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Current Document Handling Procedures at Defense Technical Information Center

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The Defense Technical Information Center (DTIC) is responsible for the collection control, and dissemination of scientific and technical information for the Defense community. Thousands of technical reports enter DTIC each year, and thousands of reproductions are distributed to DTIC's users. The processing of these reports is a complicated procedure, involving many steps and decisions. This paper tracks the document handling process that was in effect as of 1 September 1985, and comments on areas which could be improved.

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ABSTRACT

The Defense Technical Information Center (DTIC) is responsible for the collection, control, and dissemination of scientific and technical information for the Defense community. Thousands of technical reports enter DTIC each year, and thousands of reproductions are distributed to DTIC's users. The processing of these reports is a complicated procedure, involving many steps and decisions. This paper tracks the document handling process that was in effect as of 1 September 1985, and comments on areas which could be improved.

PURPOSE

This project had two purposes. The first was to describe DTIC's current technical report handling procedures, from the time a document is received until the first reproduced copy is shipped to a user. Each step of the process was studied, and the decisions made at each step determined. The length of time it takes for a document to be processed through each step was estimated. A flowchart of the entire process was developed. The study was done to provide a baseline for comparison when changes to DTIC's current document handling system are considered.

The project's second purpose was to examine the reproduction quality of the technical reports distributed by DTIC. This study was undertaken not to compare DTIC's document quality to that of any other mass producer of documents, but to provide a baseline for comparison with future document reproduction systems at DTIC.

INTRODUCTION

The Defense Technical Information Center (DTIC) is responsible for the collection, control, and dissemination of scientific and technical information for the Defense community. Every year, over 30,000 technical reports generated by Department of Defense (DoD) contractors and the DoD research laboratories are added to the Technical Reports (TR) Database on the Defense RDT&E (DROLS) system.[1] The database currently contains citations to more than 1.6 million documents. DTIC-registered users order over 350,000 documents each year; in addition they receive almost 800,000 reports by automatic distribution through the Automatic Document Distribution (ADD) program.[2] DTIC is constantly looking for ways to provide better, faster, and more cost-effective document services. This project was undertaken to provide a description of the present document handling system at DTIC, to be used as a baseline for comparison with other systems in the future.

Most of the information presented here was obtained through interviews with DTIC employees in all of the document handling areas. Standard Operating Procedures (SOPs) and other documentation were also consulted. The procedures and flow described in this paper are those that were in effect on 1 September 1985. Several changes were scheduled to take effect after that date.

Appendix A following this report is a flow chart of the technical report input process. Appendix B charts the flow of the document reproduction process.

DOCUMENT INPUT PROCESSING

RECEIVING AND DISTRIBUTION BRANCH

Documents enter DTIC through the mail room, which is part of DTIC-FPS, the Receiving and Distribution Branch. Clerks receive and distribute all incoming mail and documents. The mail room is a secure area, so documents are received through a locked door. Documents may be delivered by the United States Postal Service (Post Office), United Parcel Service (UPS), or Federal Express. The Post Office delivers DTIC's mail twice each day, UPS delivers it once each day, and Federal Express delivers its mail on a variable schedule.

Unclassified documents may be delivered by any of the three above systems. Twelve copies of each unclassified document are usually received, although fewer copies are often sent. Documents are stamped with the receiving date, assigned a mail room sequence number in the unclassified series (0 to 500), and then forwarded to DTIC-FDAC, the Document Selection Section. Extra copies of unclassified documents are held in the mail room until the DTIC accession number (AD number) has been assigned. The AD number is recorded on all extra copies, which are then sent to the storage area.

Classified documents are received only by registered mail from the Post Office. The registry numbers are recorded on a Postal Service (PS) Form 3883, which is delivered to DTIC along with the sealed bag of documents. Mail room clerks check off the registry numbers on the classified documents against the PS Form 3883. Discrepancies are reported to DTIC's Command Security Officer and the Post Office. One signed copy of the PS Form 3883 is returned to the Post Office. The other copy is filed at DTIC. Documents are stamped with the receiving date and a mail room sequence number in the classified series (501 or above). DTIC usually receives only two copies of

classified documents. Both copies are forwarded to the Selection Section. There they follow the same procedure as unclassified documents. If extra copies of classified documents are received, they are placed in a locked cage until the AD number has been assigned. At that time they are sent to storage, where they are also kept locked.

NATO secret documents are received with Defense Logistics Agency (DLA) Form 27, Classified Document Register and Receipt. At each stage of the process the person handling the document must sign the DLA Form 27 before sending the document forward.

Critical Nuclear Weapon Design Information (CNWDI) documents must be logged into a special book used only for these reports. Processing of these documents is the same as for other classified documents.

Documents enter and leave the Mail Room the same day.[3]

SELECTION SECTION

DTIC-FDAC, the Selection Section, evaluates whether or not a document should be included in DTIC's Technical Report (TR) Database. As documents are received from the mail room, they are separated by classification and assigned to analysts to be evaluated. If an analyst suspects a document may be a duplicate of one which has previously been selected, the TR Database and the Current File, which includes records not yet added to the TR database, are searched. If an unclassified, unlimited document is a duplicate, its AD number is recorded on the cover and all copies are sent to the National Technical Information Service (NTIS) for storage and dissemination. Classified or limited duplicate documents are destroyed. Non-duplicates continue through the selection process.[4]

Document source, subject, and technical contents are considered in the selection analysis. The criteria are broad enough that most reports containing research, development, test, or evaluation information from DoD activities or their contractors are selected. Reports which contain mainly administrative data are not selected, nor are reports readily distributed or available for sale by other sources, unless the reported research was jointly funded by DoD.[5] Documents generated by the National Air and Space Administration (NASA), the National Science Foundation (NSF), the National Institutes of Health (NIH) and the Department of Energy (DOE), are examples of documents which would not be selected, unless the research was a joint effort.

When a document is selected, the analyst's initials and the selection date are stamped on its cover and title page. The distribution statement assigned by the originator or military sponsor is then reviewed for correctness. If the statment is incorrect or missing, the analyst contacts

the document's submitting activity requesting that a distribution statement be returned to DTIC within ten working days, preferably in the form of a letter. The document is withheld from further processing until the distribution statement is assigned. The correct distribution statement is stamped on the cover, the title page, and/or the DD Form 1473, Report Documentation Page, which accompanies each document. If a distribution statement is not received within 30 days, the document is returned to the submitter.

Each document is checked for completeness. A document with missing pages is withheld from further processing until a replacement copy or the missing pages are obtained. The document is also examined for inclusion of color plates. If the document does contain color plates, the cover, title page, and/or DD Form 1473 is stamped "Original contains color plates. All DTIC reproductions will be in black and white."

Each document is next examined by the quality control specialist from the copy preparation section. A decision on the document's legibility and reproducibility is made. If a document contains a few pages which are illegible, those pages are stamped "Best available page." A document which is 15 percent illegible is stamped "Original copy was of poor quality. Best possible reproduction from a copy furnished." If the copy is over 15 percent but less than 50 percent illegible, a legibility disclaimer notice is placed in the front of the document and is photographed as part of the document. Documents which are 50 percent or more illegible are treated on a case by case basis. Some have the disclaimer notice added and are available in microfiche copies only. Others are rejected and the originating activity is requested to provide a legible copy. Documents received in microfiche only are also reviewed for legibility by the the quality control officer. A

microfiche reader is kept in the Selection Section for this purpose. Documents which will not be available for distribution by DTIC (such as those for sale by a commercial publisher), are added to the TR Database for announcement purposes only.[6]

Infrequently a document is not selected for inclusion in DTIC's TR Database. When this does happen, the submitter or sponsoring agency is notified and the reasons for rejection given. All copies of the document are returned to the submitter, or if the submitter does not want them returned, the copies are destroyed by DTIC.

Before any document is passed to the next processing stage, a final review is made to ensure that no errors or omissions have occurred in the selection process. The document is then sent to DTIC-HDB, the Bibliographic Database Branch, for cataloging.

The selection process can take as long as four weeks.[7]

BIBLIOGRAPHIC DATABASE BRANCH

In the Bibliographic Database Branch, pertinent identifying information is gleaned from the technical report or its DD Form 1473. Documents are divided into stacks, each containing unclassified and classified reports. Each cataloger randomly chooses a stack on which to work. Every document is checked to see if it is a duplicate of a report already in the system. This check is more systematic than the duplicate check done in the Selection Section, which is done only if the selecting analyst remembers seeing that document pass through the system. Both the Current File and the Technical Report Database are searched. If a document is found to be a duplicate, its AD number is recorded on the cover. Unclassified, unlimited documents are sent to NTIS for storage and dissemination. Classified or limited duplicate documents are destroyed. Non-duplicates continue through the system.[8]

The document's corporate source is checked against the Source Header List to find its source code number. The Source Header List is a compilation of all corporate sources which have contributed reports to DTIC's Technical Reports Database or other databases. Each corporate source is assigned a source code number, which is input when the document is cataloged. Documents from sources not found in the Source Header List are sent to the Source Authority area for verification and/or assignment of a source code. After the source code has been determined, the document is assigned an AD number according to the distribution/availability of the document.

Unclassified, unlimited reports are assigned ADA numbers; unclassified, limited reports receive ADB numbers; and classified reports receive ADC numbers. A few documents enter the system with pre-assigned AD numbers. Documents cataloged by organizations who participate in the Shared Bibliographic Input Network (SBIN) have been assigned either an ADE or ADF

number. These numbers are changed by DTIC to ADA, ADB, or ADC numbers, depending on the classification of the documents. These documents are duplicate checked. Special AD number series are also reserved for documents that are input by the Information Analysis Centers (IACs). Compilations, such as proceedings from a conference, have an AD number assigned to the entire document. The number depends on the overall classification of the document. Each individual paper within the compilation may be assigned an ADP number, depending on the approval of the contributor. This allows separate distribution of the individual papers.

After the AD number has been assigned, the document is cataloged. Descriptive information is recorded on a DTIC Form 41, Document Data Worksheet (see Appendix C for a sample), then entered into DROLS on the Current File, using the Remote Terminal Input System (RTIS). When the pertinent information is available, it is entered into fields 1-22, 29, 33, 34, and 35 for all documents. Fields 31, 32 and 37-39 pertain to classified documents. Field 30 is used by the Bibliographic Database Branch for documents which are translations or reprints of journal articles. Field 31 is used for special coding on WNINTEL, CNWDI, and other special classified documents. Data on classified reports are reviewed by a senior cataloger to ensure correctness. If errors are found, the document and DTIC Form 41 are returned to the original cataloger for corrections. The cataloging of unclassified reports is not reviewed by the Bibliographic Database Branch.

Before the document leaves the Bibliographic Database Branch, the in-house Acquisition-Selection (AQ) Database is checked. When the Reference Section receives a request for a document that is not in DROLS, the request is forwarded to the Acquisition Section where pertinent information is entered into the AQ Database. The Acquisition Section then contacts the

document's source and requests that a copy be sent to DTIC. When one of these documents is processed through the Bibliographic Database Branch, and found on the AQ Database, a printout is generated and the assigned AD number recorded on the printout. The printout is then forwarded to the Acquisition Section, where it is noted on the AQ Database that the requested document has been received. The request is returned to the Reference Section, where the document order is put into the Document Order File, from which the order will be filled. Only current documents are checked on the AQ Database. Older, unannounced documents are not checked.[9]

Compilations, such as proceedings, which have multiple reports under one cover, are cataloged as a unit, and each report is also cataloged separately, if it has been assigned an ADP number. Foreign papers in a compilation are not cataloged separately; therefore, they are available only in the compilation. Each report in a compilation must have its own distribution statement. There can be unclassified reports in a classified compilation.

Current documents are usually processed through the Bibliographic Database Branch a day or so after they are received from the Selection Section. Older, unannounced documents may be put aside for an extended period of time, until a lag occurs in current document receipts. Once the AD number is assigned, a document is usually cataloged the same day, or the next, and then it is sent to DTIC-HAS, the Subject Analysis Branch. Documents and their DTIC Forms 41 are transferred from the Bibliographic Database Branch to the Subject Analysis Branch each day in the late morning.

SUBJECT ANALYSIS BRANCH

The Subject Analysis Branch indexes and abstracts documents, and assigns COSATI fields and groups to them. Classified documents are logged in on DTIC Form 24, AD Accountability Record, or DTIC Form 24A, AD Accountability Record for Secret - CNWDI Documents (TAB/Unannounced). The branch chief separates the documents by subject area, and assigns them to subject analysts for abstracting.

Most documents have an author-written abstract. For those which do not, the analyst selects an abstract from some part of the summary, introduction, conclusion, or contents. The analyst then "verbalizes" the abstract for machine-readability. This involves converting symbols to word-equivalents or changing formulas with superscripts or subscripts to a form all on the same line. The analyst also spells out the complete words represented by acronyms, and inserts them after the acronym in the abstract. At the end of the abstract, the analyst adds author-assigned key words or other posting terms so that they will be picked up by the Machine-Aided Indexing (MAI). The document and DTIC Form 41 are then given to a data transcriber, who keys the abstract into the Current File, using RTIS. Each night, the computer machine-indexes that day's input of titles and abstracts. The computer does word and phrase recognition by comparing the title and abstract to a recognition dictionary containing 130,000 words. The title, abstract, and machine-assigned index terms are printed out and returned to the Subject Analysis Branch the next morning.

The supervisor or an assigned senior analyst separates the printouts by subject area and distributes them to the subject analysts. The analyst receives only the MAI printout for unclassified documents. For classified documents, the analyst who originally abstracted the document normally

receives the DTIC Form 41, the document and the MAI printout. Printouts for unclassified documents are sorted by subject area but are not necessarily returned to the original analyst.

The analyst reviews the MAI printouts for acceptability of assigned index terms. Terms may be added or deleted. The analyst also looks for problems due to misspelled words, which result in the loss of index terms. The analyst assigns COSATI fields and groups to the documents at this time. The MAI sheet is returned to the data transcriber for any corrections. After corrections have been made, the citation is flagged for release to the temporary holding file, the Master Accessioned Document (Mini-MAD) File. After release to the Mini-MAD File, a complete printout of the citation is generated, and the document, MAI printout, and Mini-MAD printout are forwarded to DTIC-HDS, the Database Support Branch for proofreading and editing.

Abstracting and indexing are done simultaneously for compilations, which do not undergo MAI. The analyst records index terms directly on the DTIC Form 41, and the data transcriber inputs the index terms from the DTIC Form 41 as the abstracts are keyed in. A special flag is put on the entry so it does not go through the MAI process. A compilation's Mini-MAD printout is generated from this input.

Unannounced documents are simultaneously abstracted and indexed. Citations from SBIN sites already have abstracts and posting terms when they are input. The analyst in the Subject Analysis Branch receives a printout of the SBIN citation and uses this as the basis for review. The analyst may edit the SBIN data fields. DTIC Form 41 is not used for SBIN documents; the printout is used as a worksheet.

Every two weeks, at the end of the TAB cycle, a security review of the

citation input is conducted. Computer printouts are generated for the classified documents. The fields containing classified or sensitive data are reviewed for correctness. A senior analyst is assigned this duty.[10]

It takes an average of four to seven working days for a document to be processed through the Subject Analysis Branch. Classified documents are logged out on DTIC Form 24 or 24A before being sent on to DTIC-HDS, the Database Support Branch.

DATABASE SUPPORT BRANCH

DTIC-HDS, the Database Support Branch, where the records are proofread and edited, receives the document, its DTIC Form 41, MAI printout, and Mini-MAD printout from the Subject Analysis Branch. Documents are separated by classification and logged into different books, depending on their classification. Documents are then batched in groups of ten for review. A compilation cannot be separated into such a group, so it is considered a group in itself. The Mini-MAD printout is checked against the document, DTIC Form 41, and MAI printout for correctness. Typographical errors are corrected and new printouts are obtained. Only the corrected fields are reviewed on the new printouts.

A document which has been reviewed and has passed inspection is logged out and sent to DTIC-FM, the Micrographic Division for reproduction. A flag is placed on its citation in the Mini-MAD File so that a microfiche header can be made for the document. Headers are generated on magnetic tape, and a paper copy of each header is printed for review. If a header contains an error, corrections are made to the initial tape and a printout of the corrected header is reviewed before approval is made and the header released. The final tape is sent to Micrographics for inclusion in the microfiche copy. The header tape usually reaches Micrographics one or two days after the original document. Compilations are handled as a unit; no header will be released until all the headers from a compilation have been approved. No headers are required for documents which are not to be photocopied.

When documents and headers have been sent to Micrographics, all work forms and computer printouts are stored in the Database Support Branch for three cycles of the Technical Abstract Bulletin (TAB). Each cycle runs for two weeks. At that time the paperwork is burned.[11]

It takes an average of five working days for a document to be processed through the Database Support Branch. All documents are logged out before being sent to Micrographics for reproduction.

MICROGRAPHIC DIVISION

The Micrographic Division creates the master microfiche from which copies of the document will be reproduced. The original documents, printed microfiche headers, and the magnetic tape of header data are received from the Database Support Branch. Documents are logged in according to their classification, then placed in AD number order to match the header sequence on the tape. Each document is examined in the Copy Preparation area. Pages are checked for order, completeness and legibility. Illegible pages are marked "Best available page." After examination, the document is unbound prior to being forwarded to the camera area for photographing.

Standard 8 1/2 by 11 inch documents are photographed on one of two Technical Data Systems (TDC) Documate IIs. Oversize documents are reduced and photographed on the Bell and Howell camera. Very large pages may need to be photographed in sections. All documents are photographed at a 24:1 reduction.[12]

As a document is received by the camera operator, its AD number is called up on the TDC's computer, on which the magnetic tape of microfiche headers has been loaded. The header is displayed on a video display terminal (VDT) and scanned for correctness. Minor errors can be corrected at this time. Significant errors require that the tape be re-ordered for that particular document.[13] The camera transposes the header from the screen onto the film before the pages are photographed. The document is then fed page by page into the TDC camera. The Bell and Howell camera, which does not have magnetic tape capabilities, uses a manual header. A photographic negative is made of the paper copy of the header. This negative is then photographed at the top of the fiche being shot. The AD number is recorded on a DTIC Form 148, Camera Operator's Filming List as each document is

photographed.

Documents are photographed onto 100 foot rolls of 105mm film. Depending on the length of the documents being filmed, a roll can hold 80-90 documents. As each roll is filmed, or at the end of each shift, the roll is sent to the Developing Area for processing.

After photographing, the original document is returned to the Copy Preparation area to be rebound. It is retained until all quality inspections are completed, then, unless it is unclassified/unlimited, it is sent to storage, where it is used to fill hard copy requests from users.

In the Developing Area, each roll of film is rewound from its spool onto a magazine, which is then loaded into the developer, an Allen F-10 Processor. The developer's parameters are checked before each film roll is run. Developing is automatic once the magazine is loaded.

After developing is completed, each fiche on the film is inspected for format, quality, resolution, and background density. When a fiche passes inspection, it is forwarded to the Automatic Document Distribution (ADD) unit. A fiche which does not pass inspection is Xed through and the original document pulled and reexamined. A document of good quality is rephotographed. If the document is of poor quality, an effort is made to obtain a good copy from the source or sponsor. If a good copy cannot be found, the AD number may be cancelled or the document may be made available in microfiche only. Rejections are recorded on DTIC Form 327, Microfiche Retake Order.

A methylene blue test for microfiche quality is currently being examined in the Micrographics area. This test determines the acidity of film after it has been developed. Inadequate washing leaves a residue on the film. This residue causes the film to deteriorate and turn brown rapidly, making the

film unsuitable for archival storage. All documents on that roll need to be rephotographed. The methylene blue test is due for implementation soon.

When the inspected film is received in the ADD unit, the AD number of each photographed document is checked against the Mini-MAD Inventory List from the TAB cycle. The film is then hand cut into individual fiche, and bagged in plain white envelopes.

The Microfiche Production List totals the number of ADD copies needed for each AD number. Fiche are filed in AD number order and duplicated on the Bruning OP 59 or Photomatrix microfiche duplicator. Duplicated fiche are separated by classification and bagged in envelopes color-coded to represent the classification: white for unclassified, blue for confidential, and red for secret. The fiche are then filed in AD number order.

The ADD sort of the Mini-MAD File selects those new documents that meet each ADD user's established profile. The Microfiche Distribution List, in User Code order, lists which AD numbers each user is to receive. This list is used for pulling those microfiche. The pulled fiche are attached to the user's printout, and the list is checked again to ensure that each user receives all of the documents to which he is entitled. A mailing label, which is generated at the same time as the User Code list, is attached. Classified fiche also have a hand-written receipt, which is part of DTIC Form 67B, attached. Unclassified orders of up to sixty-one copies are sealed in plastic bags ready for mailing. Larger unclassified orders and all classified orders are sent to the mail room for wrapping and distribution. Classified fiche are double-wrapped and registered in the mail room before being shipped.

The archive and master microfiche copies of each document are sent to the DTIC Film Library (part of the Micrographic Division). One copy of each

fiche is sent to the mail room, to be collected by the NTIS courier. The copies for the Disaster File are sent to the Federal Records Center in Colorado.[14]

Statistics could not be obtained on how many days it takes for original documents to be microfiched and made available for duplication, once they are received in the Micrographic Divison.

DOCUMENT ORDERING

REFERENCE SECTION

Document orders from registered users are received in several ways. DTIC users who have online access to DROLS can place their orders online. DTIC's Reference Section processes all other orders. DTIC's Directorate of Telecommunications and ADP Systems Production Control Branch, DTIC-ZOC, assists in the processing by keypunching document orders on scheduled overtime. These include orders received via DTIC Form 1, Document Request; telephone requests; letters; DTIC Form 55, Request for Limited Document; and calls placed on the Code-A-Phone 2500. DTIC also periodically receives a magnetic tape of document orders from NTIS. These are requests from DTIC-registered users for documents NTIS cannot supply.

DTIC Form 1 requests are received in the mail every day. The form is a standard computer card with spaces for the user code, AD number, NTIS Deposit Account number (for billing purposes), quantity wanted, contract number (necessary for classified documents), routing information, and the type of copy wanted, either microfiche or paper copy (see Appendix C for a sample). Orders are batched throughout the day and merged with the online orders. All orders are processed overnight into the Document Order File.

Telephone requests are also received every day by the Reference Section. The necessary information (see discussion of DTIC Form 1 above) is recorded on a DTIC Form 273, Document Request - Deposit Account, or a DTIC Form 397, Conversation Record. These forms are forwarded to the data transcriber for input to the Document Order File.

