix B is a glossary of acronyms and abbreviations used in the report.

V. Analysis and Discussion.

A. Visits: Initial planning called for visits to the Logistics Evaluation Agency (LEA), a major Army command (FORSCOM), three DARCOM commodity commands (Communications Electronics Command (CECOM), TACOM, TSARCOM) and a military post having warranted equipment (Fort Eustis, Virginia). Coordination efforts revealed that some of the planned visits would not be fruitful as the headquarters concerned did not manage warranties. In the course of data collection, it was learned that the DARCOM Materiel Readiness Support Activity (MRSA) has a computer data collection system which could possibly be adapted for use in a warranty management program. This possibility was also examined.

1. TACOM: The Tank Automotive Command does have a warranty management officer; this individual is assigned to the Maintenance Directorate and warranty management is his primary duty. TACOM has published a regulation (TACOM Reg 750-26, 17 Apr 78) which prescribes policies and responsibilities for control of production contract warranty clauses, claims and actions. In addition, the Maintenance Directorate published a Standing Operating Procedure (SOP), MD SOP 750-10, 19 Sep 77, which prescribes responsibilities for the control and processing of vehicle warranty claims. Despite this obvious interest and attention to warranties on TACOM equipment, the command is not effectively managing warranties. The problem lies in the identification of warranted items. The warranty manager has, on various occasions, attempted to get listings of equipment items together with the warranty start and stop dates. The compilation of these data has not occurred since it would require several man-months of effort which the materiel managers reportedly could not afford to divert. The maintenance manager and his supervisor recognize that it is not possible to manage TACOM warranties without knowing which specific items are under warranty

at a given time; they are currently trying to develop an automated system to keep track of warranted items through their life span. The logistics section of the Project Manager (PM) for the M915 truck series has made the warranty an item of management interest and the warranty program is apparently successful. The actions taken by PM M915 to insure a viable program include:

a. Positive action to require that the contractor establish repair facility representatives at least within 50 miles of any post where the M915 series vehicles are stationed as the contractor agreed to do in the acquisition contract.

b. Intercession into warranty disputes not solved at the local level; the Technical Bulletin for the M915 warranty program directs the user to contact the PM in case of dispute. Additionally, a PM logistics section representative calls a pre-established central point of contact at each site--where the M915 series vehicles are located--on a monthly basis to determine whether the warranty program is encountering problems.

c. Establishment of direct coordination, and rapport, with the warranty manager for the manufacturer.

d. Monitoring contractor performance on warranty claim actions and incorporating "lessons learned" in the warranty clauses of the impending new contract.

2. TSARCOM: The Troop Support and Aviation Materiel Readiness Command has a warranty management officer within the Quality Assurance Directorate, and the Aviation Research and Development Command (AVRADCOM) also has a warranty management officer in the Quality Assurance Directorate. Both handle warranties as just one facet of their duties, rather than as their primary job. The command did, however, publish a regulation (TSARCOM Reg 702-9, 28 Nov 79)

which prescribes policies, procedures, and assigns responsibilities for the management of warranties. The Materiel Management Directorate (MMD) also published a warranty program directive (MMD Dir 710-1-18, 10 Apr 81) which assigns responsibilities and establishes policies and procedures for managing the TSARCOM warranty program. To exercise a warranty on a piece of TSARCOM managed equipment, the user must submit a DA Form 2407 to TSARCOM. The form is received by the Maintenance Directorate and is routed first either to the Product Assurance Directorate or to the appropriate division of the Maintenance Directorate to determine the validity of the claim. If the claim is accepted as valid, it is then sent to the Materiel Management Directorate which has ten days to send disposition instructions to the equipment user. When the item to be repaired has been delivered in accordance with the disposition instructions, the receiving repair facility must send proof of receipt to TSARCOM. Upon notification that the affected parts have been received, the MMD will give the unit turning in the defective item monetary credit in the amount of the repair parts used in the warranty claim action. Visits to the offices within TSARCOM which process warranty claims revealed that the employees who handle warranty actions seldom see one; consequently, they are not familiar with the procedures prescribed in the warranty publications.

3. Fort Eustis, Virginia: The installation does have an individual designated to function as the focal point for the management of warranties at Fort Eustis. The warranty manager is assigned to the Maintenance Division within the Directorate of Industrial Operations. He is charged with the management of four programs: these are warranties, calibration, oil analysis and modification work orders. The Maintenance Division had perceived the need for a system to manage the warranted equipment issued. The system developed

is simple and effective. As newly issued items are received on post, warranted items are identified and the following information is recorded: The warranty provisions; the warranty start and stop dates; equipment serial number; the USA number; the owning unit. The record also includes any repair parts and labor expended on each item because of warranty claims. When the equipment is issued, the using unit is notified of the warranty provisions and is instructed to bring the equipment to the DIO maintenance shop whenever a warranty claim action is indicated. To do so, the unit fills out a DA Form 2404 and a DA Form 2407, as prescribed in TM 38-750, and delivers the item, along with the documents, to DIO. If the item is very large and unwieldy, DIO representatives will go to the using unit. The Maintenance Division is responsible for verifying the validity of the warranty claim. If the claim is deemed not to be valid, repairs are made and the unit is charged. If the claim is valid, Maintenance Division personnel will coordinate with the local dealer; deliver the item to the dealer and retrieve it, if necessary; and inspect the repaired item prior to notifying the user that his equipment is ready. DIO also makes certain that the dealer furnishes information on repair parts and labor used, and that the repair parts data are provided to the using unit and to the DARCOM readiness command. A visit to an organization owning warranted equipment confirmed that the installation warranty system was functioning as described, and that the unit was happy with it.

4. FORSCOM: A series of telephone calls revealed that Headquarters, FORSCOM has no program to manage warranties. The Policy Office, which would be the focal point of any such effort, had not seen AR 702-13. As of late September 1981 the AR still had not been received by the headquarters. No visit was made to Headquarters, FORSCOM.

5. CECOM: As in FORSCOM, a series of telephone calls established that CECOM also has no program to manage warranties. No visit to Headquarters, CECOM was made.

6. MRSA: The study agency's interest in this activity centered around the data bank which MRSA maintains on equipment items listed in Appendix E of TM 38-750. DA Forms 2408-9 are to be prepared on the items specified in Appendix E of TM 38-750 by the using unit, and then are to be sent to MRSA. The data manager, however, stated and emphasized that this was in fact a permissive system. Although the TM does not specifically allow it, apparently the user is free to decide whether to submit the DA Form 2408-9. The following data are maintained for equipment for which forms have been submitted:

a. Owning unit (UIC)

b. Location

c. Transfers

d. Serial number

e. USA number

f. Date of manufacture

g. Manufacturer

h. Contract number

i. Mileage/hours of operation

7. DARCOM: The Quality Assurance Directorate has been charged with the supplementation of AR 702-13. A supplement for the command is still being developed.

8. LEA: The Logistics Evaluation Agency has assigned an action officer to monitor the supplementation of AR 702-13. He has requested copies of MACOM supplementation of the AR. The response has not been as prompt or as detailed as it had been hoped. LEA also serves as the parent agency for the Department of Army

Command Logistics Review Team-Expanded (CLRT-X); this team has made the management of warranties an item of interest on visits. The team leader reports that, on the whole, installations and organizations do take advantage of warranties. The biggest failure to use warranties reported by the CLRT-X seems to involve small appliances, tools and the like which are purchased locally with a commercial warranty.

B. Analysis.

1. Policy. It is Army policy that warranties will not normally be acquired. The recently published AR 700-9, Policies of the Army Logistics System, 15 October 1981, states this explicitly in a short paragraph entitled "Warranties." The paragraph says, "Acquire Army procured and managed items at reduced costs without warranties except when . . . It is clearly in the best interest of the Army, or . . . It is impossible to acquire the item without a warranty." AR 702-13 makes a similar statement in the policy paragraph, saying, "Items for Army use should be acquired with warranties only when a warranty is in the Army's best interest . . ."