Document orders are also received in letters from DTIC users. Frequently, DTIC Forms 1 are included in the letter, or the request may involve identification of an AD number for a document title before the order

can be processed. Depending on the format, the letter itself may be given to the data transcriber for input, or the data may be transferred to a DTIC Form 273 prior to input.

Requests for limited distribution documents require that users submit a DTIC Form 55. When the request has been approved by the controlling authority, the DTIC Form 55 is returned and the pertinent information is keyed into the Document Order File.

The Reference Section also maintains a special 24-hour Code-A-Phone to accept document requests. Messages left on the Code-A-Phone are transcribed daily onto a DTIC Form 397. The information is then keyed into the Document Order File.

The magnetic tape from NTIS is loaded onto DTIC's computer and the requests are added to the Document Order File.

The Reference Section also receives occasional "special orders." These document requests need to bypass the usual ordering procedures because of time constraints. The requests must be approved by the head of the Reference Section.

Special orders are handled in one of two ways. If the document is needed for same-day delivery, the order is not put into the computer, but becomes a "manual special." The request is recorded on DTIC Form 212A, Special Request, and on DTIC Form 37, Stock Receipt/Shipment. Internal control of the request is by means of DTIC Form 212, Special Requests Record - DTIC-DDR. The order must be manually validated to ensure that the requester is eligible to receive the document. When this step is completed, the DTIC Forms 37 and 212A are hand-carried to the Film Library, where the working master microfiche is immediately pulled and reproduced. The Reference Section is notified when the copy is completed, and the responsible

Documentation Specialist records the completion on DTIC Form 212, and then contacts the requester. The requester sends an authorized courier to DTIC's security officer's desk. When the security officer has checked the courier's authority to receive the document, the mail room is contacted and the document is delivered to the courier.

If the special order is not needed the same day, or is from a user who cannot collect the document, the order becomes an "automated special." The request is keyed into the computer and coded so that the order will "float to the top." Thus, when the next day's document orders are received in the Film Library, the special requests are the first documents reproduced. These requests are shipped to the user via the U.S. Postal Service.

As each order is keyed into the Document Order file, it is given an alpha code in addition to the AD number. This alpha code delineates the source of the order. For instance, the alpha code "P" signifies an order received by telephone. A "D" is assigned to orders received by letter or on DTIC Form 1. All orders received online are automatically assigned an "R", while orders processed through DTIC's Boston office are denoted by a "B", and those from the Los Angeles office by an "L". The code assists in troubleshooting document request problems by easily pinpointing whether the order was placed in-house or from the field.[15]

Before any document order is processed, a check must be made to ensure the requester's eligibility for that document. The Document Order File is run against the Master User Address Contract (MUAC) File, which contains information on the user's facility clearance and authorized COSATI field and group access. Requests for documents to which the user is not entitled are rejected, and a notice is sent to the user stating why the order cannot be filled.

MICROGRAPHIC DIVISION

Document requests are received by the Film Library in the form of computer-generated "picking tickets:" DTIC Form 73 is used for unclassified documents, and the multiple-copy DTIC Form 67B for classified documents. These picking tickets are color-coded to distinguish unclassified document requests from classified ones. The unclassified DTIC Form 73 is buff-colored, and the classified DTIC Form 67B is green. Unclassified picking tickets consist of two parts: a mailing label and a proof-of-shipment card. The ticket lists the date the ticket was generated, (usually the day after the request was received), the AD number, pagination, whether hard copy or microfiche was requested, the serial number assigned to the order (each document on each order is assigned a separate serial number), the mailing address and routing information. Classified picking tickets have multiple parts with carbons between to accommodate the signatures required at each stage of processing. Picking tickets are received in AD number order, with microfiche and paper copy requests separated.

Requests for the two document types are sorted, then handled separately. The tickets are used for pulling the working master microfiche required for reproduction. If DTIC's computerized inventory shows that original hard copies are in storage, the picking ticket is routed directly to the storage area, as no reproduction needs to be made.

If a microfiche copy is requested, the working master microfiche is pulled from the file. The fiche is reproduced on one of two Data Master microfiche duplicators. Each reproduced fiche is quality checked by a machine operator, then bagged. The fiche is counted on the daily log, and the two parts of the picking ticket are separated. The mailing label and the bagged, unclassified microfiche are sealed in plastic and the package sent to

the mail room for shipping. Classified microfiche copies are not sealed in Micrographics, but are sent to the mail room with the DTIC Form 67B to be double-wrapped and registered.[16] The proof-of-shipment part of all picking tickets is sent to the Reference Section, where the serial numbers are keyed into a file of shipped orders. This file is run each night against the Request Suspense File to clear the Suspense File of all document orders shipped that day.[17]

The working master microfiche needed for hard copy requests are pulled from the Film Library, and the count recorded on a DTIC Form 21. The fiche are separated by classification and placed with the picking ticket in boxes, which are then transferred to the Duplication Area. Hard copies are reproduced on the Xerox 970 copier. The Xerox operators perform a quality check as each document comes off the copier. Illegible copies are forwarded to Quality Assurance for resolution. The DTIC Form 21 and the group of printed documents recorded on it are forwarded to the Bindery. After they are bound, they are sent to the Shipping Section where a final quality and security check is made. The documents are then ready to be mailed. If the document is unclassified, the two halves of the picking ticket are separated. The mailing label and document are sealed in plastic on a Cold Seal packaging machine.

The mail room double wraps classified documents before shipping. Classified, CNWDI, and NATO documents also receive a postal registry number, and are sent only by registered mail.[18] The proof-of-shipment cards from the picking ticket are sent to the Reference Section, so the document request can be cleared from the Suspense File.

After all requests for a document have been reproduced, the master

microfiche is returned to the Film Library, where all the fiche are interfiled daily. Microfiche copy requests are filled in two to three days. Paper copy requests are shipped about five days after the request is received.[19]

DOCUMENT QUALITY COMPARISON

One purpose of this project was to compare the reproduction quality of both paper copy and microfiche documents. Because there is a lag between the time documents enter DTIC's Selection Section and the time microfiche or paper copies are available, it was not possible to use new documents as they were received. Therefore, duplicate copies of original documents were used for purpose of comparison. Frequently original copies of reports already in the system are received. The Selection Section had a box of these duplicates which had been packed to be sent to NTIS for storage and distribution. Seven of these duplicate documents were selected for this study. The reasons for selection of these documents can be found in the following discussion.

DTIC's unclassified, unlimited documents may be ordered through NTIS by users not registered with DTIC. Therefore, it was decided to order paper and microfiche copies of these seven documents from both NTIS and DTIC. On three separate days, one paper copy and one microfiche copy were ordered from each source. The order dates were approximately one week apart (11 June, 21 June, and 1 July 1985). When all requested copies had been received, the quality analysis and comparison was made.

DISCUSSION OF DOCUMENTS SELECTED

ADA 008-626 Temporal and Spatial Variability of Water Masses: The Strait of Sicily (MEDMILOC 72), by Erdogan Ozturgut. North Atlantic Treaty Organization, SACLANT ASW Research Centre, 1 April 1975.

Reasons for Selection:

The document contained maps with lines of variable thickness; shading; cross-hatching; numbers and letters of various sizes; graphs and figures on various scales; and a fold-out graph. The document was also a non-standard size: 8 1/4 inches by 11 3/4 inches.

Evaluation of Copy Quality:

Three paper copies and three microfiche copies were received from DTIC. The three paper copies had variable text legibility. One copy had the bottom of some pages cut off (usually the page numbers). Another had the top of some pages cut off (a few were missing the first line of text). The third copy was centered properly. The problem with the first two copies appeared to be due to misalignment of the microfiche in the copier.

Reproduction of the maps and figures was poor on all three paper copies. Most of the shading or cross-hatching was missing, and many of the fine lines and small numbers were pale, hard to read, or missing.

The three microfiche copies were much more legible than the paper copies. The first copy was quite good. All the fine lines appeared, the small numbers were readable, and the shading and cross-hatching were evident. The second and third copies were not as good as the first one. The fine lines were pale and the shading not as evident.

Requesters of this document would have difficulty realizing that Figure 9 was a fold-out. Reproduction of the figure was on two separate pages, one of which had no caption or page number, as these appeared only on the right half of the original fold-out.

Three paper copies and three microfiche copies were also received from NTIS. The first paper copy was pale, with numbers on some pages of text hard to discern. The second and third copies were darker copies and the numbers in the text were easier to read. Graphs and figures in all three copies were poorly reproduced. Most of the shading and cross-hatching was faint or missing. The fine lines and small numbers were hard to read or not there at all. Pages 13, 14, and 15 were missing from the second copy.

The NTIS microfiche copies were more legible than the paper copies. The first and second copies were quite good. The fine lines, shading and small numbers were all clear. Some fine lines on copy three were faint, and Figure 2 on page 10 was not as distinct as on the other copies.

ADA 011-554 Frequency-Dependent Influence of the Sea Bottom on the Near-Surface Sound Field in Shallow Water, by Edward Murphy, Alexander Wasiljeff, and Finn Jensen. North Atlantic Treaty Organization, SACLANT ASW Research Centre, 1 May 1975.

Reasons for Selection:

The document was non-standard size (8 1/4 inches by 11 3/4 inches); contained a map with fine lines, small print and small numbers; mathematical equations with special symbols; charts; and graphs with red ink.

Evaluation of Document Quality:

Three paper copies and three microfiche copies were received from DTIC. The first paper copy was extremely dark, especially on the top of each page. The map on page 4 was smudgy and unreadable. The equations on pages 5 and 6 were clear enough to read. The red lines in Figures 3, 4, 6, 7, 8, 9, and 11 copied poorly, especially those toward the bottom of the page. The last two pages were extremely dark, with the bibliography so black it was unreadable. Copy two's map reproduction was poor; the fine print was unreadable. The text copy was better than the first copy, but the red lines

were fainter. The third copy had about the same quality as the second. The original document to which the requested copies were compared was stamped "Original contains color plates: All DTIC reproductions will be in black and white." The document used to prepare the master and microfiche was not stamped, however, so the purchaser would not have been aware of the red lines in the figures.

The three DTIC microfiche copies were better than the paper copies, although the red lines were faint on these also. The map reproductions were clearer than in the paper copies.

The NTIS paper copies also had poor reproduction of the colored lines. The maps were blurry and the small print unreadable. Page numbers were cut off the bottom of some pages. No note was made of the colored ink.

The first and second microfiche were more legible than the paper copies, although the red lines were faint. The map on page 4 of copy three was blurrier than the maps in copies one and two.

ADA 144-214 Special Course on V/STOL Aerodynamics. AGARD Report No. 710. North Atlantic Treaty Organization, Advisory Group for Aerospace Research and Development. April 1984.

Reasons for Selection:

This document contained drawings and the text's typeface was very small.

Evaluation of Document Quality:

One paper copy and one microfiche were received from DTIC and from NTIS. Examination of the documents revealed an AD number discrepancy: the original document examined for this project was an addendum to the document with the above AD number. The addendum was returned to the Selection Section for assignment of a new AD number and processing through the system.

ADA 151-076 Results of Calculations of External Gamma Radiation Exposure Rates from Local Fallout and the Related Radionuclide Compositions of Two Hypothetical 1-MT Nuclear Bursts, by Harry Hicks. Lawrence Livermore National Laboratory, December 1984.

Reasons for Selection:

The majority of this report consisted of duplicated computer printout pages. Some of the pages were unclear or faded.

Evaluation of Document Quality:

The original document had some pages which were unclear because of uneven ink distribution, which made some numbers hard to read. In the three DTIC paper copies, most of the pages which reproduced poorly were the pages which were unclear in the original. The second and third DTIC paper copies were much better than the first copy because of heavier inking.

The three DTIC microfiche copies were comparable to the original copy's quality. The paper and microfiche copies from DTIC contained no illegibility notice.

The paper copy requests from NTIS resulted in the receipt of three orignial copies. No evaluation of them was done.

The three NTIS microfiche copies had some big black smudges which obscured the data. All microfiche copies contained a notice that although some parts of the original document were not reproducible, it was still being made available. The microfiche master which was used to reproduce the NTIS copies was not one prepared at DTIC. A different header appeared on the microfiche.

ADA 151-566 Development of a New Apparatus for Testing Cannisters Against Phosgene, by B. H. Harrison, R. Poirier, B. Zannette and F. Villeneuve. Defense Research Establishment Ottawa, October 1984.

Reasons for Selection:

The document contained very clear text, with a schematic drawing and gray-tone photographic reproductions.

Evaluation of Reproduction Quality:

The first paper copy request from DTIC resulted in the receipt of an original document. Copies two and three were reproductions. The text portions of the two copies were very good. The photograph reproductions were nearly indecipherable.

The three DTIC microfiche received also had good text reproductions However, the photograph reproductions were very poor.

The NTIS paper copies were all readable in the text portions. The photograph reproductions were poor. The three NTIS microfiche were of similar quality.

ADA 152-463 Identifying Solution Paths in Cognitive Diagnosis, by Stellan Ohlsson and Pat Langley. Carnegie-Mellon University, The Robotics Institute. 1 March 1985.

Reasons for Selection:

This document was a nice, clean copy. The typeface was large and clear. There were no photographs, diagrams or figures. The document contained a few tables, but they were large and clear also.

Evaluation of Document Quality:

The first DTIC paper copy was faint and somewhat blurry. The second and third copies were more heavily inked and easier to read. The last few pages of all three documents were blurry and hard to read. These pages contained lists of addresses in very fine print.

All three DTIC microfiche copies were good reproductions.

The three NTIS paper copies were all good, as were the three microfiche copies.

ADA 953-577 Powder Metallurgy Examination of Powder Metal Firing Pins for Anti-Tank Mine M4, by C. R. Jelm. Watertown Arsenal Laboratory, 16 February 1944.

Reasons for Selection:

This document was a very old report which was only recently added to the collection. Its pages were yellowed; the typeface not clear; it contained one photostat and several photographic plates.

Evaluation of Reproduction Quality:

All copies received from DTIC and NTIS contained three pages which the reference copy did not have. Those pages, a distribution list, were very blurry in all reproduced copies, but no comparison could be made with the original. All of the reproduced paper and microfiche copies were missing the photostat page found in the duplicate original. The photostat contained Table 1 and a drawing.

The text pages of the three DTIC paper copies were all legible. The photographic plates reproduced poorly, with little detail on all three copies. There was no notation that this was the best available copy.

The microfiche copies from DTIC also had readable text pages. The photographic plates were poorly reproduced. There was no notation that this was the best available copy.

The text portions of the NTIS paper copies were all legible, but the photographic plate for Figure 1 was completely black. Figure 2 was very dark, with poor detail. There was no notation that this was the best available copy. The quality of the NTIS microfiche was similar.

CONCLUSIONS

Each year DTIC processes over one million technical reports. The processing is detailed, labor-intensive and time-consuming. Work backlogs are common, and scheduling of overtime is often necessary in order to meet deadlines. Therefore, DTIC must examine its document handling procedures and find ways to streamline the operation.

DTIC's users are eager to obtain the most recent reports in their subject areas, and frequently call to order documents which have not yet been added to the TR Database. Currently, documents are not accessible online until the AD number has been assigned, and that may take as long as four weeks after DTIC first receives a document. Requesters have to rely on the selection analysts' memories as to whether a particular document has been received.

Many stages in the document-handling process require that forms be filled out. Often this is simply logging documents in and out. In some areas, such as the Bibliographic Database Branch, the Subject Analysis Branch, and the Reference Section, data is first recorded on forms and then keyed into the computer. Besides adding time and extra steps to the process, a chance of error is introduced each time the data is transcribed.

Approximately 30 percent of DTIC's document requests are received on DTIC Form 1.[20] When this form was designed, ordering information was keypunched onto computer cards and read by a card-reader. DTIC Forms 1 still have user codes punched on the cards, but the information is no longer read by a card-reader. All data are now keyed into the Document Order File by a data transcriber. As many as 700-800 DTIC Forms 1 are keyed in each day.[21]

Each document order is assigned a serial number as the request is input. When a document request has been filled, the Request Suspense File must be

cleared of that record. Currently, this is done by manually keying in the serial number from the proof-of-shipment half of the picking ticket.

The primary determinant of document reproduction quality is the quality of the original document. In examining the seven documents for the quality comparison part of this project, when the text quality was high, as in ADA 152-463, the reproduction quality was high. The greatest loss in reproduction quality was in maps, charts, figures, colored plates, and photographs. Both NTIS and DTIC had a quality loss in these areas, especially for the paper copy reproductions. The microfiche reproduction quality was uniformly high for both NTIS and DTIC, with the quality approaching that of the original document.

Each year, DTIC receives 250-350 user complaints about document illegibility.[22] However, there is no record kept as to what caused the illegibility, such as poor inking or poor photographic reproduction. There are probably more illegible documents shipped than complaints received, because many users do not bother to complain. No statistics were available for NTIS legibility complaints.

RECOMMENDATIONS

An electronic document tracking system would eliminate the "lost month" of the document input procedure. Pertinent information about each document would be input to a file when the documents are first received. DTIC would thus be able to determine at a much earlier date whether a document had entered the system.

The file created need not be accessible outside DTIC. The Current File has created a problem for DTIC when users identify a citation and wish to order the document, only to find that it will not be available for two to four weeks. Since an electronic document tracking system would track a document from a much earlier stage than at present, the delay between a document's entry into the system and its availability to the user would be even greater. Therefore, it would be advisable if this file could not be searched by anyone outside DTIC.

A bar code could be attached to each document in the mail room. As the document entered and left each stage of the input process, the bar code could be read. Thus, it would be easy to find how far a document had progressed through the input process.

DTIC's Office of Information Systems and Technology is considering this type of equipment for process control. Such a system would also eliminate manually logging documents in and out at each stage of processing. There is less chance of an input error with a bar code reader than transcribing by hand. Bar code readers operate at least three times faster than an operator keying data into a CRT, and much faster than writing AD numbers manually.[23]

In August, 1985, approximately 100 hours were spent keying in ordering information from DTIC Forms 1. The average input rate is 200 requests per hour.[24] An automated input device for reading the DTIC Forms 1 would

reduce the time a data transcriber must devote to this process. DTIC Form 1 could be redesigned or replaced to accommodate either electronic or optical character recognition (OCR). DTIC's Office of Information Systems and Technology is examining OCR for input of DD Form 1498, Research and Technology Work Unit Summary. The technology is advanced enough at this time that the character readers can process numerous type fonts. Such a system would require that users type the information on the DTIC Form 1, rather than hand write it. About half the DTIC Forms 1 now received are typed.

DTIC's Reference Section spent 127 hours keying in serial numbers from the proof-of-shipment halves of 26,784 picking tickets during August 1985.[25] An optical or electronic character recognition device, such as a computer-generated bar code on the mailing label would eliminate the need for a two-part picking ticket. It would also eliminate the manual input of serial numbers from shipped documents. A bar code could be read in the shipping area as the final stage in the document order process. DTIC Form 67B for classified documents could also be bar coded. A similar system was originally considered as far back as 1975,[26] and again in 1982,[27] but it was never implemented.

Since the process control system is not due for implementation for some time, it would be beneficial to evaluate the forms currently used in processing documents. It should be possible to combine or eliminate forms if overlap or duplication of effort is discovered.

An informal study recently performed found that 25 percent of the technical reports DTIC receives and distributes contain pictorial data such as maps, photographs, and drawings. 15-20 percent had actual photographs.[28] These images are an integral component of the documents in which they appear, and they need to be as clear and complete as possible.

In the document reproduction quality evaluation portion of this paper, it was shown that the non-print parts of the documents have the poorest reproduction quality. Microfiche quality of such figures is acceptable. It is in the printing of the documents that image quality is lost. Therefore, when replacements are considered for the Micrographic Division's copiers, this aspect of document reproduction should be considered.

Many of the technical reports received by DTIC are the result of research jointly funded by DoD and other government agencies. These reports are therefore available from those agencies or their distributors, such as NASA, DOE, and the Naval Publications Office. A comparison of document reproduction quality, similar to the one done with NTIS documents, could be done with these organizations. It would be especially useful if any of these agencies use printing procedures other than Xerography.

When examining the seven technical report reproductions, only one microfiche copy from NTIS contained a notation about the legibility of the document. At least one DTIC document in the quality comparison study needed such a notation, and one DTIC document should have been reshot because of excessive inking. More care should be taken in the quality checks done prior to shipping DTIC documents to users.

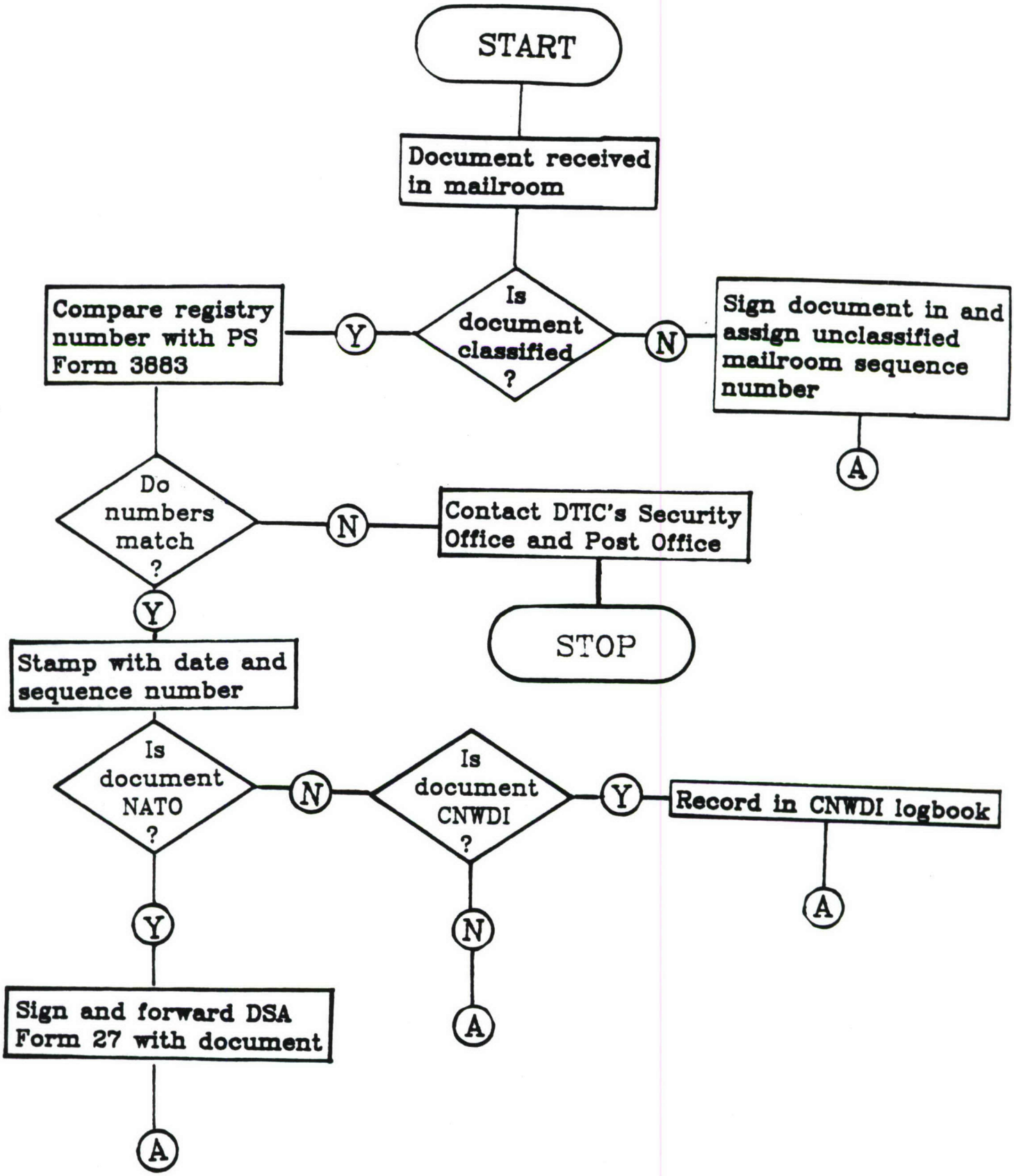
DTIC's document handling procedures for both the technical report input and document report output processes are lengthy and complex. DTIC must continue to seek new ways to improve those procedures and make them more efficient. Improvements in this area will result in better services to every DTIC user.

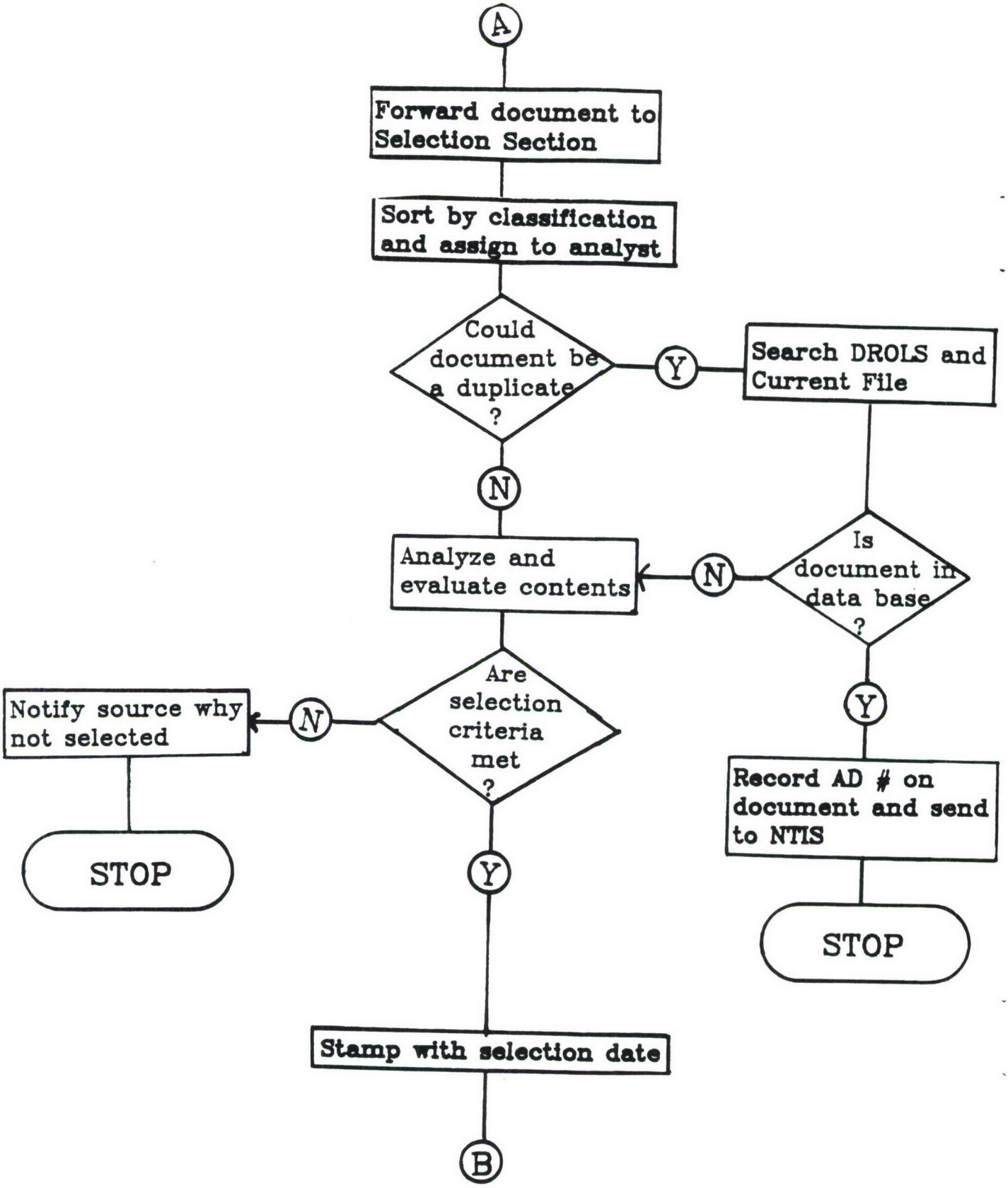
APPENDIX A

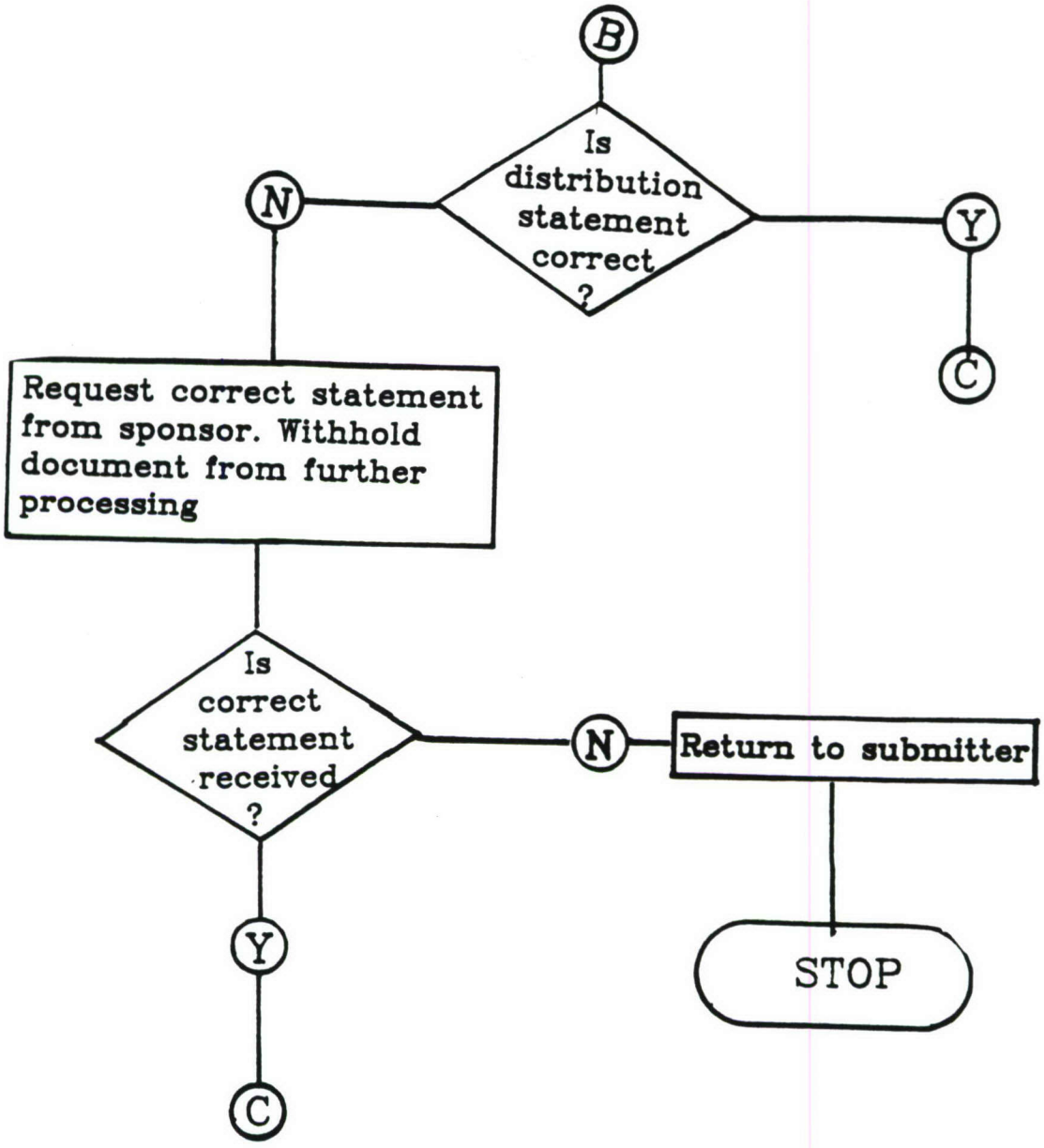
Technical Report Input

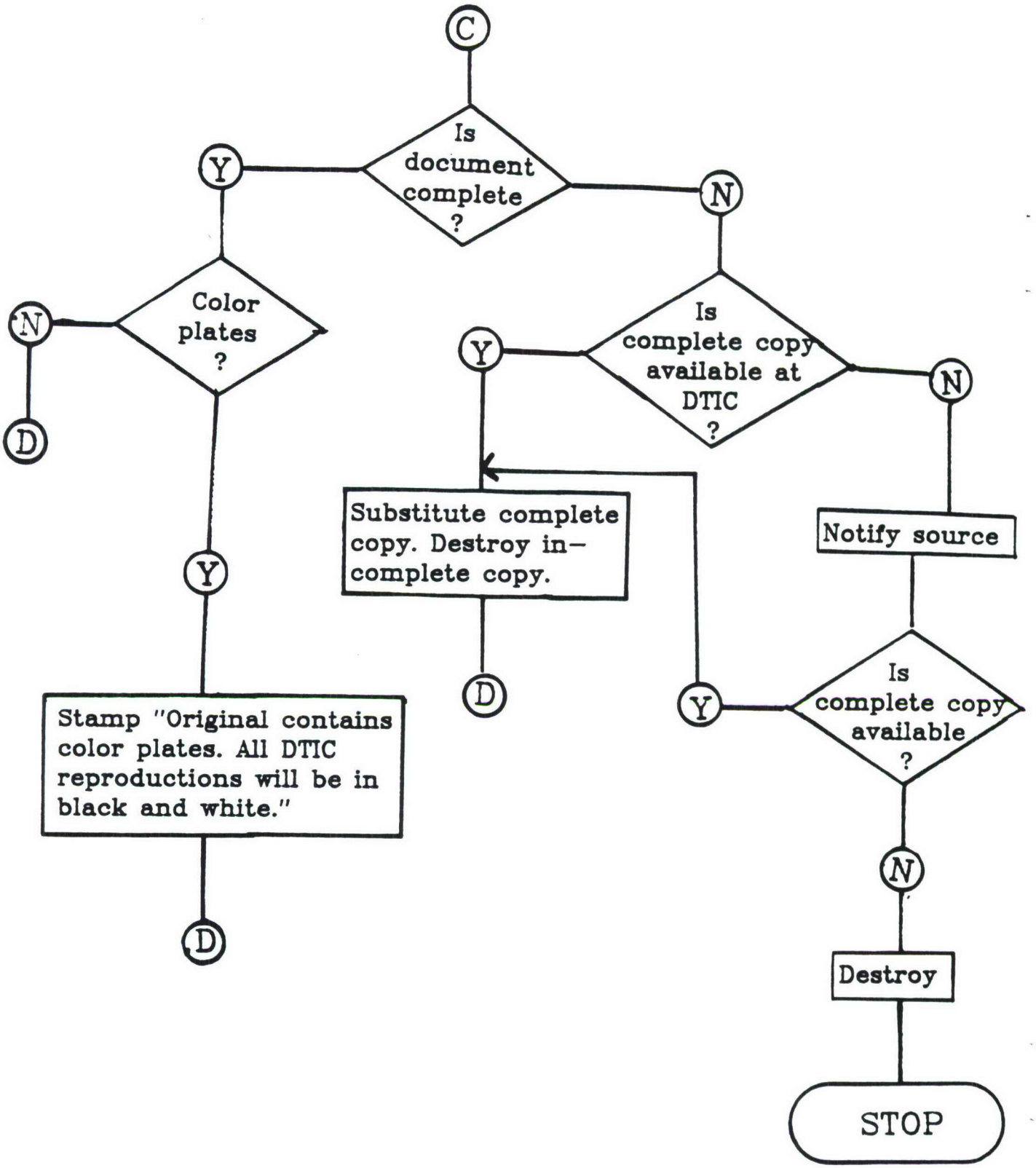
Flow Chart

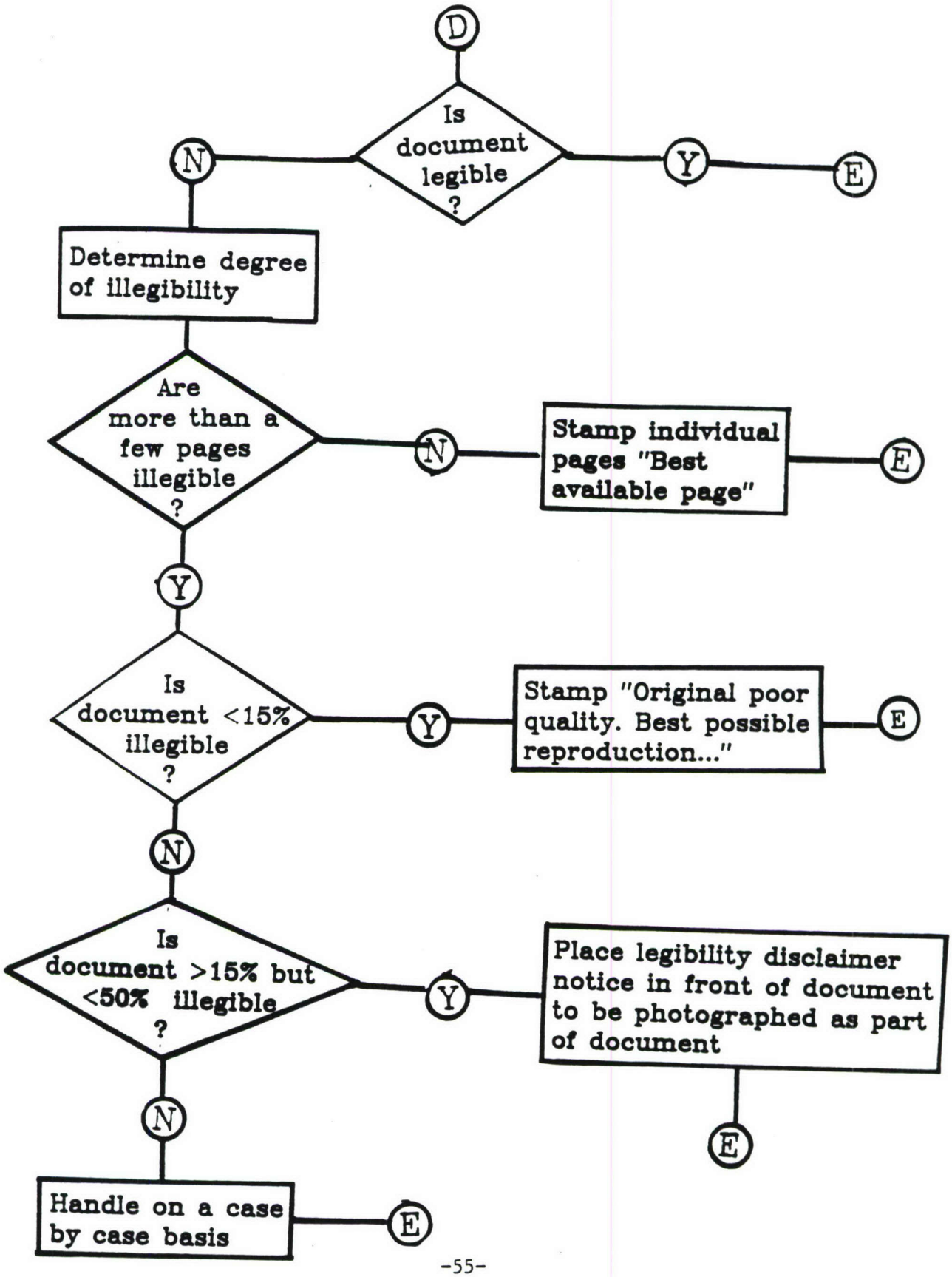
as of 1 September 85

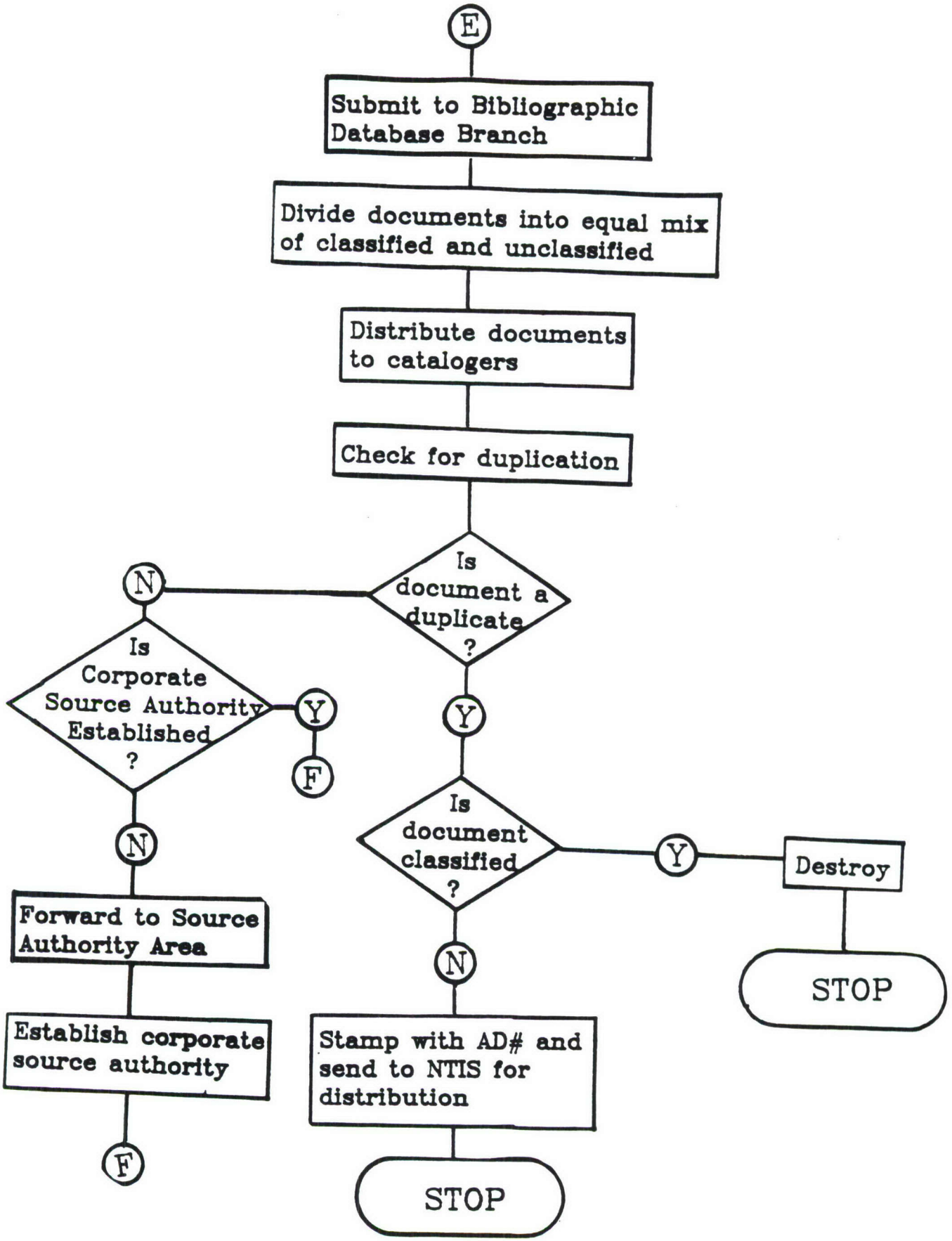

START
Document received in mailroom
Is document classified ?
Y
N
Compare registry number with PS Form 3883
Sign document in and assign unclassified mailroom sequence number
A
Do numbers match ?
N
Contact DTIC's Security Office and Post Office
STOP
Y
Stamp with date and sequence number
Is document NATO ?
N
Is document CNWDI ?
Y
Record in CNWDI logbook
A
Y
N
Sign and forward DSA Form 27 with document
A
A