2. Warranties in the Market Place. Warranty coverage varies greatly in the commercial marketplace. Many segments of industry have developed warranties which consumers have come to expect when they purchase the products. Examples of this are found in the automobile, lawn-mower, household appliance and small engine industries--just to name a few. But what the warranty will cover, when, how long and under what conditions differs widely from industry to industry and from manufacturer to manufacturer within the same industry. Thus, one can find new cars offered for sale with warranties varying from one to five years in length and covering different components. (In a buyers market, the warranties in a competitive industry tend to become more liberal; this serves as an

additional inducement to buy.) The variance in warranties is recognized in the Defense Acquisition Regulation (DAR), DAR 1-324. The DAR establishes four criteria for the Army procurement officer to consider when deciding whether to acquire a warranty; and one of them, trade practice, dictates a look at how the industry in question handles warranties. The other three criteria listed in the DAR are nature of the item, cost, and administration. The following publications discuss all four criteria in some detail: the DAR; the Army Procurement Research Office (APRO) Study (APRO 507), "Analysis of AMC's Use of Warranties", June 1975; and the DARCOM Quality Assurance Directorate's "Review and Assessment of the Army Warranty Program," February 1979. (Note: The Army Materiel Command (AMC) is the former name of DARCOM.)

3. Acquisition of Warranties.

a. A warranty is acquired when it is normal commercial practice to warrant the item purchased, and the contractor will not reduce the cost of the equipment even if the warranty is not desired. Since a warranty always requires the contractor to assume additional risk, the cost of the warranted item will be increased. There appears to be no standard commercial warranty, even within individual and competitive industries; consequently, there are no standard formulae for determining how much cost will be added when a warranty is offered on commercial items. Most manufacturers consider the amount added to costs because of warranties to be proprietary information and they will not divulge it. Thus, in the great majority of cases government procurement officers cannot determine how much a warranty is costing them. There are exceptions but these are few. In one case where manufacturers were persuaded to resubmit bids on aircraft high intensity warning lights, the results were revealing. The individual bids from three firms ranged from a unit cost of around $800 to about

$1000. When asked to warrant the light for 2000 hours of operation and resubmit bids, the unit price asked for one light almost doubled; another firm raised the unit price by about $100 and the third company only increased unit price by one dollar. Since such data are very sparse, it should not be inferred that all warranty costs will vary to the degree this one did. However, it is clear that commercial warranties vary greatly in what they promise as well as in what they cost. Beyond that, it is axiomatic that a warranty is no better than the intention and capability of the manufacturer offering it.

b. A warranty is acquired when it is clearly "in the best interest of the government" to procure it. Often, this is taken to mean that a monetary advantage should accrue to the government; considering the reluctance of most contractors to reveal warranty cost information, it is difficult to arrive at such a determination. However, cost is not the only element considered when determining what is in the best interest of the service. There may be times when the contractor's acceptance of risk--through a warranty--will be desirable even if it is expensive. This would be true if the warranty acquired can improve unit readiness to such an extent that cost becomes a secondary consideration. The procurement team should reject a warranty unless it is demonstrated that it would be cheaper for the government to procure a warranty than it would to make the same repairs "in-house," or that the manufacturer/dealer can repair the equipment better, or more rapidly, than the in-house support system. A warranty should only be acquired when it is demonstrably in the best interest of the government or when it is impossible to procure the equipment without warranty. The burden of proof to demonstrate that the warranty should be procured must be borne by the procuring agency.

c. Warranty provisions are normally included in the procurement contract. Just as there are no standard warranties, there are no standard warranty clauses

to be put into the contract. The DAR does contain an example of a warranty clause, but it is limited and is not meant to fit all cases. Under normal circumstances, when a warranty is acquired the procurement team must insure that each provision of the warranty is clearly and precisely stated in the contract. This is done so that both the contractor and the government understand when a warranty claim can be made and what the contractor's response must be. Since each warranty claim action honored by the contractor reduces his profit margin, he usually will do only what he has agreed in the contract to do. If the contract does not specify a warranty action, the majority of the contractors will not undertake it. There are, of course, exceptions; personnel in acquiring commands have spoken of manufacturers making repairs on items not warranted "because it should not have broken." Generally, these were large, well-established manufacturers interested in maintaining their good reputation. Finally, if commercial equipment is purchased with a warranty which has been well publicized, it is not necessary to specify each warranty provision in the contract. A statement that the commercial contract applies should suffice to bind the contractor. If the procurement team finds it necessary to expand the commercial warranty coverage, then the additional provisions will have to be clearly and precisely stated in the contract.

4. Exercise of Warranties.

a. Warranties traditionally have been poorly received within the military units which must exercise them. To make use of a warranty requires extra administrative effort on the part of the owning unit and often the unit personnel would decide that it was not worth the effort to make a warranty claim. Also, if the warranty provisions call for the using unit to make repairs and the dealer to reimburse the government, the user derives no benefits. Reimbursements to

the federal government are made to the US Treasurer. Not even the Defense Department benefits directly from reimbursement from such a warranty. If the dealer will make the warranty claim repairs, or if the unit can trade unserviceable parts for serviceable parts at no cost, then the using unit does benefit. Under the latter conditions, the unit owning a warranted item is motivated to exercise the warranty when the need arises. This is especially true if the dealer provides the required parts or makes the necessary repairs rapidly and with a minimum of balking. Where the exchange of parts, or repairs, by the dealer habitually take a long time, or are disputed by him, the user again tends to ignore the warranty.

b. When the unit commander is issued warranted equipment, but with no implementing instructions, he will often overlook or ignore the warranty. A substantial number of studies and reports--many by the Army Audit Agency (AAA) and the Government Accounting Office (GAO)--have noted this. A primary purpose of publishing AR 702-13 is to insure that warranties, once acquired, are exercised unless it is clearly more expensive, or disadvantageous, for the unit to exercise a warranty than to ignore it. The AR directs that a system be developed to manage the acquisition and use of warranties. The approach taken by DA is a good one; by focusing management attention on warranties, the user of warranted equipment becomes more aware of the subject and will try to do a better job in exercising warranty claims. The job now is to develop a system of management which will continue to focus attention on warranties, and provide the tools necessary to allow the manager to keep reasonably abreast of the warranty situation. The management system should be simple enough to allow easy exercise of a warranty with a minimum of additional effort required on the part of the unit with the equipment. At the same time, the same management system should be sophisticated enough to enable the warranty manager to:

(1) Inform users of the warranty of its existence and provisions.

(2) Know which units have been issued warranted items, and when.

(3) Know, when a warranty claim is made, whether the claim is honored by the manufacturer and, if not, whether the refusal is disputed.

(4) Know, when a warranty claim is honored, what repair parts were required and the amount of labor involved in the repair. Failure to maintain such records, at least on the quantity and type of parts used in warranty claim actions, will result in an information void when the warranty period ends and the military supply and maintenance system must fully support the equipment. Without the repair parts demand data accrued during the warranty period, the materiel manager cannot know what, and how many, repair parts to acquire and the unit's maintenance support organization cannot know the type and quantity of repair parts to stock.

c. A problem peculiar to the military revolves around the practice of placing newly acquired equipment items into depot storage. If the new item is warranted, it is normal that the warranty period starts when the Army officially accepts it. If the item then goes into depot storage, it is possible for the warranty to expire before it is issued to a using unit. It is not uncommon, therefore, for the military services to negotiate a "grace" period when acquiring a warranty. The M915 truck series warranty, for instance, included a clause which allowed an individual truck to remain in the depot for up to six months before the warranty began to run. If the vehicle was issued before six months had elapsed, the warranty started when the using unit received it. But even a six-month grace period proves to be too short. A message from US Western Command (WESTCOM) complained that the M915 series vehicles were being issued in Hawaii with only a short period of the warranty remaining in force. The vehicles had remained in storage beyond six months and the warranty period

commenced running; some warranties were close to lapsing before the equipment was released for issue. The PMO for the M915 series vehicles recognizes this and is attempting remedial action. Specifically, the PMO is trying to increase the depot grace period from six to nine months. Although this action would not entirely correct the situation experienced by WESTCOM, it would help and is a step in the right direction. Another possible solution may be to control and schedule issues from depots more closely.