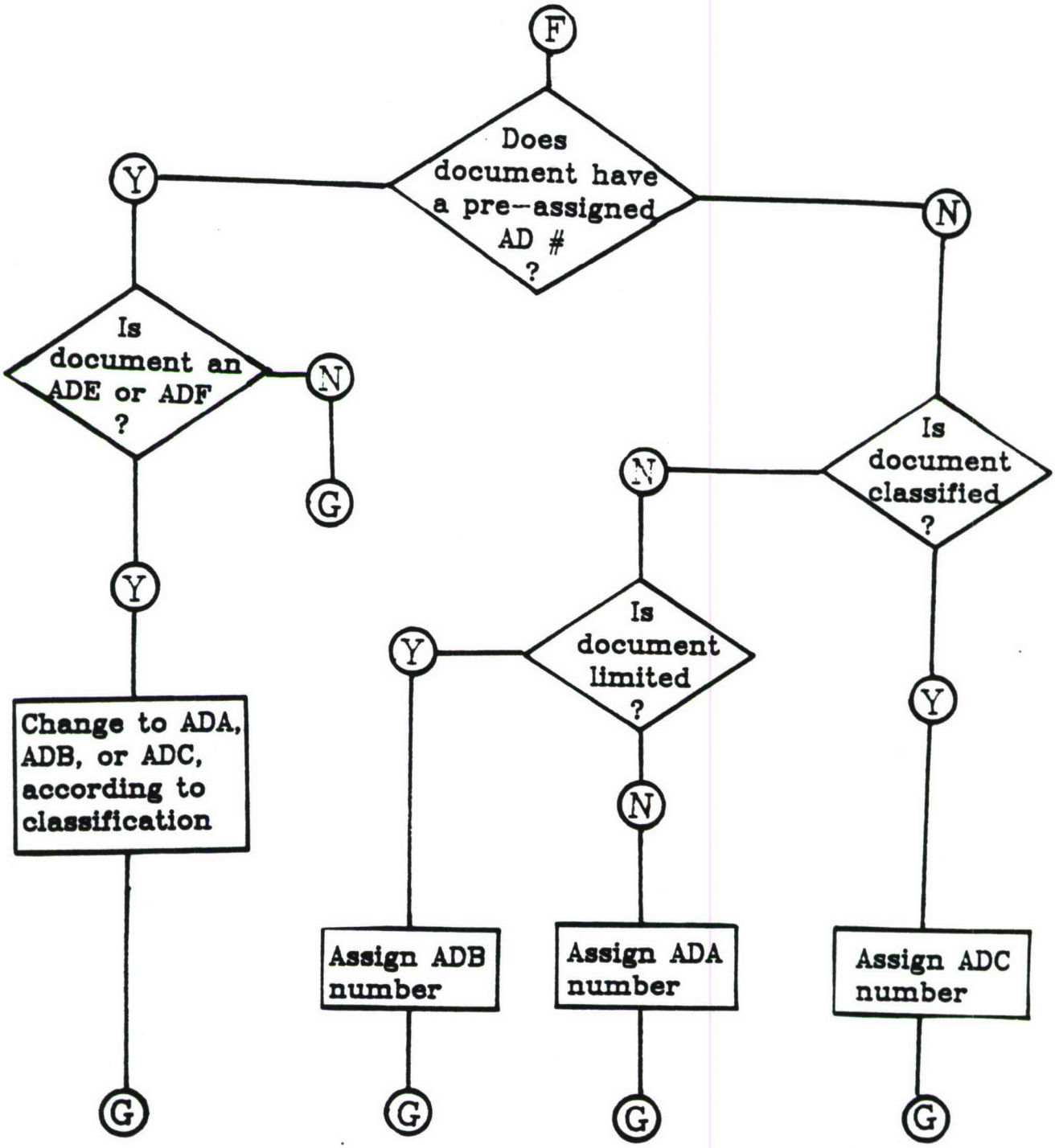

A
Forward document to Selection Section
Sort by classification and assign to analyst
Could document be a duplicate ?
Y
Search DROLS and Current File
N
Analyze and evaluate contents
N
Is document in data base ?
Y
Record AD # on document and send to NTIS
STOP
Are selection criteria met ?
N
Notify source why not selected
STOP
Y
Stamp with selection date
B

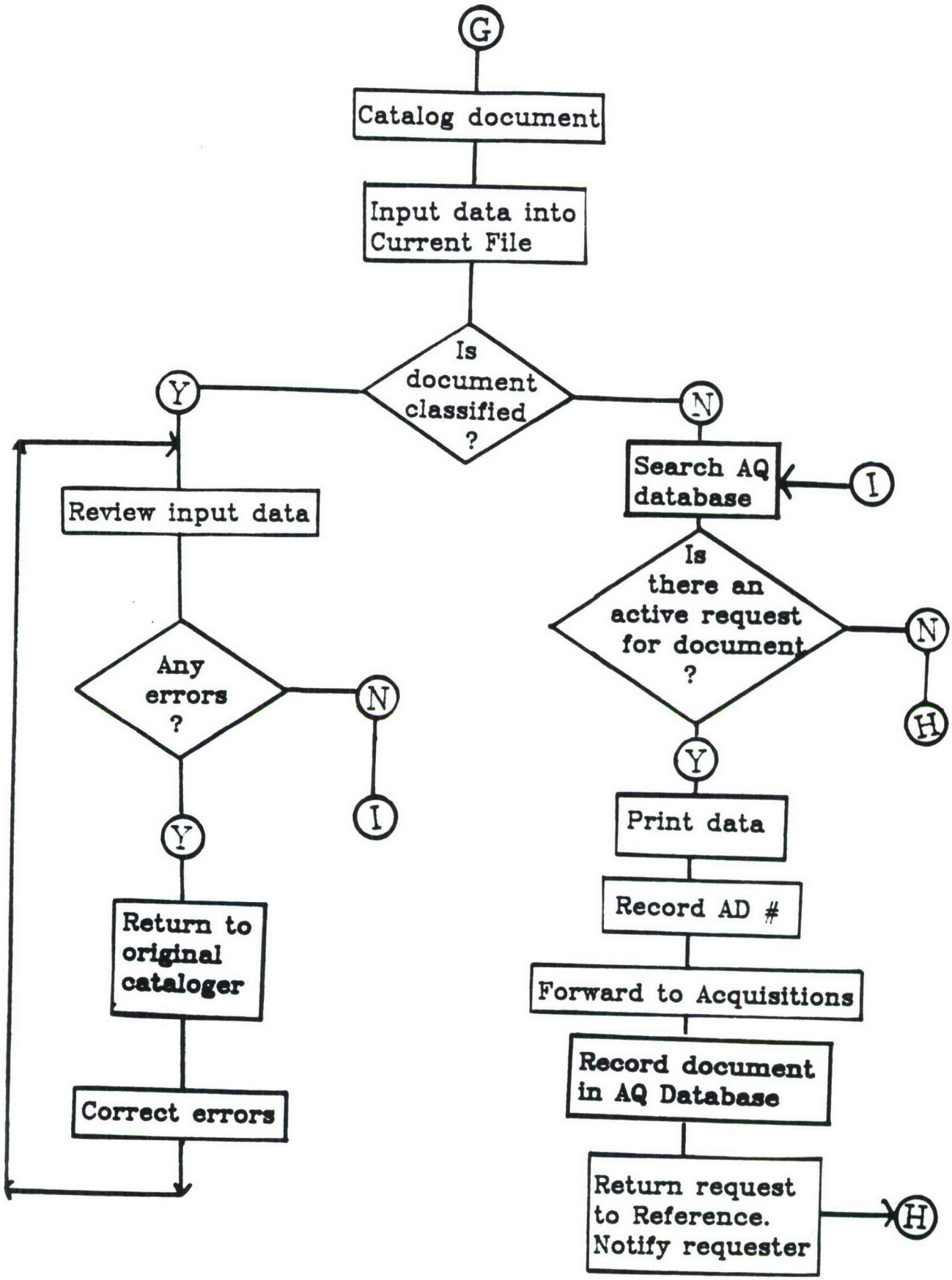

B
Is distribution statement correct ?
N
Y
C
Request correct statement from sponsor. Withhold document from further processing
Is correct statement received ?
N
Return to submitter
Y
STOP
C

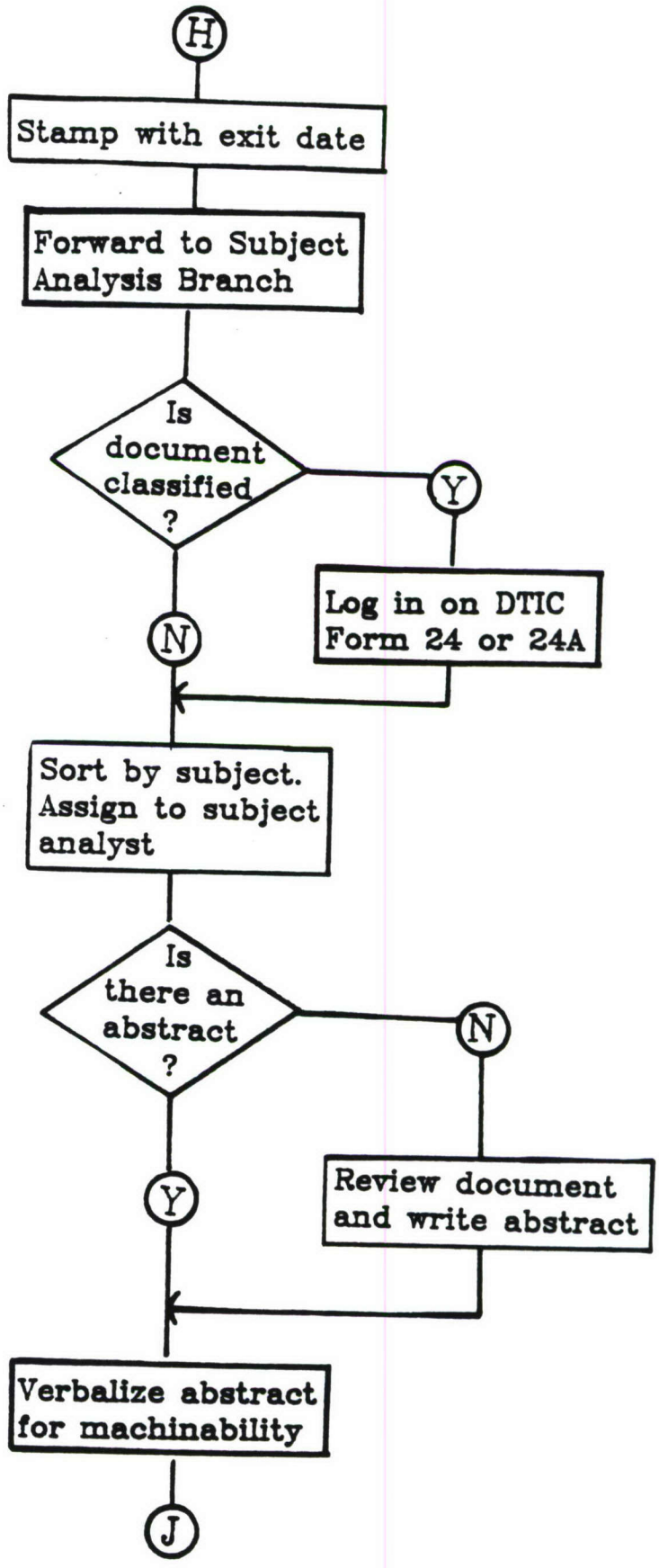

C
Is document complete ?
Y
N
Color plates ?
N
D
Y
Stamp "Original contains color plates. All DTIC reproductions will be in black and white."
D
Is complete copy available at DTIC ?
Y
N
Substitute complete copy. Destroy incomplete copy.
D
Notify source
Y
Is complete copy available ?
N
Destroy
STOP

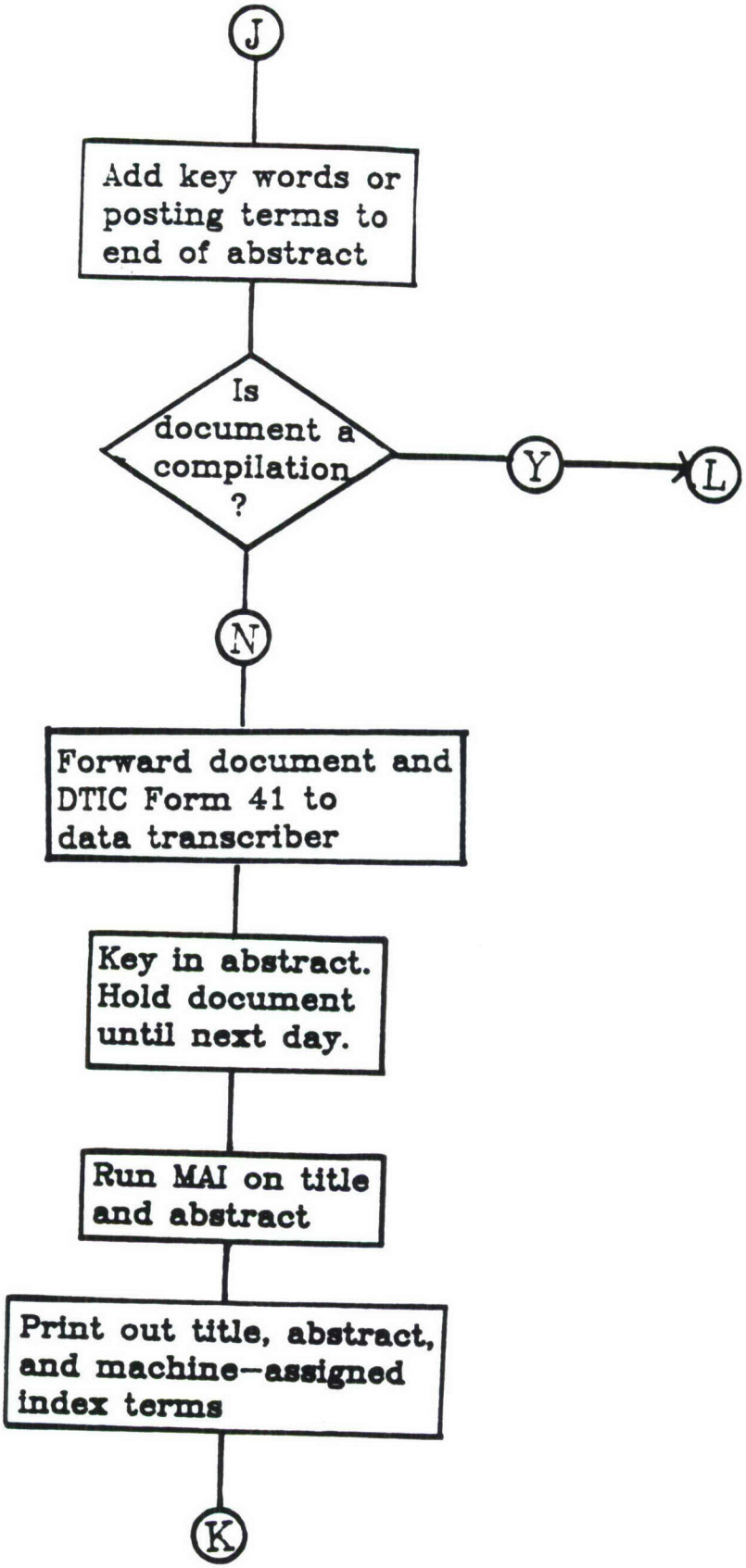

D
Is document legible ?
N
Y
E
Determine degree of illegibility
Are more than a few pages illegible ?
N
Stamp individual pages "Best available page"
E
Y
Is document <15% illegible ?
Y
Stamp "Original poor quality. Best possible reproduction..."
E
N
Is document >15% but <50% illegible ?
Y
Place legibility disclaimer notice in front of document to be photographed as part of document
E
N
Handle on a case by case basis
E

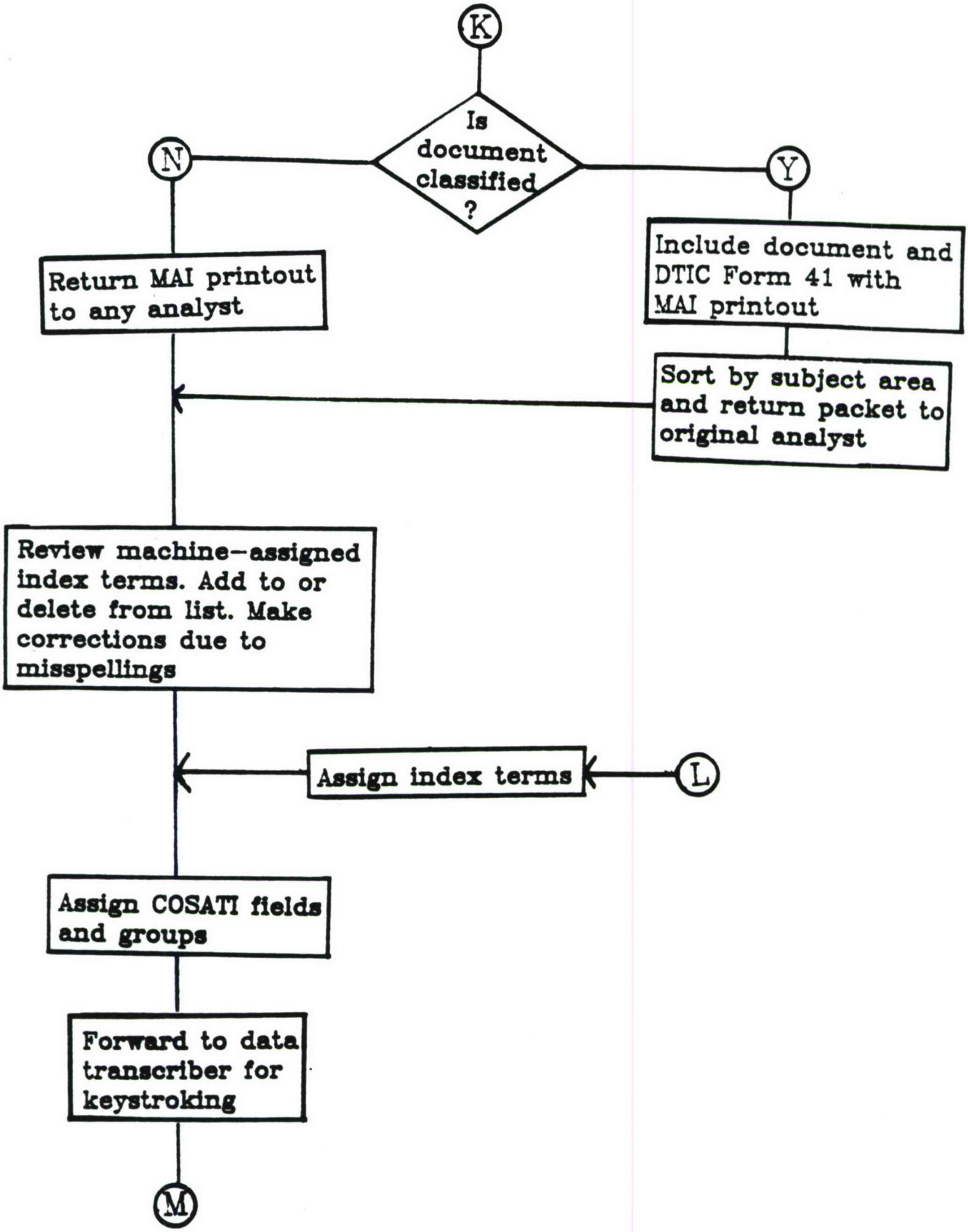

E
Submit to Bibliographic Database Branch
Divide documents into equal mix of classified and unclassified
Distribute documents to catalogers
Check for duplication
Is document a duplicate ?
N
Y
Is Corporate Source Authority Established ?
Y
F
N
Forward to Source Authority Area
Establish corporate source authority
F
Is document classified ?
Y
Destroy
STOP
N
Stamp with AD# and send to NTIS for distribution
STOP

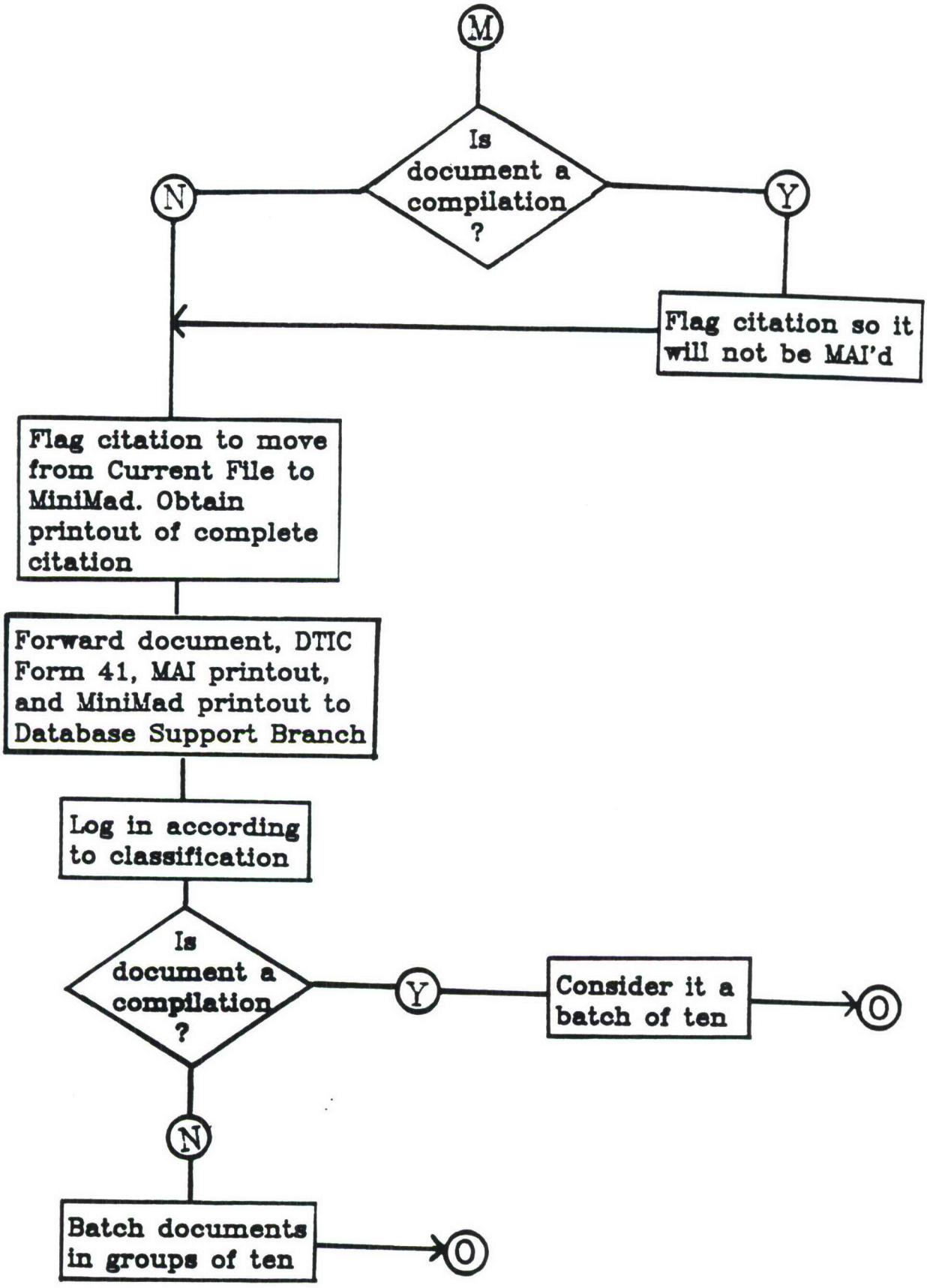

F
Does document have a pre-assigned AD # ?
Y
N
Is document an ADE or ADF ?
N
G
Y
Change to ADA, ADB, or ADC, according to classification
G
Is document classified ?
N
Y
Is document limited ?
Y
N
Assign ADB number
Assign ADA number
Assign ADC number
G
G
G
G

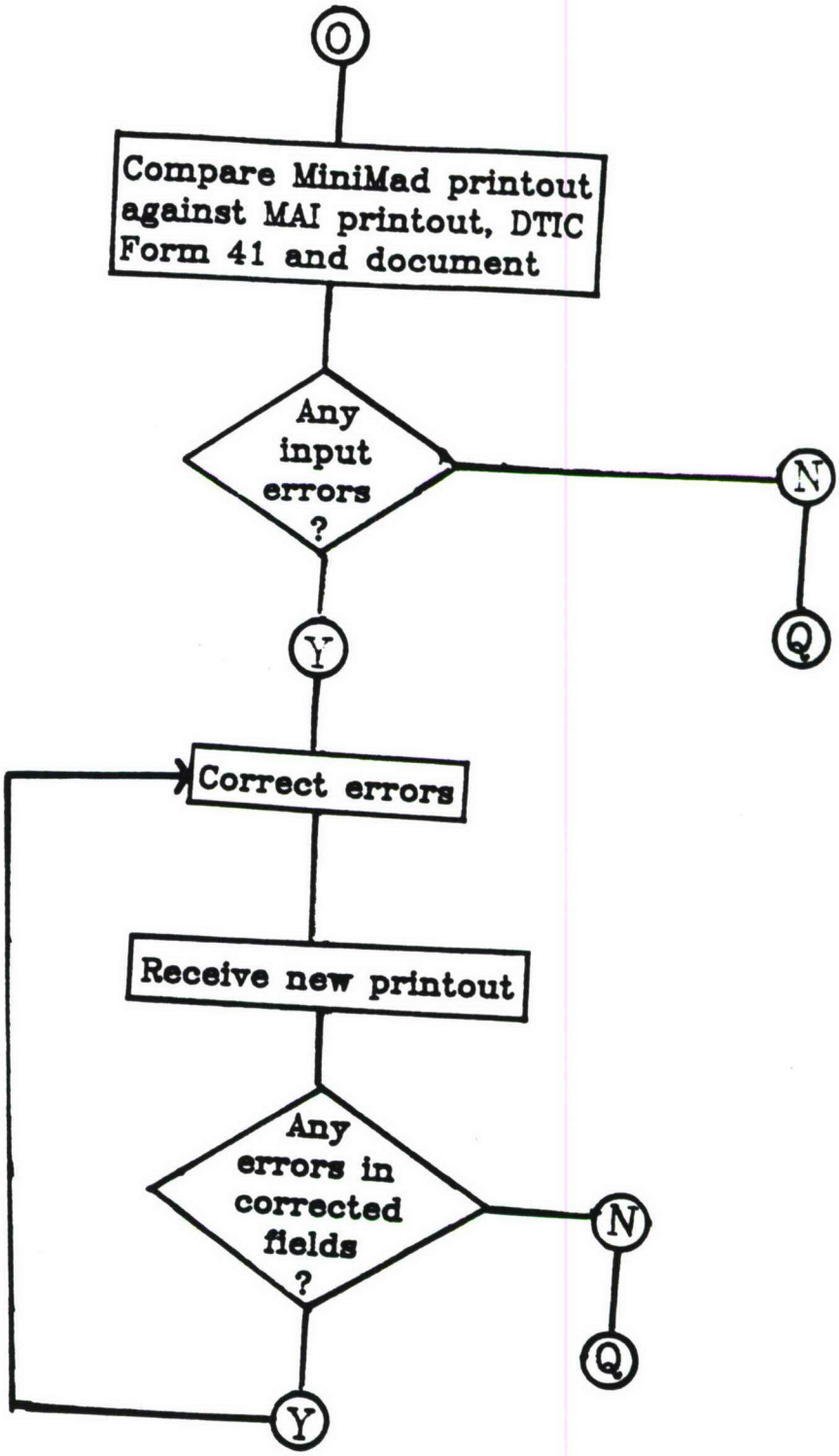

G
Catalog document
Input data into Current File
Is document classified ?
Y
N
Review input data
Search AQ database
I
Any errors ?
N
I
Y
Return to original cataloger
Correct errors
Is there an active request for document ?
N
H
Y
Print data
Record AD #
Forward to Acquisitions
Record document in AQ Database
Return request to Reference. Notify requester
H

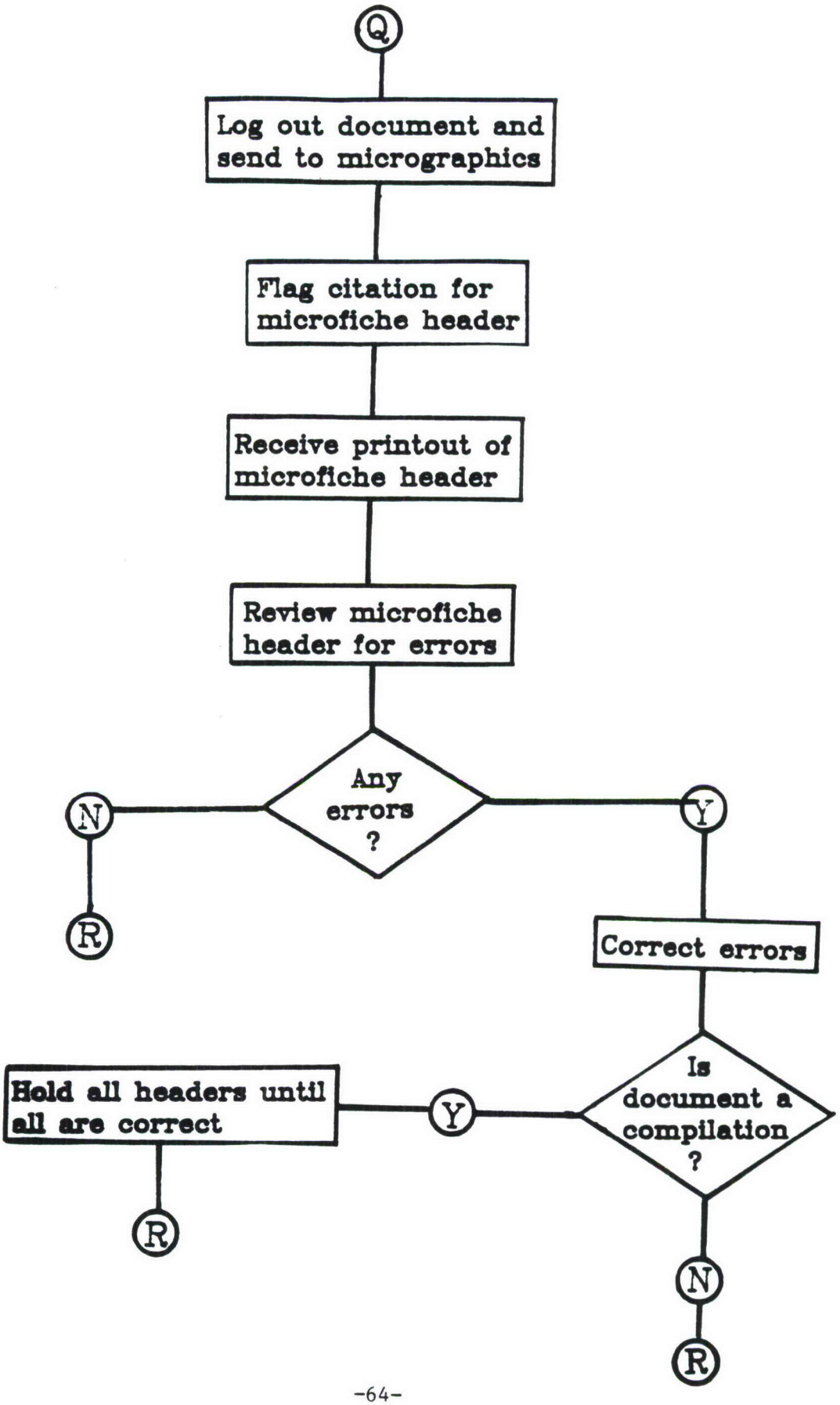

H
Stamp with exit date
Forward to Subject Analysis Branch
Is document classified ?
Y
Log in on DTIC Form 24 or 24A
N
Sort by subject. Assign to subject analyst
Is there an abstract ?
N
Review document and write abstract
Y
Verbalize abstract for machinability
J

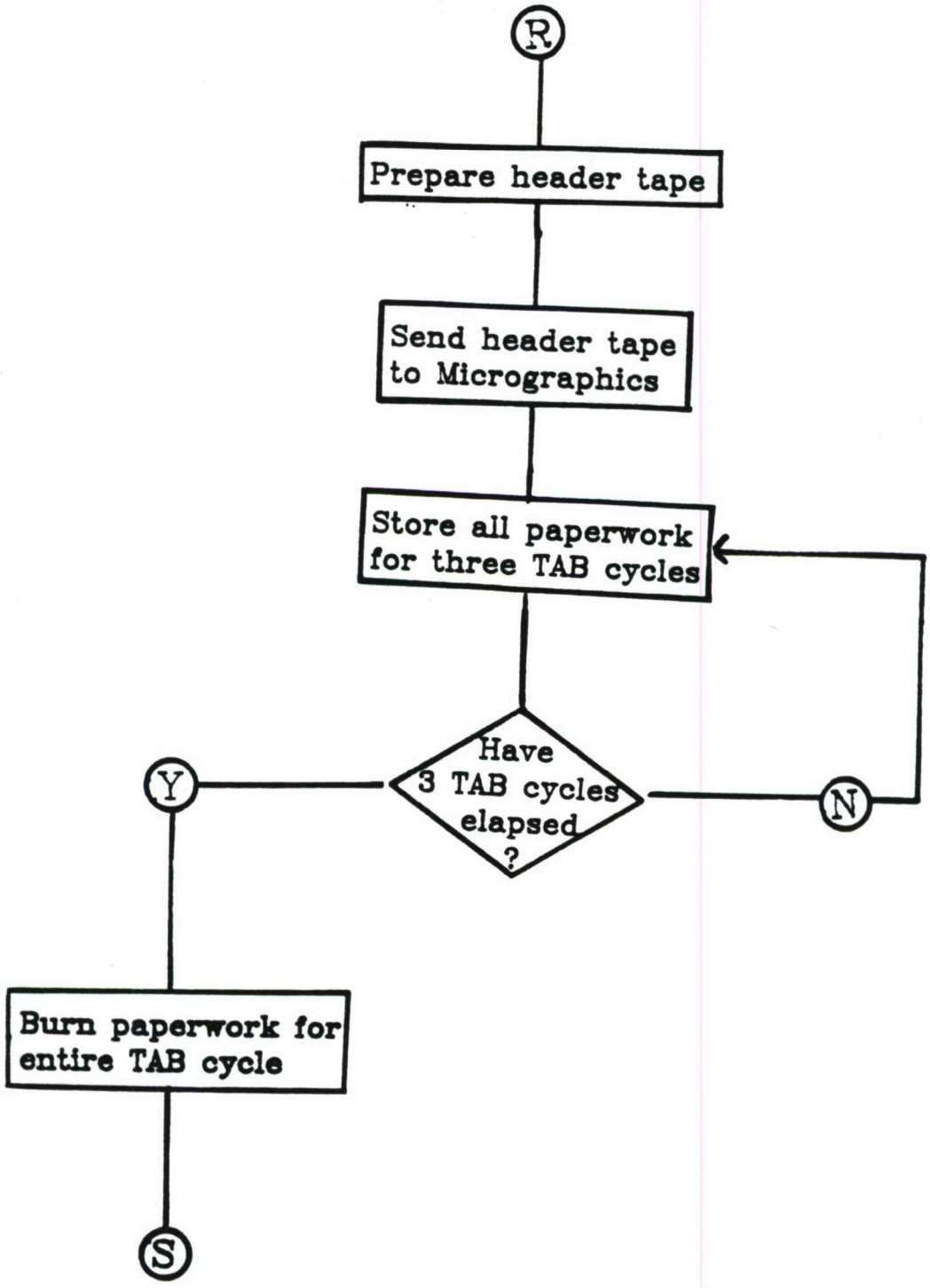

J
Add key words or posting terms to end of abstract
Is document a compilation ?
Y
L
N
Forward document and DTIC Form 41 to data transcriber
Key in abstract. Hold document until next day.
Run MAI on title and abstract
Print out title, abstract, and machine-assigned index terms
K

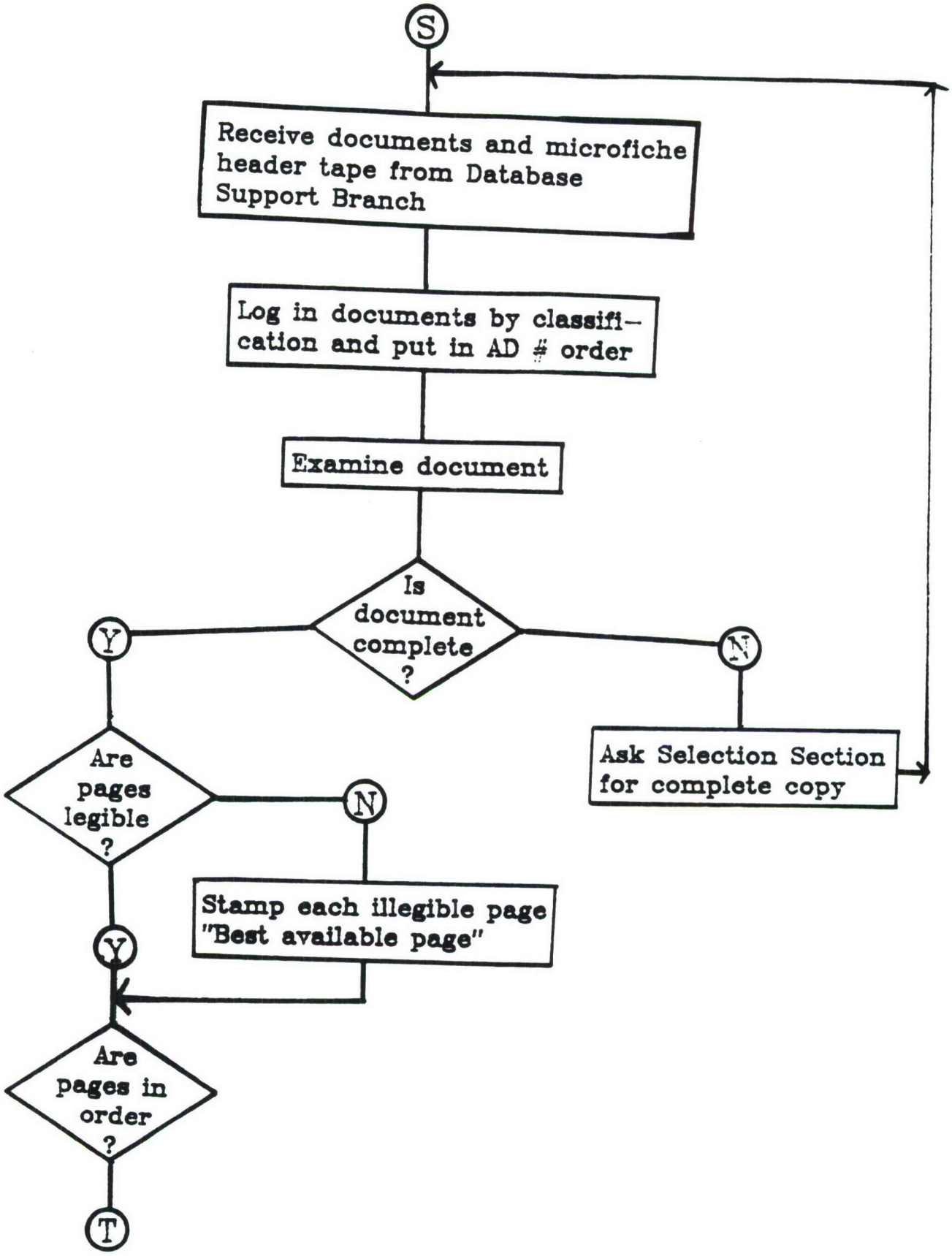

K
Is document classified ?
N
Y
Return MAI printout to any analyst
Include document and DTIC Form 41 with MAI printout
Sort by subject area and return packet to original analyst
Review machine-assigned index terms. Add to or delete from list. Make corrections due to misspellings
Assign index terms
L
Assign COSATI fields and groups
Forward to data transcriber for keystroking
M

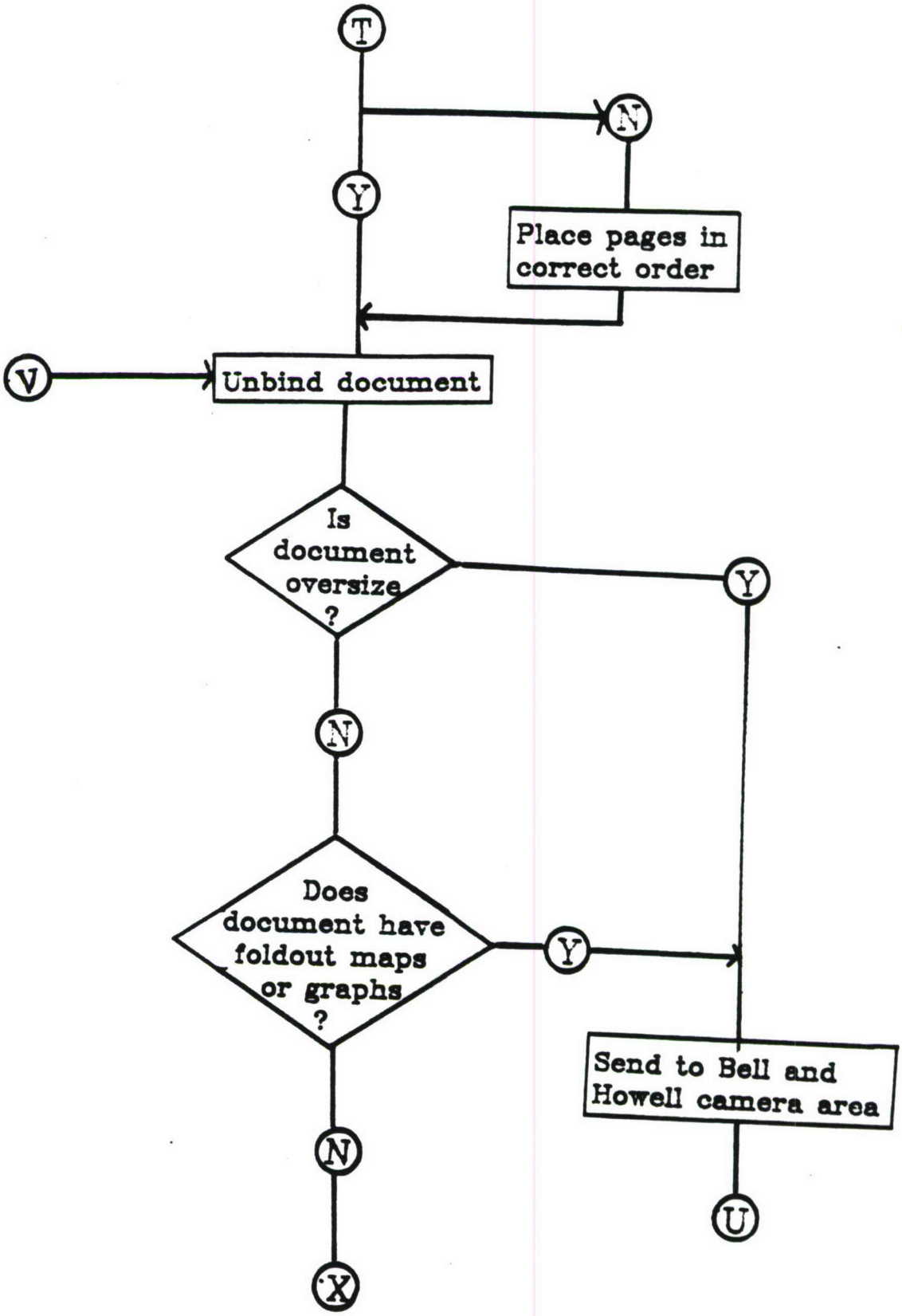

M
Is document a compilation ?
N
Y
Flag citation so it will not be MAI'd
Flag citation to move from Current File to MiniMad. Obtain printout of complete citation
Forward document, DTIC Form 41, MAI printout, and MiniMad printout to Database Support Branch
Log in according to classification
Is document a compilation ?
Y
Consider it a batch of ten
O
N
Batch documents in groups of ten
O