5. Management of Warranties.

a. The number of reports and studies published which criticize the Army for its ineffective management of warranties is rather large. They detail incidents where contracting officers refused commercial warranties, even though the refusal produced no reduction in cost, and others where units were issued warranted equipment but never made a warranty claim. The Army has recognized the need to focus management attention on the acquisition of warranties and the exercise of the warranties that have been acquired. It is also recognized that any warranty management system must be kept simple. There are two basic reasons for this. First, any management system developed will cost the implementing organizations something in terms of time, manpower and resources--to include dollars--to institute. The more complicated the warranty management system, the more costly it will be to operate. This is simply because each activity involved in the management system must devote time and resources, and the amounts of each needed will depend on what records and reports are required. It would be easy to develop a warranty management system which would cost more to institute than the use of warranties could save; and the warranty management system will be superimposed on existing requirements with no increase in resources for the organizations that must implement it. The more demanding and burdensome the system, the more probably it will be resented and resisted. The Army warranty

regulation, AR 702-13, requires both the acquiring command and the using command to manage warranties.

b. The "acquiring Army command or activity" is normally thought to be one of the DARCOM readiness or development commands. It must be remembered, however, that other commands and activities do make procurements also. For example, medical equipment is purchased through the Surgeon General channels; and installations--that is, posts, camps and stations--make significant acquisitions of commercial appliances such as washers, dryers, dishwashers, lawn-mowers and the like. Whichever command does procure warranted equipment, AR 702-13 places the following requirements on it. The organization must:

(1) Comply with the DAR.

(2) Determine the benefits versus the liabilities of buying a warranty.

(3) Develop methods of exercising the warranty.

(4) Provide the necessary information and data to the user for him to exercise the warranty.

(5) Manage and monitor use of the warranty.

(6) Provide for easy identification of warranted materiel.

(7) Maintain records of the equipment and terms of coverage and the contractor performance record.

(8) Resolve warranty claim disputes.

(9) Monitor the warranty program to determine return on investment, isolate problems or deficiencies, and insure that the government is not improperly billed for warranty work performed by contractors.

(10) Provide feedback to the user on status of the warranty program, common problems, resolved problems, and specific corrective actions.

c. In two of the three DARCOM readiness commands contacted, the organization was trying to establish a single manager for all warranted equipment

which they acquire. The third was making no attempt to manage warranties. Neither of the commands which has tried to establish a management system has completely succeeded.

(1) In the case of TACOM, the warranty manager has not been able to compile the necessary listings of equipment under warranty--i.e. serial number, USA number, warranty start and stop dates, location, owning unit and a record of warranty claim repairs and repair part usage. Without such listings, he is not able to manage warranties effectively simply because he does not know specifically which items are warranted, where they are, how long the warranty will remain in force, how often warranty claims are honored, or the type and quantity of repair parts used in warranty claim actions. Requests addressed to the materiel managers for these data and information have not produced satisfactory responses; the Materiel Management Directorate has determined that the effort required to provide the data and information would be too great without the provision of additional resources. TACOM deals with a variety of commercial vehicle fleets and usually will have a large number of warranties in effect at any given time. The specific number of effective warranties will vary as warranty periods expire and new warranties start up, but generally it seems to be larger than one man can handle effectively without computer assistance. The command is now in the process of developing a computerized system to assist in the management of warranties; when the automated system is ready to implement, the materiel managers will still have to provide the data and information, which the warranty manager has been requesting until now without success, for the system to be effective.

(2) The problem at TSARCOM differs somewhat. That organization also deals with a significant number of warranties, although apparently somewhat fewer than TACOM; and it also has designated an individual to be the warranty

manager. The warranty manager does keep abreast of the overall warranty picture, but he does not maintain the data/information pertaining to the individual TSARCOM equipment items under warranty. The command has developed and published a regulation, and other implementing directives, establishing a system to exercise warranties. However, the system is complex--it was described in paragraph IVA2--and seems to be seldom used. Interviews revealed that those within TSARCOM who receive and process warranty claims in accordance with the command warranty regulation had seen very few over the preceding year.

(3) CECOM does not manage warranties.

d. Warranty management at the acquiring command involves both aspects of handling warranties; that is, acquisition and their effective use.

(1) Acquisition is the first, and probably the most difficult, decision concerning warranties. Army policy states that warranties will not be acquired except when clear benefits will accrue through their use, or when commercial warranties are included in the unit price and the contractor will not reduce the price if the warranty is refused. The second issue is rather clear cut and can be resolved during contract negotiations. If a manufacturer will agree to withdraw the commercial warranty and give a commensurate reduction in the unit price of the equipment, the procurement team will have to decide whether the cost reduction is rational and fair. Since manufacturers normally hold warranty costs to be proprietary information not to be divulged, this decision will probably have to be a subjective one on the part of the procurement team. Deciding when to seek out a warranty, because it will be in the best interest of the service, is a knottier problem but one which also must be undertaken. Here the burden of proof is placed upon the acquiring command to show that a warranty clearly benefits the Army to the degree that Army policy should be overridden.

The procurement team must make this decision; the team composition is not fixed and will vary from command to command and by commodity items within commands. It is an informal grouping closely allied to normal staff actions and usually comprised of the procurement officer and interested personnel in materiel management--either the PM or the item manager, or both--quality assurance and maintenance. The key individual is the procurement officer, but he will seldom be in a position to determine when a warranty would be advantageous and will have to rely on others to provide the information and data upon which a decision can be based. Appendix I is a methodology designed to assist the procurement officer when he must decide whether a warranty must be, or should be, acquired. If a warranty is acquired, for whatever reason, the responsible warranty manager must insure that it is:

(a) In compliance with the Defense Acquisition Regulation and the Army Regulation.

(b) Properly reflected in the contract.

(c) Advertised to the field/users(warranty provisions and points of contact at the acquiring command and at the contractor.)

(2) Once a warranty is acquired and the equipment is placed into use, the acquiring command still has a role in the management of warranty claim actions. First, the warranty manager must serve as the point of contact for the users in the field whenever they encounter difficult problems or serious disputes arise. This enables him to keep abreast of the problem areas--thus, he can identify maintenance trends and recalcitrant dealers--and he can serve as the Army's single representative when dealing with the contractor. When it is time to renegotiate a contract, the warranty claim performance record is an important tool for the warranty manager to have availalbe. Additionally, each time a warranty claim action is performed, the warranty manager must be advised of the repair parts used and he should also be told of the amount of labor utilized. The

repair parts demand data becomes very important when the warranty expires and the Army must fully support the equipment; without it, the type and quantity of repair parts to procure could not be accurately computed. Data on the amount of labor used is less vital but would be useful wherever a "bill-back" provision (i.e., the using unit performs the warranty repair, and the government is reimbursed by the contractor) appears in the contract.

(3) The acquiring command, as noted earlier, can be one of the DARCOM materiel readiness or commodity commands, one of the other major subordinate commands with authority to procure specialized equipment--e.g. medical equipment, crytpological equipment--or an installation--e.g. Fort Benning, Fort Riley. In the conduct of this study, a commodity command and a materiel readiness command were visited; each had established a warranty manager. One command had placed the manager in the maintenance directorate, and the other in the quality assurance directorate. Both of the managers were dealing with large numbers of warranties, and neither was completely successful in managing them. One obvious reason was the quantity of warranties which the commodity or readiness command can acquire. The commands procuring specialized equipment probably acquire large volumes of warranties at times too. It seems that the management of warranties acquired by this type of command could be better accomplished by the materiel manager; that is, either the item manager or, if one exists, the project manager's office. To place responsibility for warranty management here would eliminate the problem of one person within the command trying to manage a potentially very large number of warranties and would place the responsibility for warranty management with the individual who is already charged with managing the equipment. The command would still want to designate an individual to monitor warranty management and ascertain that none of the materiel managers are ignoring warranties. The latter individual would have a manageable job, and the materiel manager would

simply be dealing with another aspect of his equipment. The materiel manager can ascertain that the warranty provisions are included in the contract--through coordination with the procurement officer--and he can insure that the warranty provisions are made known to the field and are included in the equipment's documentation; he is also in position to collect and properly use demand data to insure that the required repair parts are procured when the warranty has expired. At the installation level, the volume of local purchases is such that a single individual should be able to manage warranties and comply with the requirements established in AR 702-13.

e. Warranties must also be managed at the using commands. Various studies and reports examining the Army's management of warranties noted numerous instances where units with warranted equipment ignored the warranties completely. There seem to be two common reasons for this failure to exercise warranties. In some cases the using unit did not know that the warranty existed, or did not know how to exercise the warranty. In others, the using unit decided not to bother with the warranty because it was deemed to be more trouble than it was worth. Obviously, the first thing that must be done to insure that warranties can be exercised is to be certain that all involved know that the warranty exists and know what must be done to exercise it. Then, to encourage its use, the unit must be convinced that the warranty, if used, will at least benefit the Army, or better yet, the using organization. And the warranty should be simple to exercise. Extra paperwork and other additional maintenance requirements tend to discourage use of the warranty.