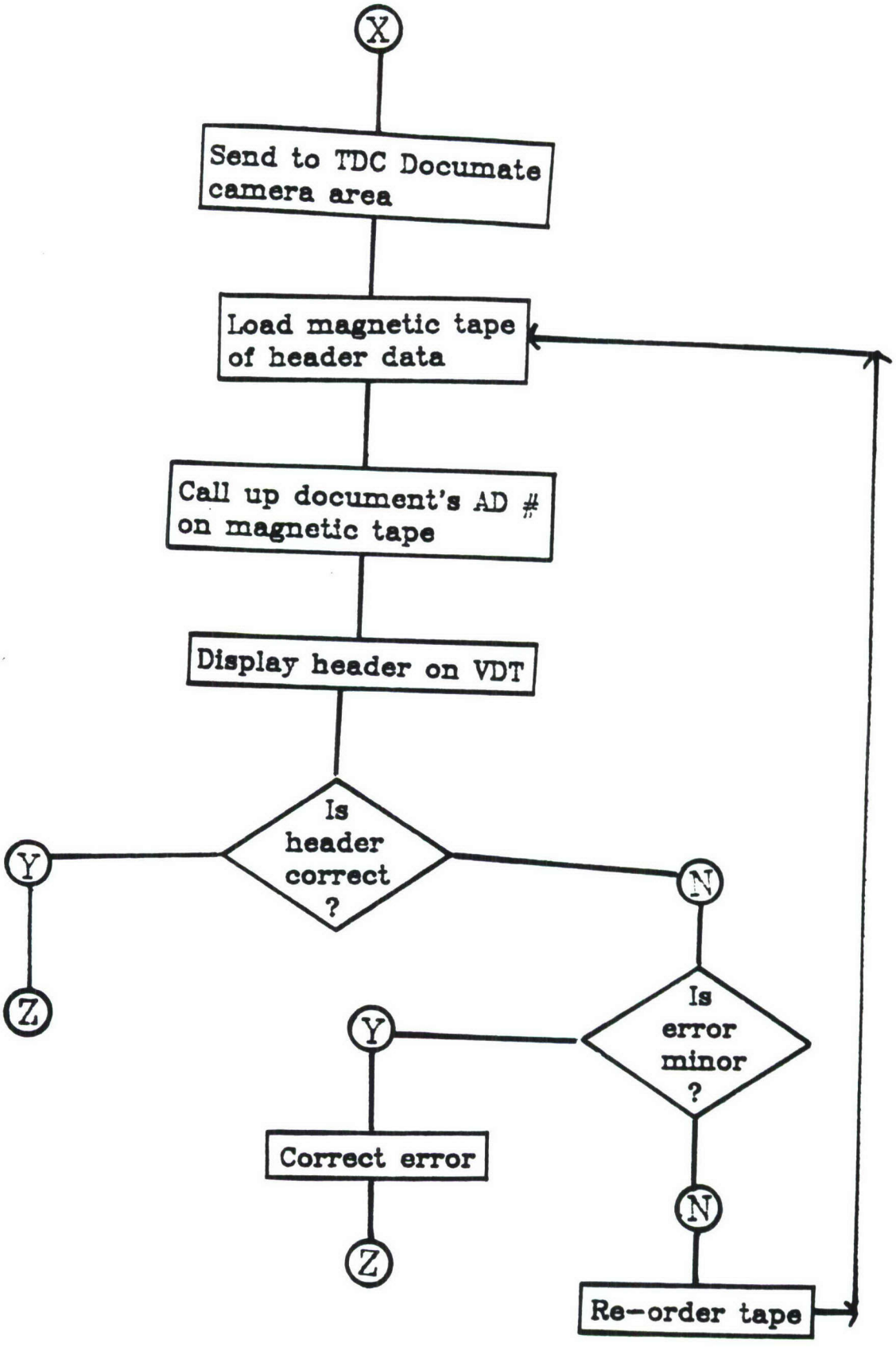

O
Compare MiniMad printout against MAI printout, DTIC Form 41 and document
Any input errors ?
N
Q
Y
Correct errors
Receive new printout
Any errors in corrected fields ?
N
Q
Y

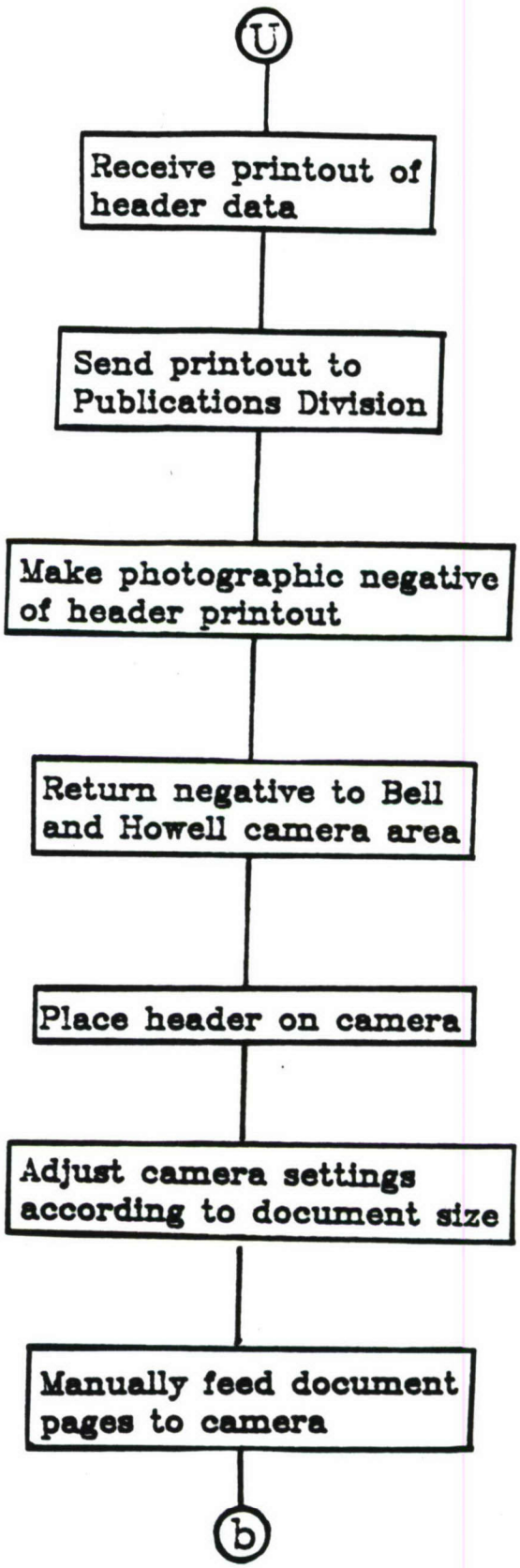

Q
Log out document and send to micrographics
Flag citation for microfiche header
Receive printout of microfiche header
Review microfiche header for errors
Any errors ?
N
R
Y
Correct errors
Is document a compilation ?
Hold all headers until all are correct
Y
R
N
R

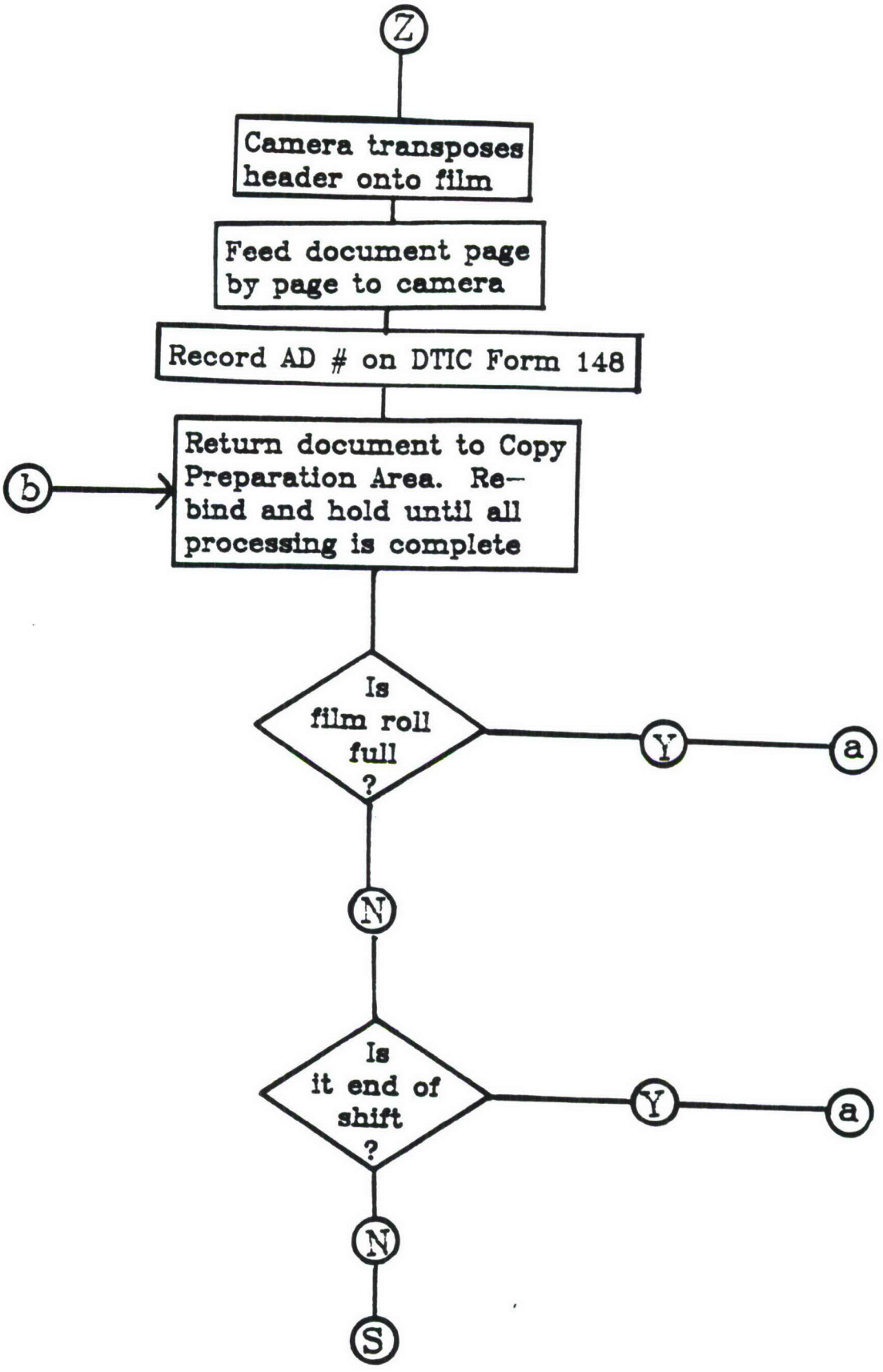

R
Prepare header tape
Send header tape to Micrographics
Store all paperwork for three TAB cycles
Have 3 TAB cycles elapsed ?
Y
N
Burn paperwork for entire TAB cycle
S

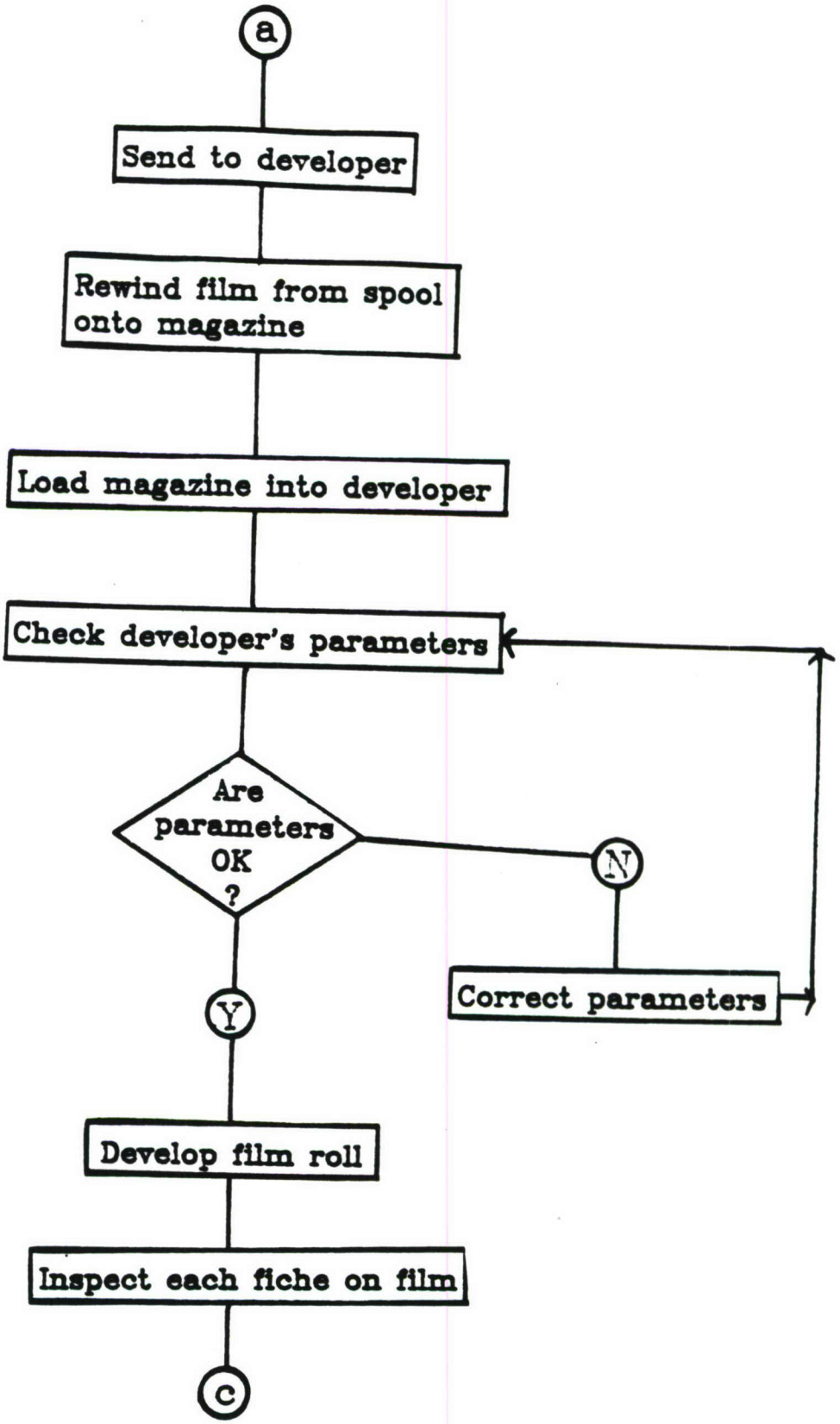

S
Receive documents and microfiche header tape from Database Support Branch
Log in documents by classification and put in AD # order
Examine document
Is document complete ?
Y
N
Ask Selection Section for complete copy
Are pages legible ?
N
Stamp each illegible page "Best available page"
Y
Are pages in order ?
T

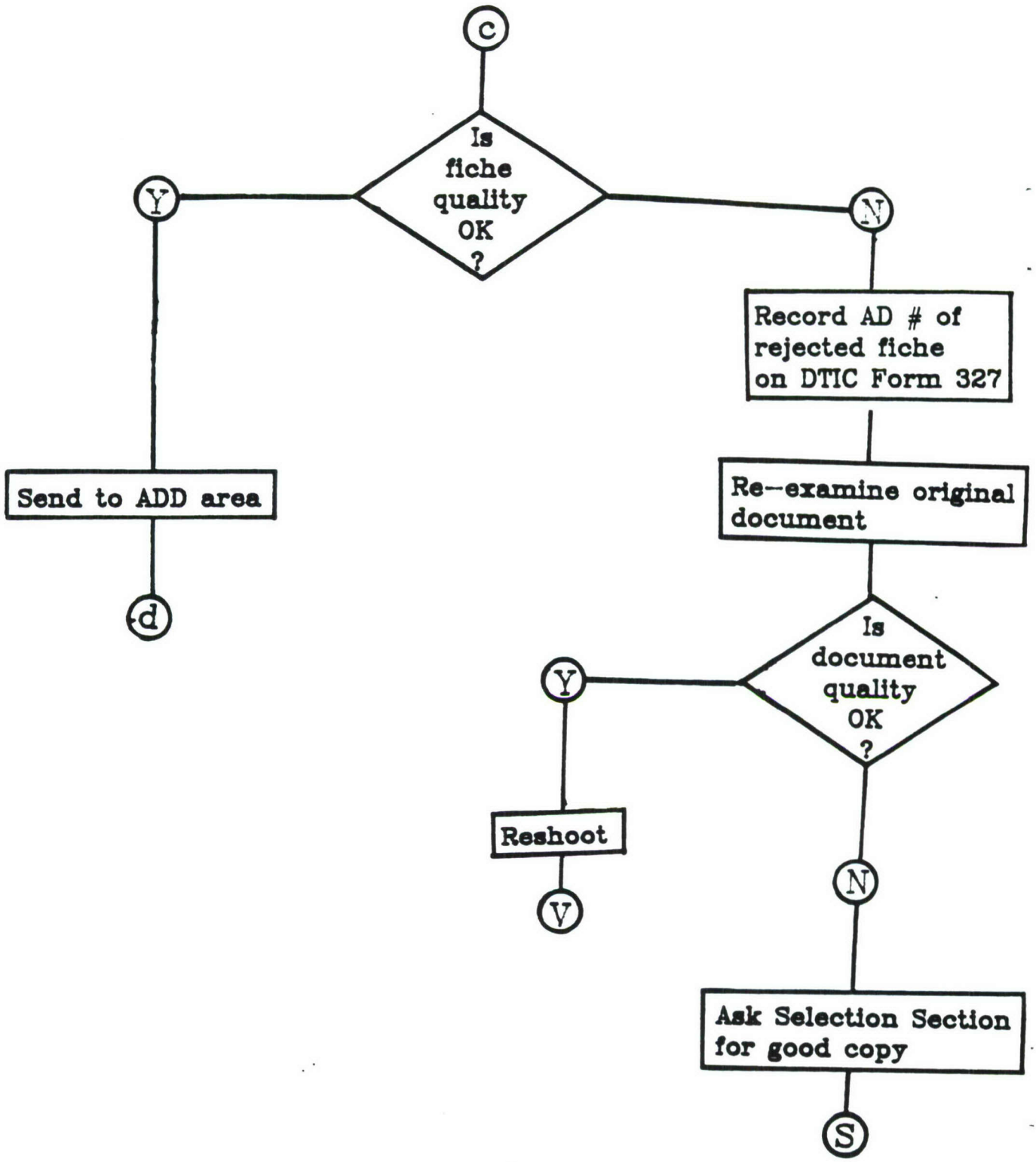

T
N
Y
Place pages in correct order
V
Unbind document
Is document oversize ?
Y
N
Does document have foldout maps or graphs ?
Y
Send to Bell and Howell camera area
N
U
X

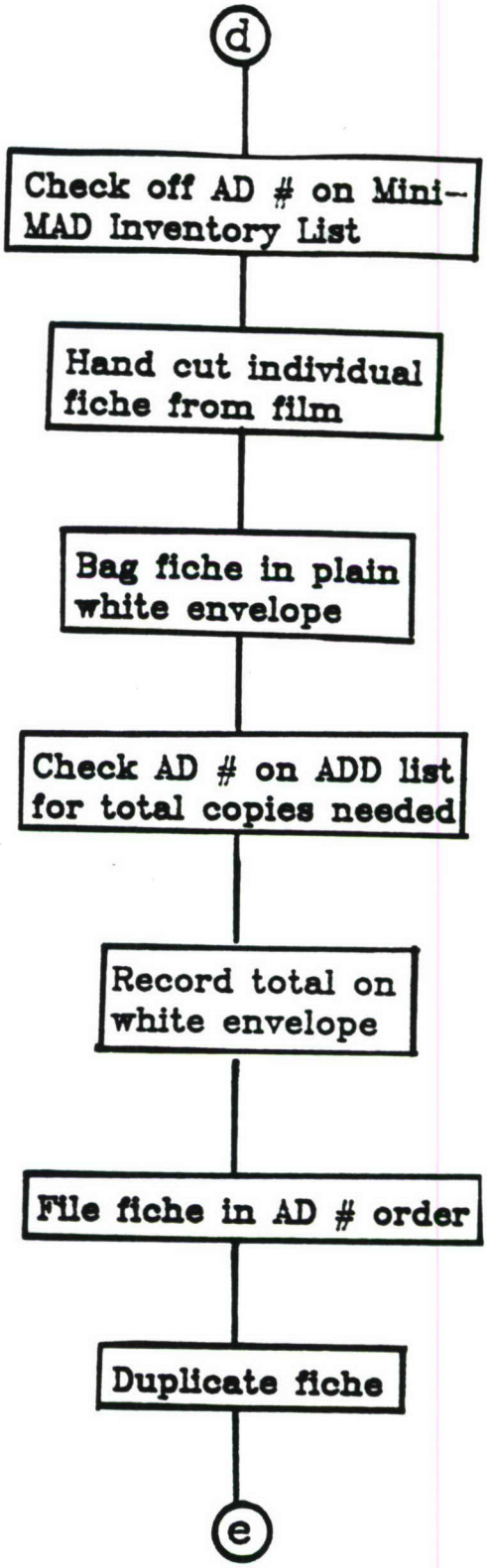

X
Send to TDC Documate camera area
Load magnetic tape of header data
Call up document's AD # on magnetic tape
Display header on VDT
Is header correct ?
Y
N
Z
Is error minor ?
Y
N
Correct error
Z
Re-order tape

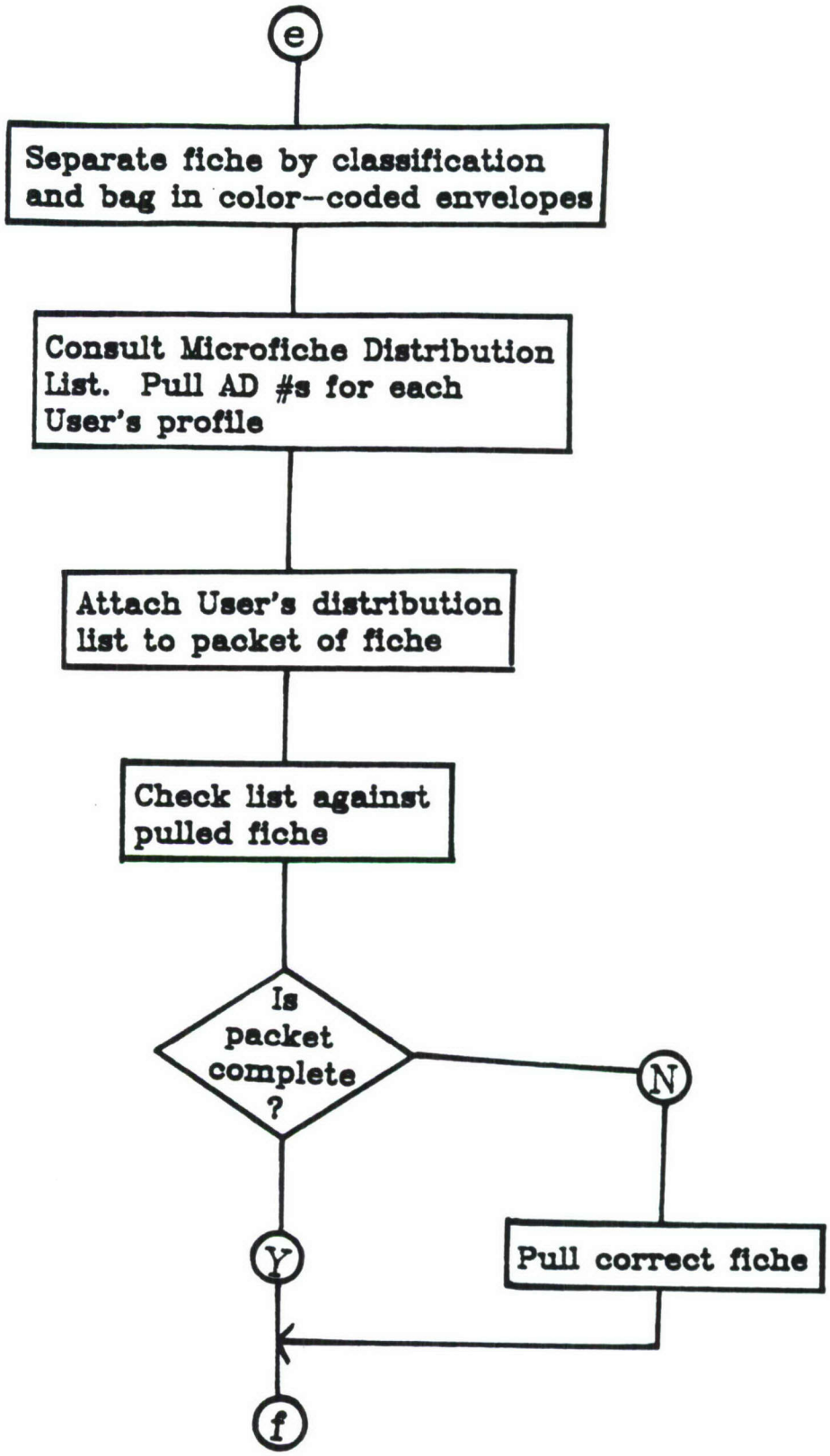

U
Receive printout of header data
Send printout to Publications Division
Make photographic negative of header printout
Return negative to Bell and Howell camera area
Place header on camera
Adjust camera settings according to document size
Manually feed document pages to camera
b