(1) The MACOM--e.g. FORSCOM, DARCOM--is directed by AR 702-13 to assign an office the responsibility of administering warranties; the regulation directs that the responsible office will establish and coordinate instructions for implementing warranties; coordinate warranty actions between its activities, contractor

representatives, and the acquiring organization; maintain a record of equipment covered by warranty, contractor warranty repairs, repair parts demands, and performance; and report warranty data and actions in accordance with published instructions. The MACOM is also directed to provide advice on the warranty program as requested, apply warranties as instructed, and recommend corrective action when prescribed procedures prove to be burdensome or incorrect. With this regulatory charter, the MACOM could organize a staff cell to manage warranties, but this would neither be wise nor is it envisioned. Such action would interpose another staff level into the warranty management system, with its attendant requirements, without any great benefits accruing. Nevertheless, the MACOM must be assured that warranties are not just ignored, and regulations do direct that warranties be managed; therefore, a warranty manager must be established. A logical, and simple, solution would be to designate an individual as the warranty manager at the MACOM and require that he review and approve the warranty management plans of each installation under the MACOM control. The MACOM warranty manager must also be assured that the approved installation plans are implemented; this could be accomplished through use of a command inspection or assistance team, as is now done at TRADOC and FORSCOM. By such means the MACOM could fulfill the requirements of AR 702-13 without creating a costly management system. At Appendix H is a proposed addition to paragraph 7e (MACOM Responsibilities) AR 702-13; it states that the MACOMs are responsible to review and approve installation warranty management plans, and to conduct occasional inspections to see that the plan is in force and functioning.

(2) Warranty management at the installation, or using unit, level is key to the effective control of warranty use. Units at the installation with warranted equipment will vary frequently, and, consequently, so will the number of units with warranties to exercise. Many of the units will be less than enthusiastic

about exercising warranties; it requires extra effort to make a warranty claim and often to do so does not directly benefit the user. At this level, a single warranty manager for the installation can produce several advantages. He can focus attention on the warranty, inform the uninformed, and encourage the unenthusiastic to make use of warranties. He becomes the single point of contact for the users, the contractor or his representative, the materiel manager, the MACOM warranty manager, and any other interested party. He will have an overview of the various warranty programs ongoing at the installation. Thus, it will be possible for him to identify equipment failure trends, unresponsive units, unresponsive dealers, and related problems. He can speak to recalcitrant dealers with a louder voice than the unit commander, and he is a closer and less abstract presence to the reluctant unit commander than the MACOM warranty manager would be.

(a) The installation warranty manager would best be assigned to the Directorate of Industrial Operations (DIO). In CONUS, the DIO has a maintenance division which is responsible for the initial technical inspection of newly issued, or purchased, items of equipment. If the warranty manager were assigned to this division--as he in fact is on some installations now--he can identify and start a record on each warranted item as it is received. The warranty record should list the warranty provisions and the effective period of coverage, the identifying serial numbers and USA number, and any warranty repairs made to include repair parts used and the amount of labor involved. The DIO maintenance division is also in a better position to perform the required warranty services than is the using organization and it should do so. With only one activity performing all of the installation warranty work, it will become well versed in the procedures required by the Army and the contractors. This, in itself, should result in greater efficiency. Today there are Army posts--Fort Lee and Fort

Eustis are two of them--which require the DIO maintenance division to perform warranty functions for the units making a warranty claim. The unit need only prepare DA Forms 2407 and 2404, as directed in the TM 38-750 chapter on warranty claims, and deliver them with the equipment item to the maintenance division. The appropriate DIO maintenance section will determine whether the warranty claim is valid and will deliver and retrieve the equipment from the dealer. If the claim is not deemed valid, the equipment will be repaired by DIO and the using unit will be charged, or it will be returned to the unit for repair, depending on the level of maintenance required. If the equipment is large, unwieldy, or otherwise difficult to handle, the maintenance division will send a mechanic to the unit to assess the validity of the warranty claim and arrange for the dealer to send personnel to perform the warranty claim actions required. When the equipment is ready for pickup at the dealer, the DIO maintenance division will retrieve it; the mechanic who recovers the item can perform a post-repair inspection on the spot. If the item is a vehicle, the required road test is performed on the way back to the post. By the time the item is back to the DIO, it is ready to be picked up by the using unit.

(b) Such a system is very satisfactory to the using unit. If a valid warranty claim is thought to exist, completion of a couple of simple forms and a phone call to the DIO warranty manager constitute the administrative actions required by the using unit to initiate a warranty claim. All other actions, except delivery to and retrieval from DIO, are performed by the maintenance division.

(c) The installation warranty manager must require the dealer to provide data on repair parts and labor used on each warranty repair action. In addition to maintaining these data, they must be provided to the materiel manager and to

the using unit; the repair parts demand data are necessary to determine repair part requirements to support the equipment when the warranty period has expired and the military support system must keep it operational. The lack of such demand data when the M880 warranty period lapsed resulted in inadequate Authorized Stockage Lists/Prescribed Load Lists (ASL/PLL) in support of that equipment series initially. Also, the installation warranty manager must establish a rapport with the various dealers/manufacturer's representatives, solve disputes with dealers, report insolvable warranty disputes to the appropriate commodity command representative, and establish contact with the MACOM warranty manager and the manufacturer's warranty representative.

(d) At Appendix G is a proposed change to AR 702-13 which directs the installation to establish a warranty manager within the DIO at all CONUS posts, camps, and stations and which directs the maintenance division to perform warranty claim actions as described in the preceding portions of this paragraph. Many overseas installations do not have maintenance divisions within the DIO; any warranty management system established in theaters outside of CONUS (OCONUS) will have to modify this plan to reflect local conditions. Thus, OCONUS theaters may each establish a different system to manage the use of warranties, or DA may direct that a single system of management be established. If the latter course is adopted, this could best be done through a cooperative effort of the OCONUS theaters.

e. Appendices D, E, and F are flowcharts designed to graphically depict the rationale and methodology discussed in the preceding paragraphs. Appendix D sets forth the rationale followed by those who would acquire warranties. The flowchart depicting the process used at the acquiring command--e.g., TACOM, The Surgeon General--differs from that used at the installation. This reflects the

fact that the acquiring command may actively seek a warranty, whereas at the installation level a warranty is acquired because it is normal commercial practice to offer one with the type equipment to be procured. Appendices E and F depict the rationale recommended in the exercise of warranties, with Appendix E looking at the planning function at the installation level, and the overview and approval function of the MACOM--e.g., FORSCOM, USAREUR. It also depicts the initial receipt of equipment at the installation level. (Note that where the flowcharts indicate "deliver equipment and/or pick-up equipment" it must be understood that when dealing with very large items the warranty manager may have to go to the equipment location.) Appendix F looks at how a warranty claim would be exercised at the installation level and depicts the warranty manager's rationale when processing a warranty claim. The chart indicates that if the claim is valid, the equipment will be delivered to the dealer. Finally, the warranty manager should perform a simple cost-benefit analysis on each item on which a warranty is to be exercised. This must be a subjective consideration of known factors using informed judgment. If it is deemed cheaper in terms of cost, or more advantageous in terms of readiness to make the needed repairs within the maintenance division and the terms of the warranty allow the user to make the repair, the warranty claim should be ignored. A rather common example of this can occur when the warranted part is inexpensive and easy to replace and the dealer is located a long distance from the installation. The warranty manager would check to be certain that he would not expend more in fuel costs than he could save with free replacement of the repair part by the dealer.

6. Implementation of AR 702-13. The regulation was distributed in February 1981 with instructions printed on the first page directing the MACOM to supplement it and furnish a copy of the supplement to HQDA. The response from the MACOM has been varied. TRADOC has informed DA that it will not supplement the regulation

but will publish articles in the TRADOC Logistics Bulletin and a warranty checklist was added to the Command Logistics Review Team's areas of evaluation. DARCOM plans to publish a supplement, but as yet has not. This fact, coupled with the limited distribution of the AR (Distribution level E) accounts for the lack of knowledge about AR 702-13 at the DARCOM commands visited. FORSCOM planners have yet to see the regulation; consequently, have done nothing; however, the FORSCOM Logistics Assessment and Assistance Team (LAAT) does evaluate warranty use on its visits. In addition, the Military District of Washington and US Army Japan have published a supplement to AR 702-13. The Eighth US Army (EUSA) in Korea did not receive the regulation until June 1981 and had not yet supplemented the AR in November, but the command had already established a warranty program in May 1980 with publication of EUSA Circular 750-1. The Military Traffic Management Command (MTMC) and US Army Western Command (WESTCOM) each report that they are developing a command supplement. The US Army Communications Command (USACC) reported that it was deciding whether a supplement was needed. Like TRADOC, the US Army Health Services Command and the US Army Intelligence and Security Command will not publish a supplement to the AR. US Army Europe and 7th Army has not yet responded to the DA request for a supplement. Finally, the National Guard Bureau (NGB), which was excluded from distribution of AR 702-13, has pointed out that the regulation does apply to that component, and the NGB requests that the distribution of the AR be amended to include the National Guard. The request is valid; the NGB noted that the M915 truck series, which is warranted, is being issued to National Guard organizations.