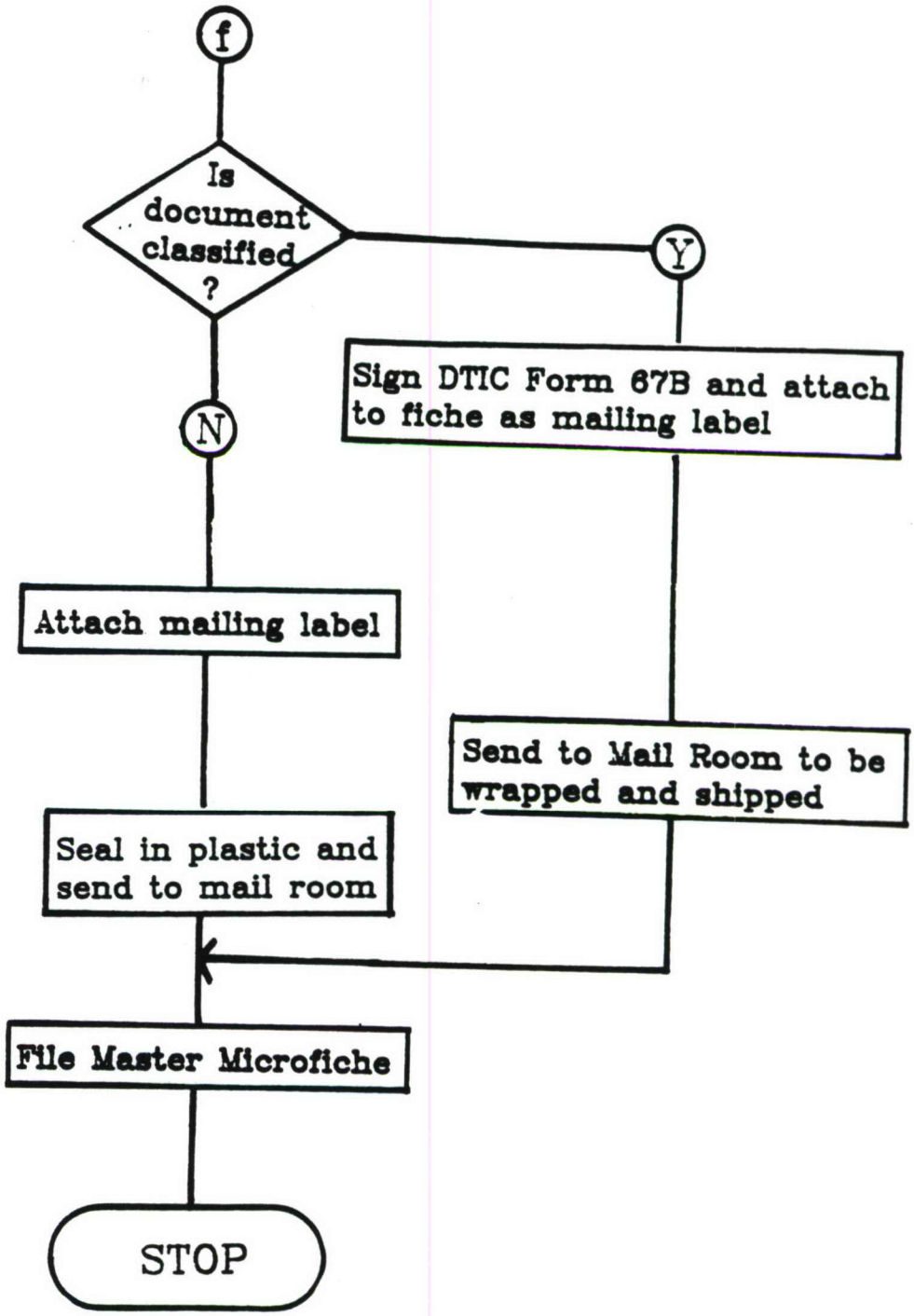

Z
Camera transposes header onto film
Feed document page by page to camera
Record AD # on DTIC Form 148
b
Return document to Copy Preparation Area. Re-bind and hold until all processing is complete
Is film roll full ?
Y
a
N
Is it end of shift ?
Y
a
N
S


a
Send to developer
Rewind film from spool onto magazine
Load magazine into developer
Check developer's parameters
Are parameters OK ?
N
Correct parameters
Y
Develop film roll
Inspect each fiche on film
c


c
Is fiche quality OK ?
Y
N
Send to ADD area
d
Record AD # of rejected fiche on DTIC Form 327
Re-examine original document
Is document quality OK ?
Y
N
Reshoot
V
Ask Selection Section for good copy
S


d
Check off AD # on Mini-MAD Inventory List
Hand cut individual fiche from film
Bag fiche in plain white envelope
Check AD # on ADD list for total copies needed
Record total on white envelope
File fiche in AD # order
Duplicate fiche
e


e
Separate fiche by classification and bag in color-coded envelopes
Consult Microfiche Distribution List. Pull AD #s for each User's profile
Attach User's distribution list to packet of fiche
Check list against pulled fiche
Is packet complete ?
N
Y
Pull correct fiche
f

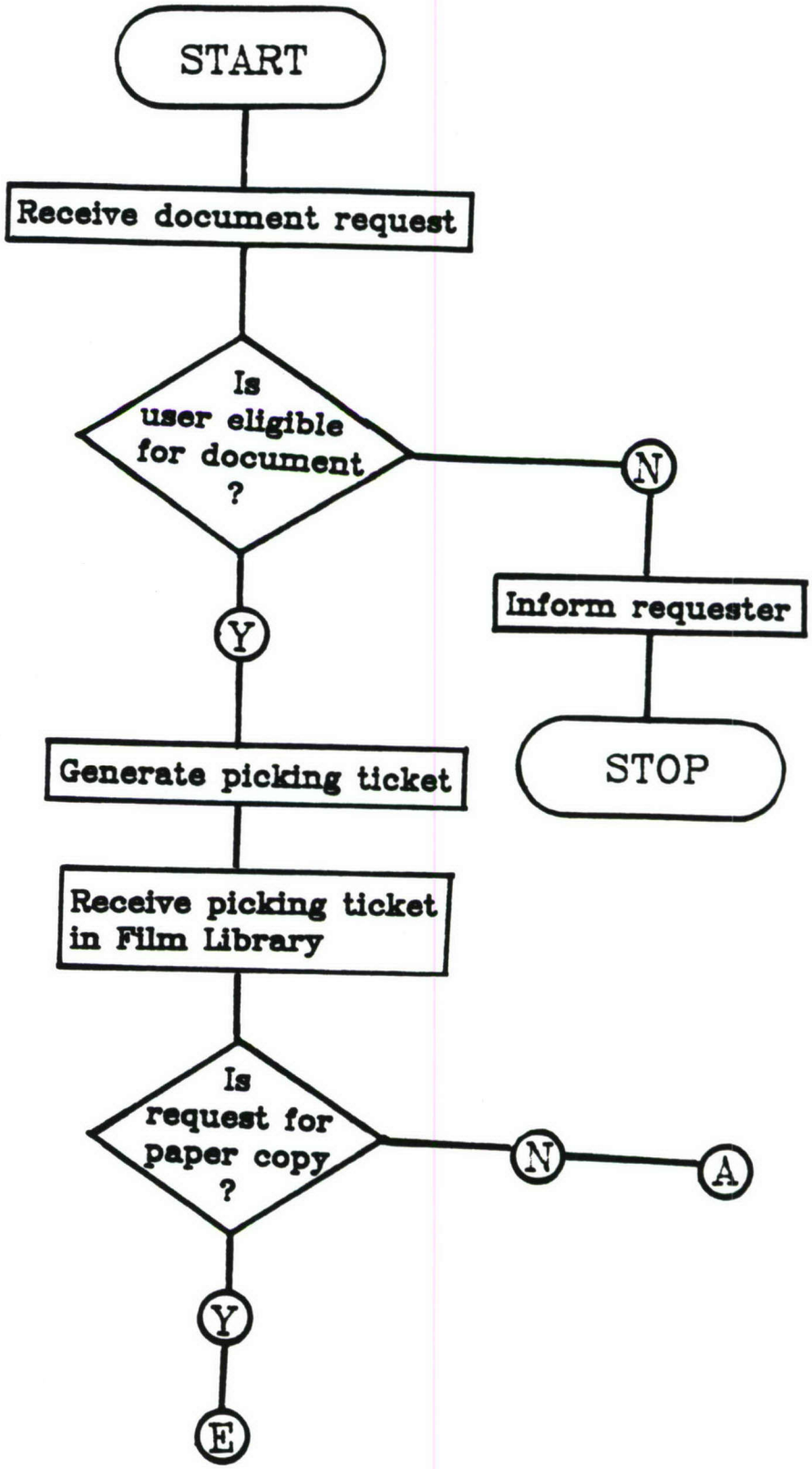

f
Is document classified ?
Y
N
Sign DTIC Form 67B and attach to fiche as mailing label
Attach mailing label
Send to Mail Room to be wrapped and shipped
Seal in plastic and send to mail room
File Master Microfiche
STOP

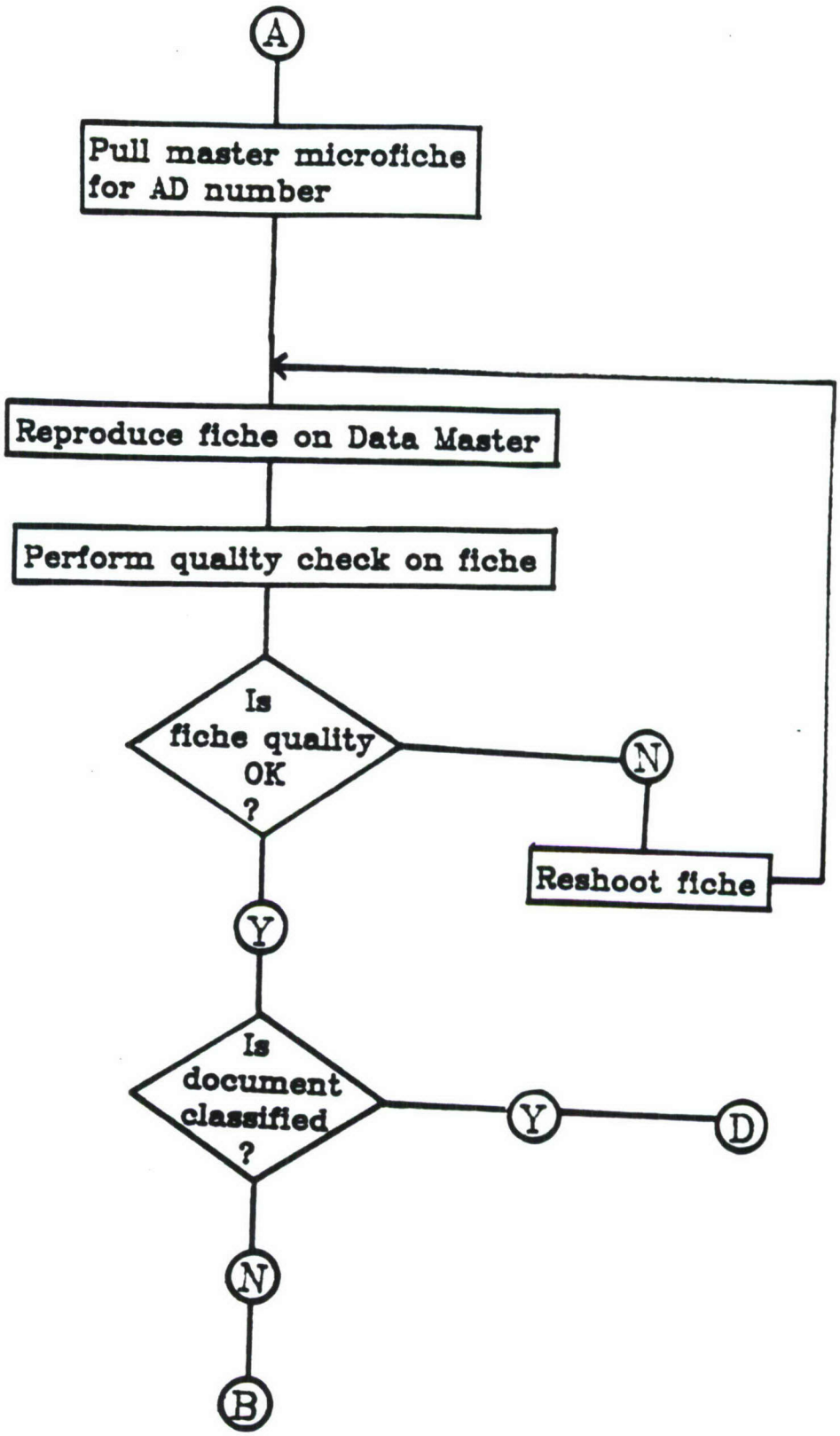
APPENDIX B

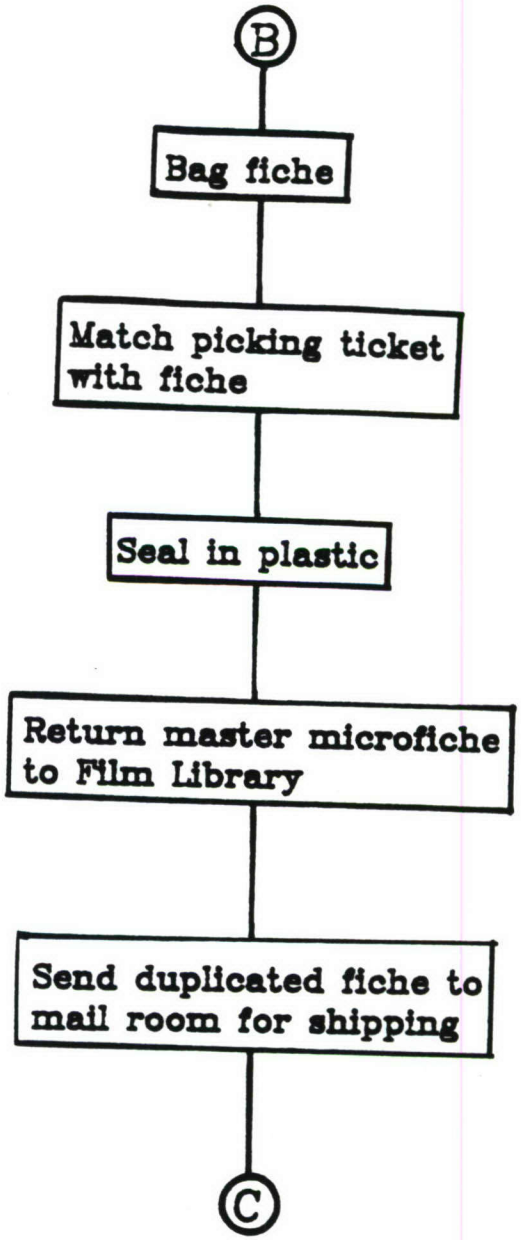
Document Request Output

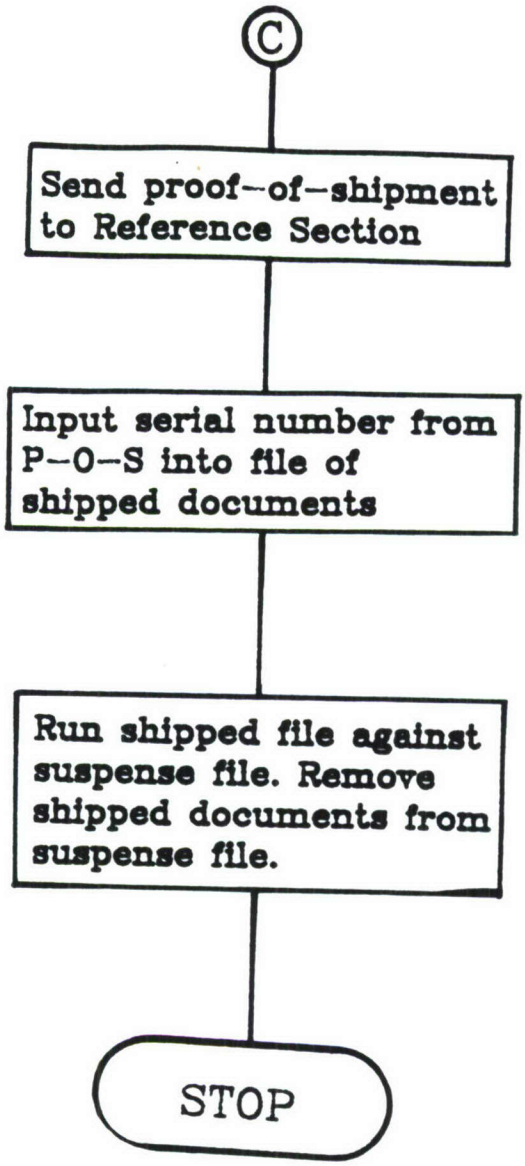
Flow Chart

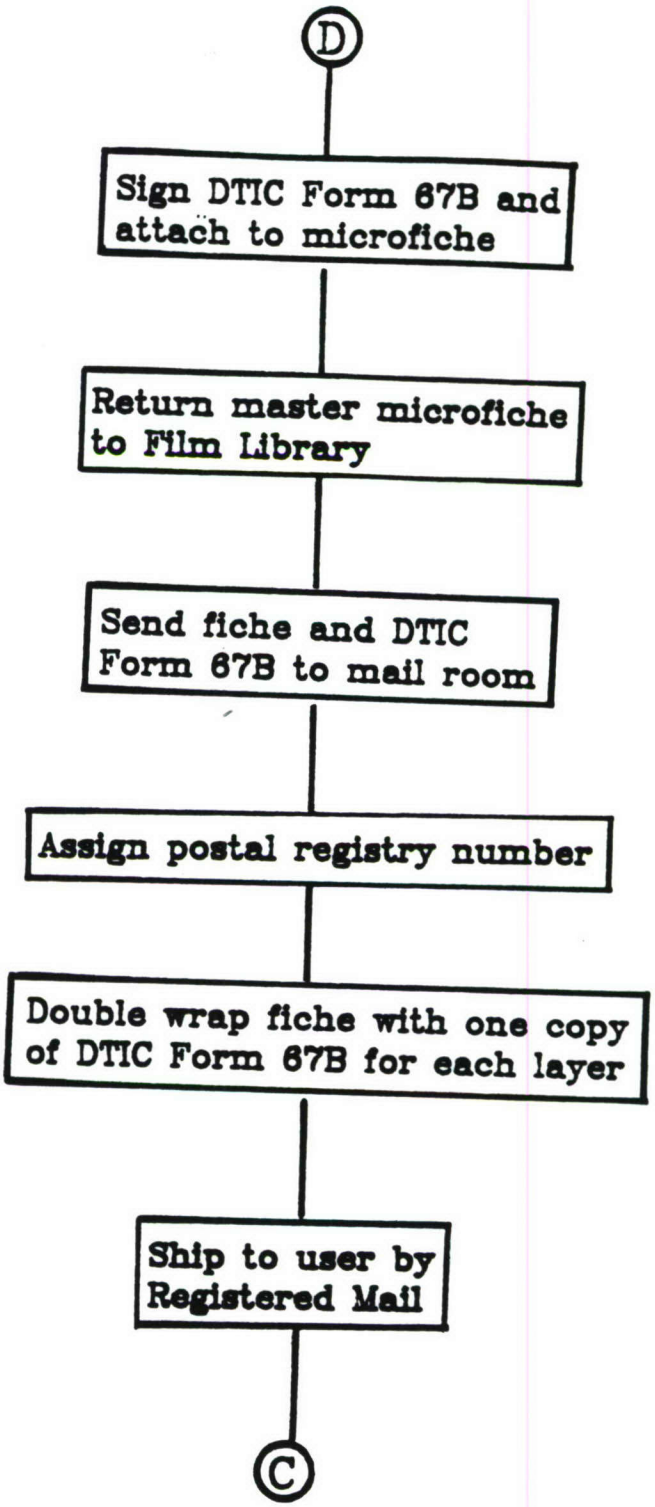
as of 1 September 85

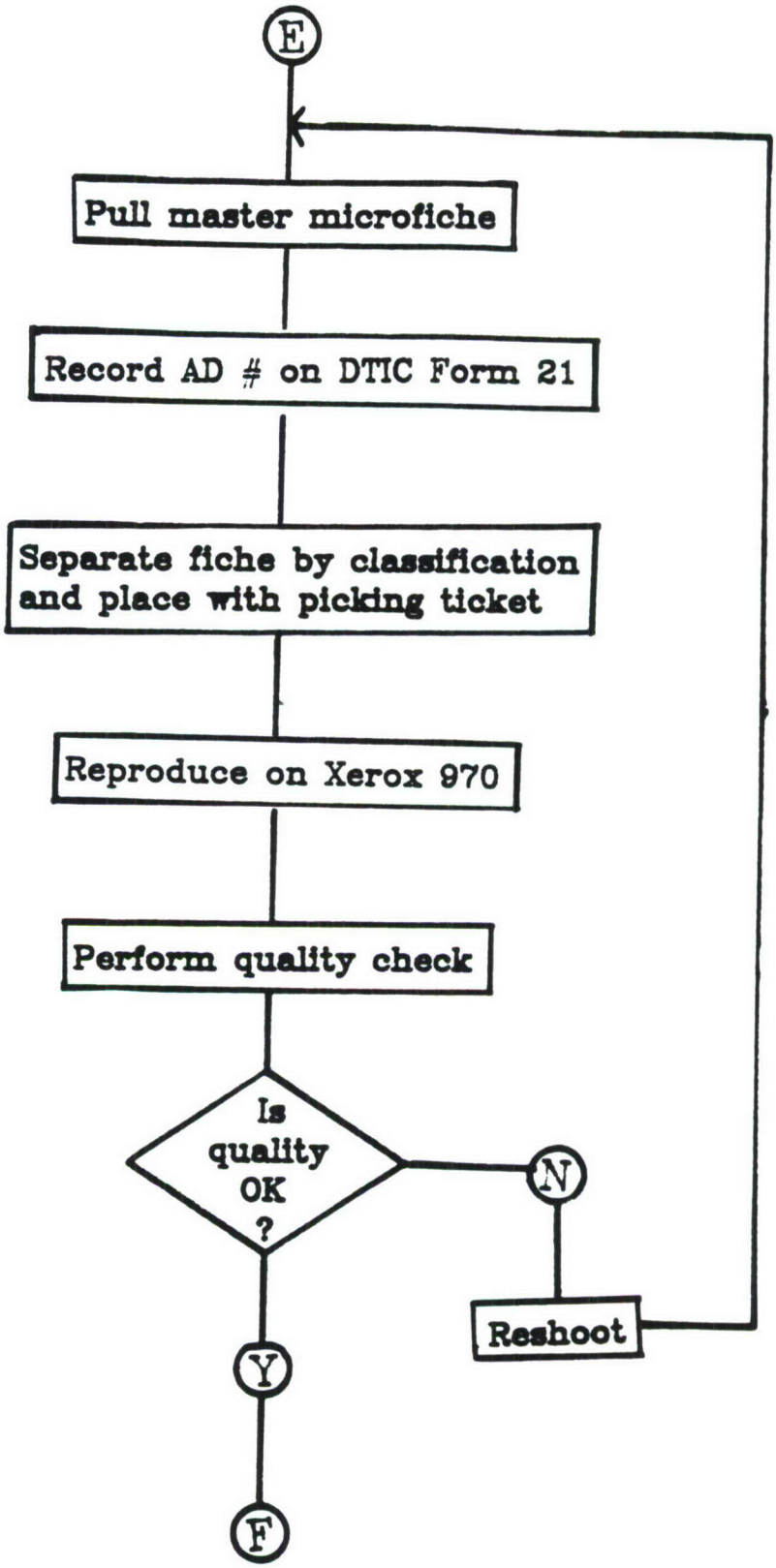

START
Receive document request
Is user eligible for document ?
N
Inform requester
STOP
Y
Generate picking ticket
Receive picking ticket in Film Library
Is request for paper copy ?
N
A
Y
E