VI. Conclusions.

A. The Army warranty regulation is not yet widely known or used by those who procure or who use warranted items. This is because the regulation was not distributed below DA MACOM level.

B. In the organizations surveyed, the acquisition of warranties is not being managed adequately. In the instances that warranty management systems have been developed by acquiring commands, they are not effective.

C. DA interest in warranty management has caused the Command Logistic Review Team (CLRT) at LEA and TRADOC, and the Logistics Assessment and Assistance Team (LAAT) at FORSCOM, to include the subject as an item of special interest on their visits. This, in turn, has resulted in increased attention to warranties at the visited installations and the development of effective systems to manage warranty use at many of the installations.

D. Warranty management systems can benefit the Army. A system which insures that a warranty is acquired only when it will benefit the service--or when it is an unavoidable part of a commercial item package--and that then insures that the warranty is widely publicized, is included in the technical publications, and insures that the warranted items are clearly marked to provide warranty data to the user, will do much to promote exercise of the warranty by the using units. Likewise, a management system to encourage use of the warranty, when appropriate, can serve to decrease the resources spent by the units on repair of the warranted equipment when valid warranty claims exist. The failure to take advantage of warranties does waste funds in that every warranty acquired did cost the Army something to procure.

E. The number of warranted items which a major acquiring command (e.g., TACOM) must manage is potentially great and can exceed that which a single manager could manage efficiently. The materiel manager, i.e. the project or the item manager, should be the individual responsible for management of any warranties on his equipment, with the acquiring command appointing a single administrator to insure that warranties are managed properly.

F. Warranty use should be managed centrally at each installation, and the warranty manager at the installation level should be the focal point in the system to exercise warranties. The DIO, which now receives, inspects, accepts, records and arranges delivery of newly issued equipment, should establish the warranty manager. The MACOMs should perform a supervisory role only in warranty management.

G. In CONUS, the DIO maintenance division should perform warranty services to include validation of the warranty claim, coordination with the dealer/contractor's representative, settlement of disputes or escalation of unresolved disputes to the acquiring command or the manufacturer for resolution, delivery/retrieval of equipment to/from the dealer, acquisition of repair parts usage and labor usage data from the dealer and provision of such data to the acquiring command warranty manager (i.e., PM or item manager) and the using unit. OCONUS, a similar system should be employed based on local organization.

VII. Recommendations.

A. Army Regulation 702-13 be distributed at least to the level of major acquiring commands and installations.

B. Warranty programs at major acquiring commands be managed by individual materiel managers, i.e., PM or item managers, handling warranted equipment.

C. The proposed addition to paragraph 6, AR 702-13, at Appendix G be approved; the addition establishes a warranty management system within the DIO at the installation level.

D. The proposed addition to paragraph 7e, AR 702-13, at Appendix H be approved; it restricts the DA MACOM role in warranty management to the review, approval and monitoring of the installation plans.

E. The proposed warranty acquisition decision process at Appendix I be approved.

APPENDIX A

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APPENDIX B

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AAA	US Army Audit Agency
APRO	US Army Procurement Research Office
AR	Army Regulation
ARRCOM	US Army Armament Materiel Readiness Command
ASL	Authorized Stockage List
AVRADCOM	US Army Aviation Research and Development Command
CECOM	US Army Communications and Electronics Command
CLRT	Command Logistics Review Team
CLRT-X	Command Logistics Review Team - Expanded
DA	Department of the Army
DAR	Defense Acquisition Regulation
DARCOM	US Army Materiel Development and Readiness Command
DIO	Director of Industrial Operations
EUSA	Eighth US Army
FORSCOM	US Army Forces Command
GAO	Government Accounting Office
HQDA	Headquarters, Department of the Army
LAAT	Logistics Assessment and Assistance Team
LEA	US Logistics Evaluation Agency
MD	Maintenance Directorate
MMD	Materiel Management Directorate
MRSA	US Army DARCOM Materiel Readiness Support Activity

MTMC	US Army Military Traffic Management Command
NGB	National Guard Bureau
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
PLL	Prescribed Load List
PM	Project/Program Manager
PMO	Project/Program Manager Office
RIW	Reliability Improvement Warranty
SOP	Standing Operating Procedure
TACOM	US Army Tank-Automotive Command
TM	Technical Manual
TSARCOM	US Army Troop Support and Aviation Materiel Readiness Command
UIC	Unit Identification Code
USACC	US Army Communications Command
WESTCOM	US Western Command

APPENDIX C

EXTRACT

AR 702–13

* * * * * * *

7. Responsibilities. *a. Deputy Chief of Staff for Logistics (DCSLOG).* DCSLOG has General Staff responsibility for the implementation of the Army warranty program. DCSLOG will insure that the program complies with guidance from the Office of the Secretary of Defense and Congress, and with DA objectives.

b. Deputy Chief of Staff for Research, Development, and Acquisition (DCSRDA). DCSRDA has General Staff responsibility for acquisition activities.

c. The Surgeon General (TSG). TSG will establish procedures for reporting warranty actions for medical equipment.

d. Acquiring command or activity. The command or activity acquiring an item and warranty will—

(1) Comply with the Defense Acquisition Regulation and this AR.

(2) Determine the benefits and liabilities of each individual warranty application. (The results will be used to support the acquisition decision for that warranty.)

(3) Develop, in coordination with the major command and user, methods of putting warranties into effect.

(4) Provide the necessary data and instructions to the user on putting individual warranty programs into effect.

(5) Manage and monitor the use of warranties it acquires.

(6) Provide for the easy identification of warranty materiel.

(7) Maintain a record of—

(*a*) Items covered by each warranty with the terms of the warranty.

(*b*) Contractor warranty repairs and performance.

(8) Resolve warranty claim disputes.

(9) Monitor the warranty program and individual warranties to—

(*a*) Determine the return on warranty investment.

(*b*) Isolate problems or deficiencies.

(*c*) Insure the Government is not billed for contractor service costs when these costs are part of a warranty.

(10) Provide feedback to the user on—

(*a*) The status of individual warranty programs.

(*b*) Common implementation problems.

(*c*) Resolved hardware problems.

(*d*) Corrective actions identified to specific problems.

e. Using command or activity. The MACOM assigned the item for use and applying the warranty will—

(1) Assign an office to be responsible for administering all warranties. This office will—

(*a*) Coordinate and establish instructions for implementing warranties.

(*b*) Coordinate all warranty actions between its activities, the local dealer or manufacturer, and the acquiring command or unit.

(*c*) Maintain a record of items covered by each warranty; and contractor warranty repairs, repair parts demands, and performance.

(*d*) Record and report warranty data and actions according to published implementation instructions.

(2) Provide suggestions or advice on the scope and methods of implementing a warranty program, as requested by the acquiring command or unit.

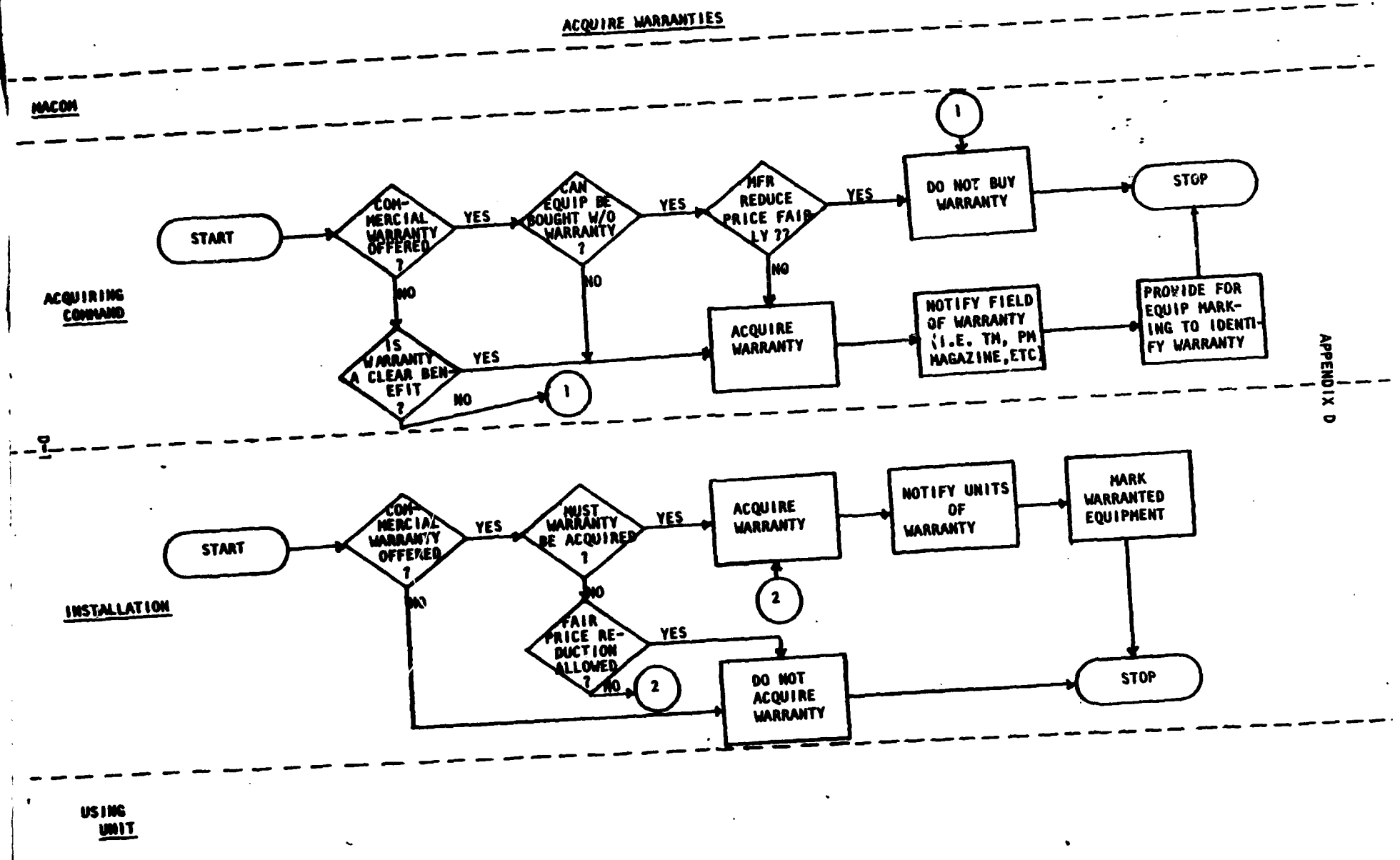
(3) Apply warranties according to published implementation instructions.

(4) Recommend corrective action to the acquiring activity when—

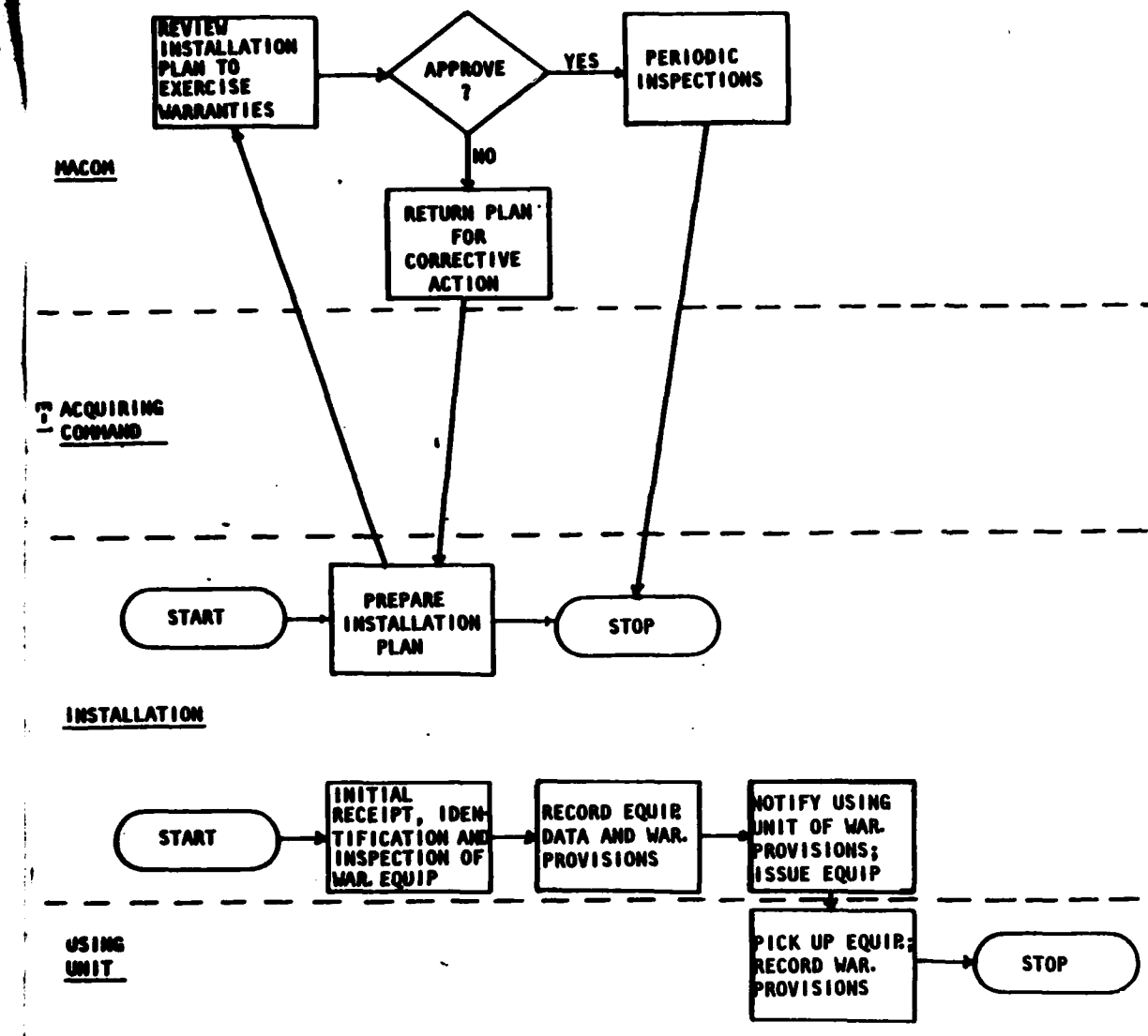
(*a*) Published implementation instructions fail to secure satisfactory results, or;

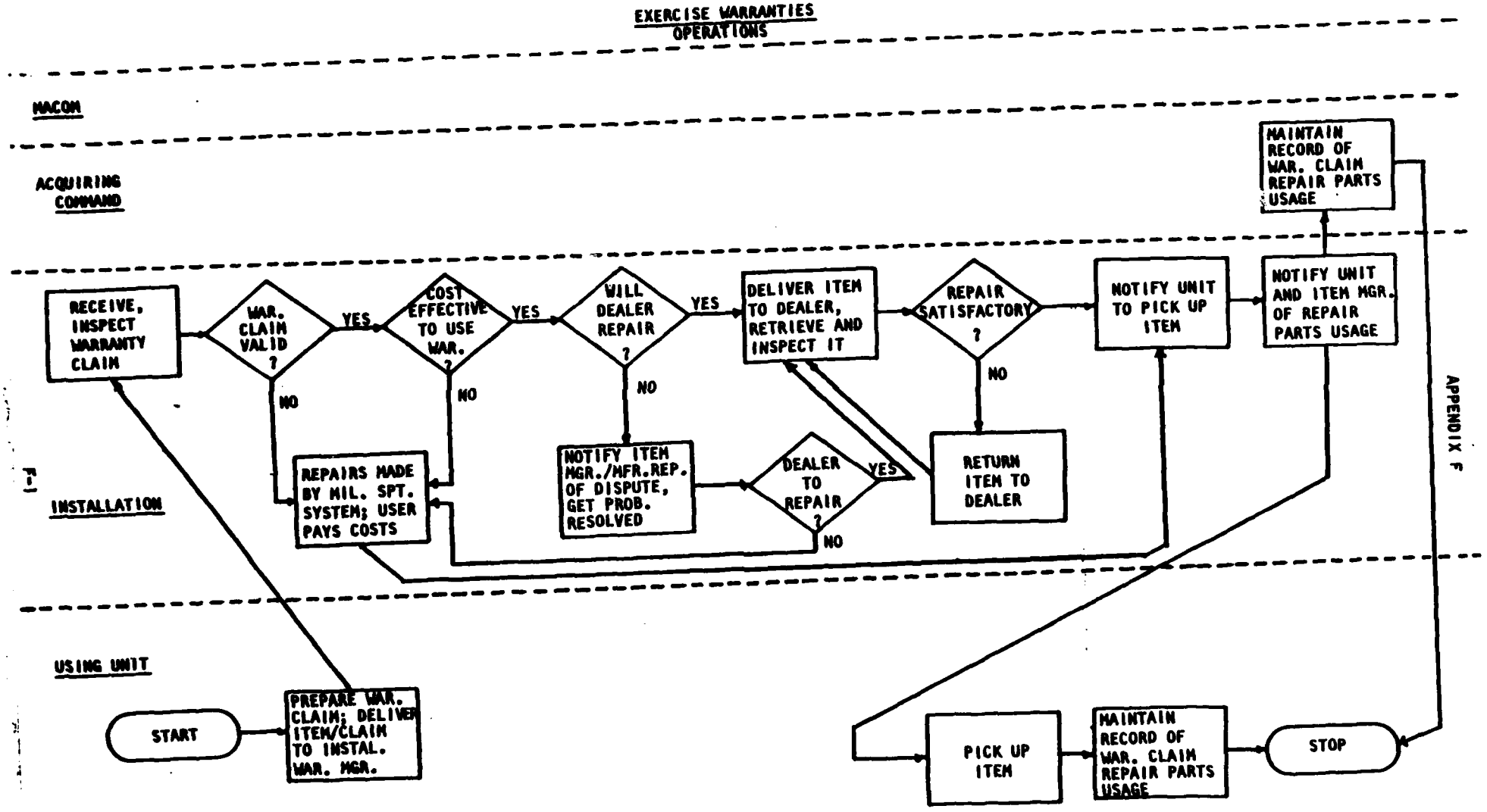
(*b*) Prescribed procedures result in administrative burdens for using or supporting units.

ACQUIRE WARRANTIES



EXERCISE WARRANTIES
PLANNING AND MATERIEL RECEIPT




EXERCISE WARRANTIES
OPERATIONS
MACOM
ACQUIRING COMMAND
INSTALLATION
USING UNIT
RECEIVE, INSPECT WARRANTY CLAIM
WAR. CLAIM VALID ?
YES
NO
COST EFFECTIVE TO USE WAR. ?
YES
NO
WILL DEALER REPAIR ?
YES
NO
DELIVER ITEM TO DEALER, RETRIEVE AND INSPECT IT
REPAIR SATISFACTORY ?
NO
NOTIFY UNIT TO PICK UP ITEM
NOTIFY UNIT AND ITEM MGR. OF REPAIR PARTS USAGE
MAINTAIN RECORD OF WAR. CLAIM REPAIR PARTS USAGE
REPAIRS MADE BY MIL. SPT. SYSTEM; USER PAYS COSTS
NOTIFY ITEM MGR./MFR.REP. OF DISPUTE, GET PROB. RESOLVED
DEALER TO REPAIR ?
YES
NO
RETURN ITEM TO DEALER
START
PREPARE WAR. CLAIM; DELIVER ITEM/CLAIM TO INSTAL. WAR. MGR.
PICK UP ITEM
MAINTAIN RECORD OF WAR. CLAIM REPAIR PARTS USAGE
STOP
APPENDIX F
F-1

APPENDIX G

PROPOSED ADDITION TO AR 702-13, PARAGRAPH 6

6. Policy . . .

* * * * * * *

"g. Exercise of warranties:

(1) Within CONUS:

(a) The DIO Maintenance Directorate at each installation having warranted items will establish a warranty manager and will develop procedures to exercise warranties. The salient features of the warranty management system should be designed to make exercise of the warranty as simple and easy as possible for the using unit/activity.

(b) Included in the DIO warranty management system should be, as a minimum, provisions to:

1. Identify all warranted items upon initial receipt including those locally procured.

2. Record data necessary to manage warranties and provide repair part demand data to the acquiring command and the using unit/activity.

3. Verify that the instructions and information required to exercise a warranty are made available to the using unit/activity; i.e., identification of components warranted, the warranty period, and procedures required to exercise the warranty.

4. Establish contact with the warranty managers at the acquiring command, the appropriate MACOM, and with the local manufacturer's representative (dealer).

(c) To exercise a warranty, the using unit will complete a DA Form 2407 (see TM 38-750) indicating a warranty claim action, along with a DA Form 2404, and deliver the malfunctioning item and documents to DIO. DIO is then responsible to:

1. Determine validity of the warranty claim. If the claim is valid:

2. Press the claim with the local dealer.

3. Coordinate repair of the equipment with the dealer.

4. Deliver and retrieve equipment if it is repaired at the local dealer's facility.

5. Notify the acquiring command's warranty manager when unresolved warranty disputes arise.

6. Require the dealer making warranty claim repairs to furnish information showing parts and labor used.

7. Notify the using unit when the equipment is repaired and inspected.

NOTE: Where this procedure is impractical or infeasible, the DIO warranty manager will insure that the using unit/activity exercises warranties when appropriate; examples of activities which may have warranted equipment that cannot be easily delivered to DIO are hospitals, facility engineers, and post housing.

(d) The DIO warranty manager will determine if a warranty is to be exercised or not. This decision will be based primarily on a simple cost benefit analysis, the prime ingredient of which should be informed judgment. All pertinent factors must be considered (e.g., local availability of parts, location of the dealer, time required to make warranty repair, warranty provisions which prohibit repair actions by the user, etc.). Normally, if it would be cheaper in terms of cost or readiness to repair at the DIO maintenance shop than to invoke the warranty, the warranty claim should be ignored. Even if making local repairs would void the warranty, the DIO manager may decide to do so; he would ignore such a warranty where the resulting cost or readiness benefits would override those to be realized if it were to be exercised now and in the future.

(2) OCONUS: Overseas commands will establish a warranty management system in accordance with the provisions enunciated in this regulation and which parallels and encompasses the system features described in paragraph 6g(1), above, insofar as local organization and conditions will allow."

APPENDIX H

PROPOSED ADDITION TO AR 702-13, PARAGRAPH 7

7. Responsibilities . . .

* * * * * * *

e. Using command or activity. The MACOM assigned the item for use and applying the warranty will-- . . .

* * * * * * *

"(1) Insure that warranty management systems are established at the installation level in compliance with this regulation. MACOM supervisory responsibility extends no further than review and approval of the installation warranty program and occasional inspections to ascertain that the program is functioning well."

APPENDIX I

PROPOSED WARRANTY ACQUISITION DECISION PROCESS

1. The purpose of this process is to assist those who must decide when to acquire a warranty. It is understood that the individual using the document will vary in staff position (e.g., procurement officer, project manager, materiel manager), location (e.g., readiness command, installation) and in the item to be procured (e.g., truck, generator, washing machine). It is therefore general in nature. The individual using the process, in most cases, will not have the experience, training or information necessary to respond to all questions. He must avail himself of the expertise and information to be found within the headquarters. Most coordination will be with the materiel management, maintenance and quality assurance directorates, the cost analysis office, and the project manager if one exists.

2. The Army policy pertaining to the acquisition of warranties is clearly and precisely expounded in both AR 702-13, Army Warranty Program, and AR 700-9, Policies of the Army Logistics System. Briefly stated, warranties will not be acquired under normal circumstances. Exceptions to this policy are limited to two cases. These are:

a. When the piece to be procured is a commercial item normally sold with a warranty. Unless the manufacturer will agree to sell the item without the warranty and to reduce the item price accordingly, the warranty will be acquired.

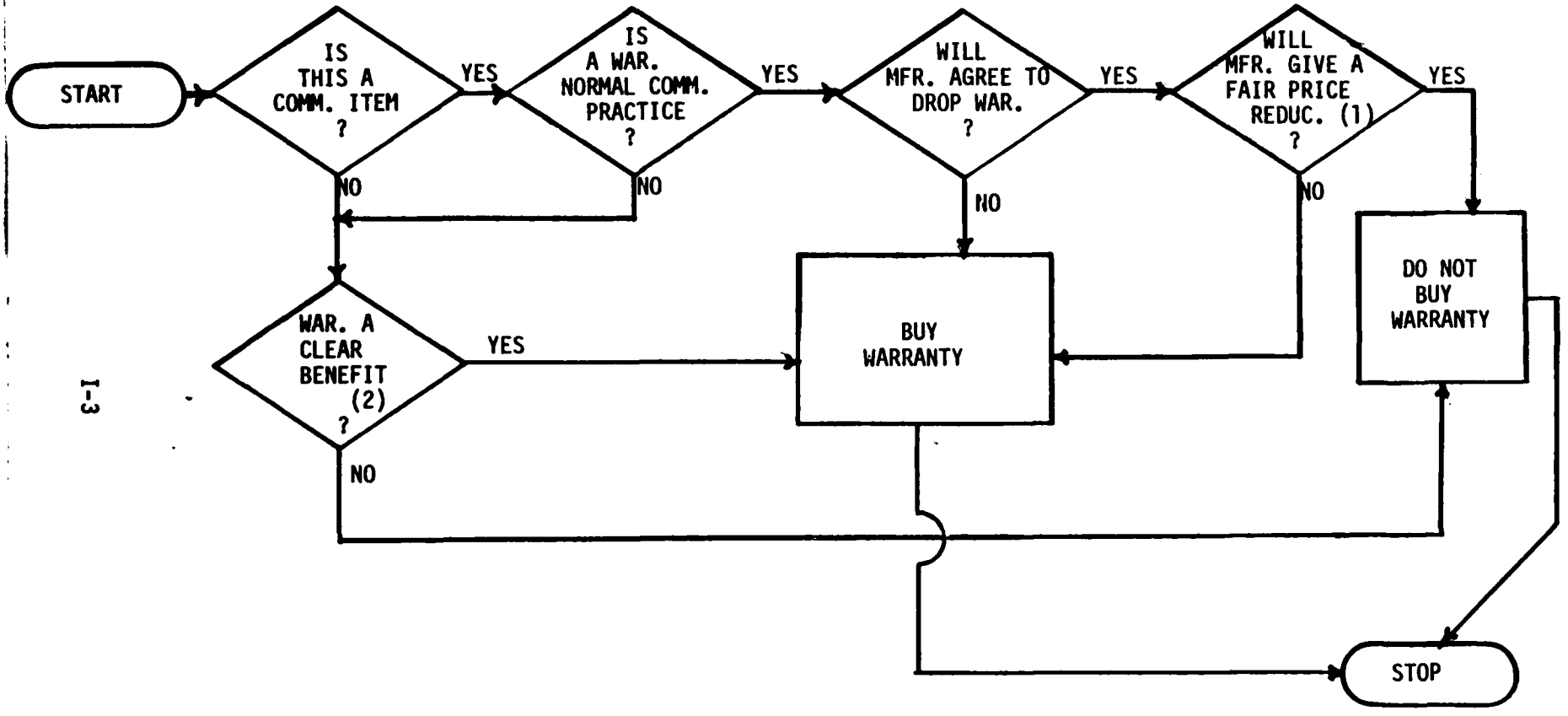
b. When it is clearly to the advantage of the Army or the government to acquire the warranty.

3. The decision to buy a commercial item with or without a warranty--when the warranty is an integral part of the item sales contract normally--should not be

very difficult to make. Unless a specific reason to keep the warranty exists, the procurement officer will try to remove it. If the manufacturer will sell the item without a warranty, the procurement officer must also negotiate a commensurate reduction in item cost. Since a warranty requires the manufacturer to assume additional risk, and since honoring the warranty will cost the manufacturer, the cost of the warranty always will be added into the contractual price. However, most manufacturers consider such cost and pricing information to be proprietary and will not divulge it. This means that if the manufacturer will reduce the unit price per item because the warranty is being withdrawn, the procurement officer will have to decide whether the reduction is fair. Without cost data, this will be a subjective decision based on informed judgment. If it is decided that the reduction in unit price is reasonable, the warranty should not be acquired. When procuring from a local dealer, rather than the manufacturer, a price reduction may be difficult to negotiate. Whenever it proves impossible to agree on a fair reduction in price for deleting the warranty, the warranty will be acquired. See Figure 1 for a graphic portrayal of this thought process.

4. Deciding when a warranty would be in the Army's best interest is a more complex undertaking. Two reasons may motivate one to consider acquiring a warranty: one would be to realize a cost savings and the other to achieve an increased readiness posture. Both possibilities must be considered.

a. Cost benefits will be difficult to determine under the best of conditions. Collecting accurate data on maintenance costs requires expert and knowledgeable judgment and collecting accurate data from the manufacturer requires luck. If the required data are made available, informed professional judgment is required to arrive at a correct decision.



(1) "Fair" price reduction must be a subjective decision based on knowledge of the item and the industry, and any data available.

(2) See paragraph 4.

FIGURE 1. ACQUISITION DECISION PROCESS

(1) In order to make a cost analysis to determine whether it would be cheaper for the Army to use a warranty than to maintain the item the following questions must be answered.

(a) Are maintenance cost data available?

1. Is this item already in the system with an established maintenance record? If not, is there a similar item fielded from which reliable cost data might be inferred?

2. Is it possible to identify and segregate costs associated with repairs which the dealer would perform as the result of valid warranty claims?

(b) Is it possible to determine, or to infer with a reasonable degree of accuracy, the cost of the warranty?

(c) Is it cheaper to acquire a warranty on the item than it is to maintain it using the Army's support system?

(2) When dealing with cost data, either a Cost-Benefit Analysis or a Commercial Activities Type Analysis will be required. To assist with this effort, the support of the Cost Analysis Office should be sought.

b. Readiness benefits may be easier to discern than cost benefits. A warranty may be desired to offset a perceived shortcoming in the item support system. If the item is vital to organizational effectiveness, the warranty may temporarily solve the support problem. It must be remembered that the warranty, in this case, would be a short term, stop gap measure taken to enable the Army to field an item while still perfecting the support system. The following questions are intended to examine the support developed to keep the fielded item operational. If any serious deficiencies are discovered, the warranty should be considered.

(1) Will adequate numbers of trained personnel be available within the organizations which must support the item?

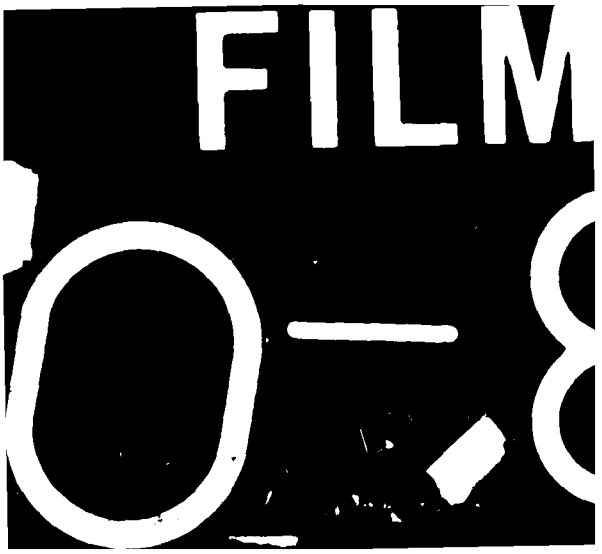
(2) Will adequate spares and repair parts be available to support the item?

(3) Will the necessary support equipment, to include test equipment, be available when and where needed, and in the proper amounts?

(4) Are special facilities required to support the item, and will they be available when and where needed?

(5) Will the technical data needed within the support organization to maintain and repair the item--e.g., the technical manuals, the technical bulletins, the lubrication orders--be published and distributed when needed? Are they complete, correct, and understandable?

5. Finally, remember that it is Army policy that warranties will not be acquired under normal circumstances. A warranty will be sought if it cannot be equitably removed from a commercial item, or if it will provide a definite benefit to the Army; the decision to acquire a warranty will be made only if the decision maker is convinced absolutely that one of the aforementioned conditions prevail.


FILM