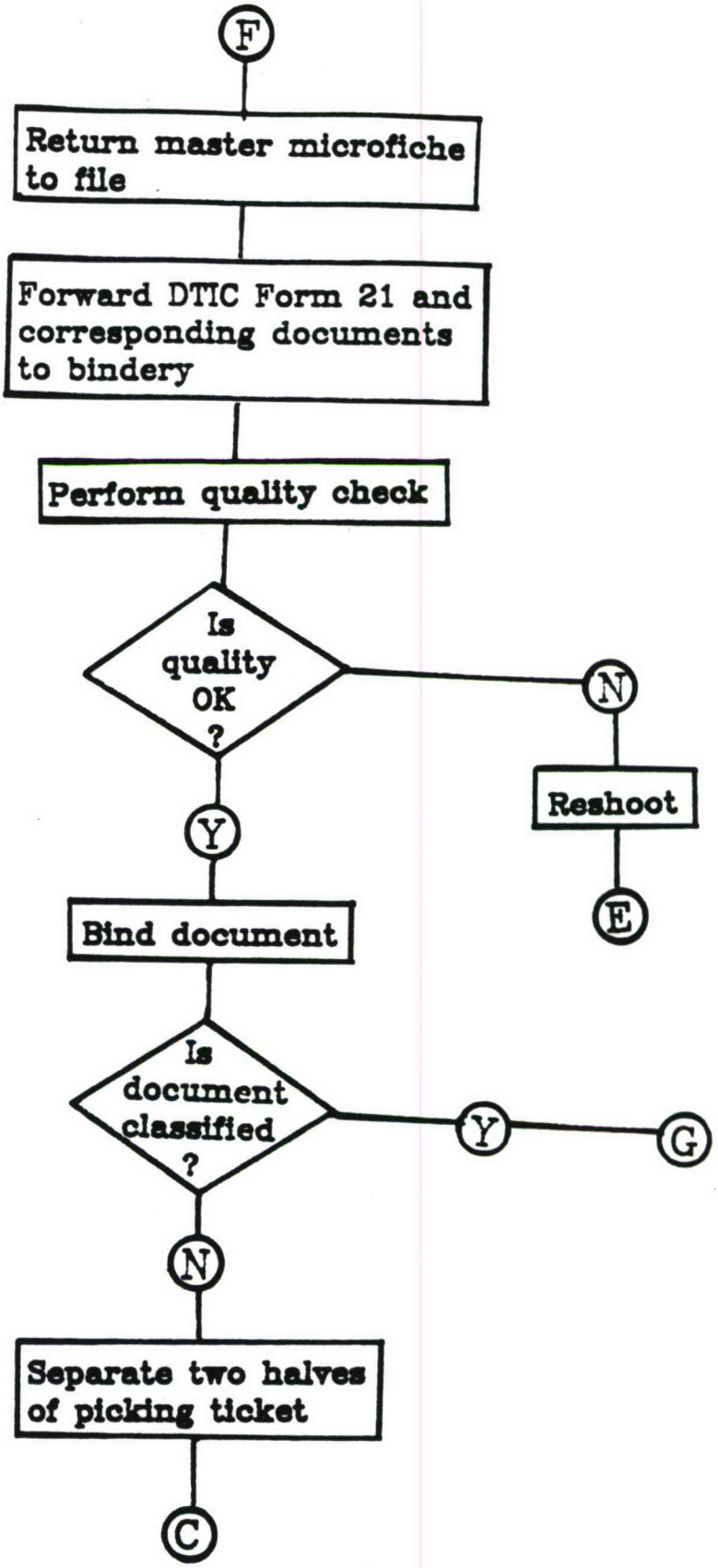

A
Pull master microfiche for AD number
Reproduce fiche on Data Master
Perform quality check on fiche
Is fiche quality OK ?
N
Reshoot fiche
Y
Is document classified ?
Y
D
N
B

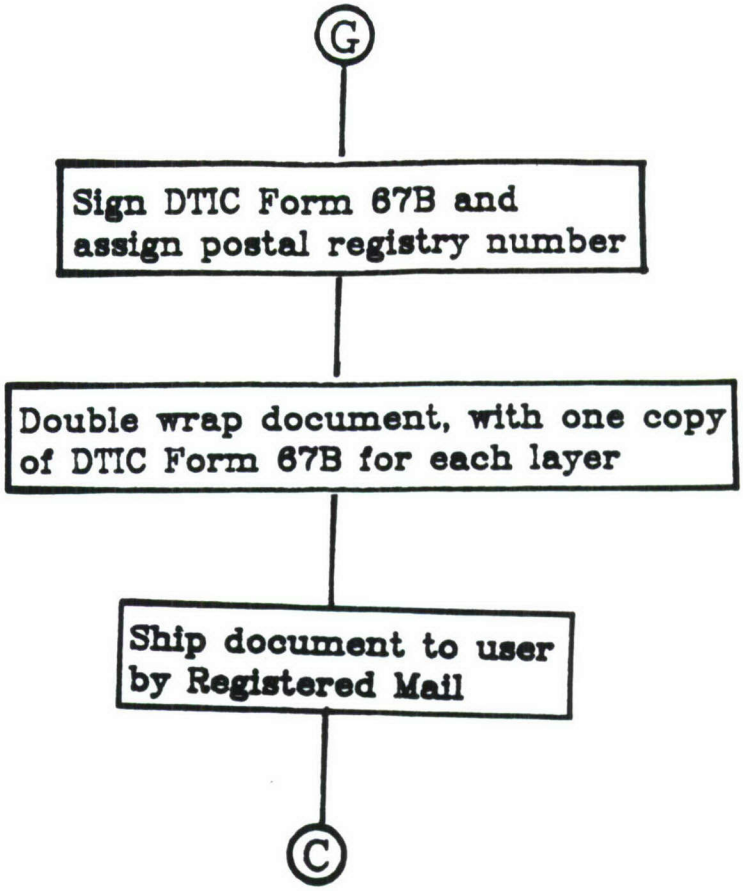

B
Bag fiche
Match picking ticket with fiche
Seal in plastic
Return master microfiche to Film Library
Send duplicated fiche to mail room for shipping
C


C
Send proof-of-shipment to Reference Section
Input serial number from P-O-S into file of shipped documents
Run shipped file against suspense file. Remove shipped documents from suspense file.
STOP


D
Sign DTIC Form 67B and attach to microfiche
Return master microfiche to Film Library
Send fiche and DTIC Form 67B to mail room
Assign postal registry number
Double wrap fiche with one copy of DTIC Form 67B for each layer
Ship to user by Registered Mail
C


E
Pull master microfiche
Record AD # on DTIC Form 21
Separate fiche by classification and place with picking ticket
Reproduce on Xerox 970
Perform quality check
Is quality OK ?
N
Reshoot
Y
F


F
Return master microfiche to file
Forward DTIC Form 21 and corresponding documents to bindery
Perform quality check
Is quality OK ?
N
Reshoot
E
Y
Bind document
Is document classified ?
Y
G
N
Separate two halves of picking ticket
C


G
Sign DTIC Form 67B and assign postal registry number
Double wrap document, with one copy of DTIC Form 67B for each layer
Ship document to user by Registered Mail
C

APPENDIX C

Sample Forms in DTIC Document

Handling Procedures

(RESERVED FOR DDC USE)

DOCUMENT REQUEST

DEFENSE DOCUMENTATION CENTER
Cameron Station
Alexandria, Virginia 22314

INSTRUCTIONS

1. REQUEST DOCUMENTS ON THIS FORM AND MAIL TO THE ADDRESS ABOVE IF YOU HAVE A DoD USER CODE (BLOCK 6) AND AN NTIS DEPOSIT ACCOUNT (BLOCK 2). (THIS FORM MAY BE USED TO RECEIVE A DISCOUNT ON UNCLASSIFIED/UNLIMITED DEPARTMENT OF DEFENSE REPORTS ANNOUNCED AND SUPPLIED BY NTIS.)

2. OTHER NTIS ANNOUNCED REPORTS SHOULD BE REQUESTED DIRECTLY FROM NTIS USING THEIR DOCUMENT REQUEST FORMS.

USE REVERSE OF FORM WHEN DDC DOCUMENT NUMBER IS UNKNOWN

1. DDC DOCUMENT NUMBER (Enter One Only)

AD

ATI

TIP

2. NTIS DEPOSIT ACCOUNT NUMBER

3. CONTRACT NUMBER (Classified Document Request)

4. TYPE OF COPY (Check One Only)

MICROFORM
(MICROFICHE SINCE 1965, MICROFORM FOR OLDER DOCUMENTS) ☐

PAPER COPY ☐

REPRODUCIBLE MASTERS SUITABLE FOR OFFSET REPRODUCTION ARE ALSO AVAILABLE, CONTACT DDC-TSR-1, AC 202, 274-7633 FOR FURTHER INFORMATION

5. QUANTITY

6. USER CODE. BE SURE THIS IS YOUR CORRECT CODE

7. ROUTING INFORMATION TO FACILITATE YOUR INTERNAL ROUTING (Optional) (12 Characters Maximum)

8. IF DOCUMENT HAS BEEN APPROVED FOR PUBLIC RELEASE AND YOU DO NOT WANT DDC TO FORWARD THIS REQUEST TO NTIS, CHECK HERE: ☐

THIS IS A MACHINE FORM. DO NOT STAPLE, FOLD, SPINDLE, or MUTILATE.
(Space below reserved for DDC use only)

DDC FORM 1 JULY 72

NECG/NP-35757

WHEN YOU DO NOT KNOW THE DTIC DOCUMENT NUMBER, PRINT OR TYPE: (A) ALL IDENTIFYING INFORMATION BELOW; (B) YOUR COMPLETE MAILING ADDRESS IN BLOCK NO. 5 (Do not use gummed labels)

AVOID USING A CLASSIFIED TITLE. IF CLASSIFIED INFORMATION MUST BE INCLUDED, CLASSIFY THIS FORM AND TRANSMIT AS CLASSIFIED CORRESPONDENCE.

1. SPONSORING MILITARY ACTIVITY

2. MILITARY SERIES NUMBER

3. ORIGINATING ACTIVITY (Give Specific Laboratory or Division and Location)

4. ORIGINATOR'S SERIES NUMBER

5. COMPLETE MAILING ADDRESS OF REQUESTING ORGANIZATION

6. PERIOD COVERED AND/OR PROGRESS REPORT NUMBER

7. PROJECT NUMBER

8. CONTRACT OR GRANT NUMBER OF REPORT

9. DATE PUBLISHED

10. REPORT TITLE AND PERSONAL AUTHORS

DTIC Form 21 - Film Processing Record

FILM PROCESSING RECORD		FOLDER NO.
CLASSIFICATION	SCREEN	COPIES
ROUTING	INITIAL	DATE
CONTROL CLERK		
MEP OPERATOR		
COPYFLO OPERATOR		

AD	ATI	STI	TIP
1		26	
2		27	
3		28	
4		29	
5		30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

DTIC FORM 21 FEB 81

PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

DTIC Form 24 - AD Accountability Record

AD ACCOUNTABILITY RECORD	TAB/UNANNOUNCED — GRA

AD 00 THRU AD 49

AD	CLASS.	DATE RECEIVED	INIT.	DATE OUT	AD	CLASS.	DATE RECEIVED	INIT.	DATE OUT
00					25				
01					26				
02					27				
03					28				
04					29				
05					30				
06					31				
07					32				
08					33				
09					34				
10					35				
11					36				
12					37				
13					38				
14					39				
15					40				
16					41				
17					42				
18					43				
19					44				
20					45				
21					46				
22					47				
23					48				
24					49				

DTIC FORM MAY 80 24

PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

DTIC Form 24A - AD Accountability Record For Secret-CNWDI Documents

AD ACCOUNTABILITY RECORD FOR SECRET-CNWDI DOCUMENTS (TAB/UNANNOUNCED)

AD THRU AD

AD	DATE RECEIVED	INIT.	DATE OUT	AD	DATE RECEIVED	INIT.	DATE OUT

DTIC FORM OCT 79 24A

DTIC Form 27 - Classified Document Receipt

1. **TO:** *(Complete Address)*	2. **RETURN SIGNED COPY TO:** *(Complete Address)*	3. CONTROL OR REGISTER NUMBER
		4. DATE DISPATCHED

DESCRIPTION *(List document originator, type, abbreviated classification, unclassified subject or title, number of copies and copy numbers if any, attachments followed by abbreviated classification, other identifying data. Changes in the description (additions, withdrawals, etc.) will be shown with the date and initials of individual making entry).*

NOTE: *ONLY TOP COPY OF SET WILL BE SIGNED.*

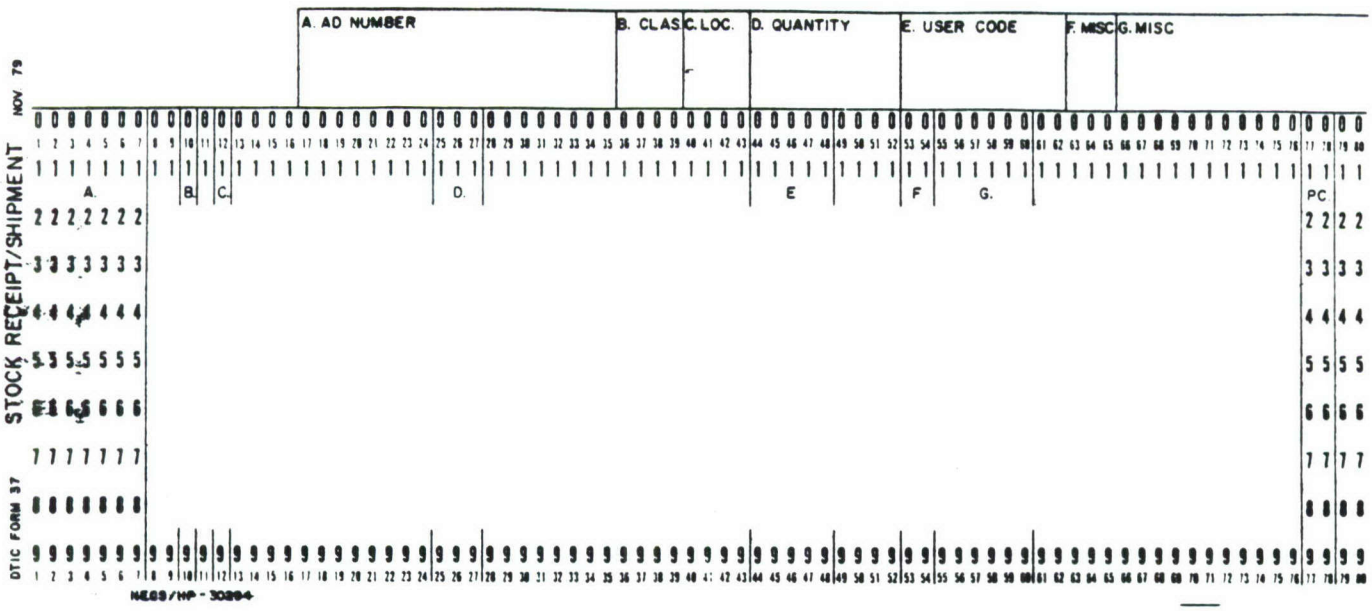
6. **DOCUMENT RECEIPT**		
a. TYPED OR PRINTED NAME AND GRADE	b. SIGNATURE	c. DATE

7. **DESTRUCTION CERTIFICATE:** *All material described above has been destroyed in accordance with prescribing directive.*		
a. SIGNATURE & GRADE OF DESTRUCTION OFFICIAL	b. SIGNATURE & GRADE OF WITNESSING OFFICIAL	c. DATE DESTROYED

DLA FORM 27 **JAN 76** EDITION OF JAN 69 IS OBSOLETE. ALSO REPLACES DLA FORM 125 WHICH IS OBSOLETE

CLASSIFIED DOCUMENT RECEIPT

DTIC Form 37 - Stock Receipt/Shipment



DTIC Form 41 - Document Data Worksheet

1. AD	2. CODE / FLD / GRP / SUB-GRP	INDEXER / REVIEWER	CATALOGER / REVIEWER	EDITOR / VERIFIER
6. U-TITLE	11. DATE		16. PROJECT	
7. C-TITLE	REGRADE DATE		17. TASK	
8. T-CLASS	12. PP		18. M-ACRONYM	
9. DESC. NOTE	14. OA-SERIES		19. M-SERIES	
10. AUTHOR	15. CONTRACT		20. R-CLASS	

21. SUPPLEMENTARY NOTE	22. DISTRIBUTION/AVAILABILITY STATEMENTS

23. DESCRIPTORS *	24. DESCRIPTOR CLASSIFICATION U CRD C CFRD S SRD R SFRD
25. IDENTIFIERS AND/OR OPEN-ENDED TERMS	26. IDENT. & O. E. TERMS CLASSIFICATION U CRD C CFRD S SRD R SFRD

27. ABSTRACT ☐ DTIC ☐ AUTHOR ☐ MOD. ☐ NO ASST. ☐ SEE BACK COPY FROM PAGE(S) _____	28. ABSTRACT CLASSIFICATION U CRD C CFRD S SRD R SFRD	29. INVENTORY

30. INDEX ANNOTATION *(MUST BE UNCLASSIFIED)*

31. SPEC CODE A X Y Z	32. REGRADE CODE A B C D E F G	33. DISTRIBUTION/ AVAILABILITY CODES DIST. / AVAIL. / SPECIAL	34. SERIAL NUMBER 35. SOURCE CODE	36. DOCUMENT LOCATION [1] NTIS [2] DTIC
37. CLASS BY			38. DECLASS. ON	39. CONF. ON
45. EXTENDED BY			46. REVIEW ON	47. REASON CODE(S) 1 2 3 4 5 6 7 8

DTIC FORM 41 MAR 80 — DOCUMENT DATA WORKSHEET — PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED

REQUEST FOR LIMITED DOCUMENT

NOTE: This form may be classified if necessary. See instructions on reverse. No carbon paper required in the completion of this form.

DTIC CONTROL NO.

USER CONTROL NO.

I. REQUEST AND JUSTIFICATION

AD NUMBER

DATE REQUESTED

CLASSIFICATION:
- ☐ Unclassified
- ☐ Confidential
- ☐ Secret
- ☐ RD
- ☐ CNWDI
- ☐ NATO

DISTRIBUTION STATEMENT:
- ☐ U. S. Gov't. Only
- ☐ DoD Only
- ☐ All Release Controlled

} Others to: *(Address in Section III)*

BIBLIOGRAPHICAL INFORMATION *(Include All Available Identifying Data)*

SPONSORING MILITARY ACTIVITY AND SERIES NUMBER

ORIGINATOR.S SERIES NUMBER AND DATE PUBLISHED

CONTRACT OR GRANT NUMBER OF REPORT

REPORT TITLE AND PERSONAL AUTHORS

ORIGINATING ACTIVITY *(Give specific Lab. or Div. and Location)*

REQUIRED FOR *(Explain need in detail, include applicable contracts)*

II. REQUESTING ORGANIZATION AND GOVERNMENT SPONSOR IDENTIFICATION

REQUESTING ORGANIZATION AND ADDRESS

SIGNATURE AND TITLE

USER CODE

FACILITY CLEARANCE

REGISTERED CONTRACT NUMBER

CONTRACT CLEARANCE

GOVERNMENT SPONSOR AND ADDRESS

TYPE COPY AND QUANTITY

☐ Microform _____ Copy(s) ☐ Paper Copy _____ Copy(s)

METHOD OF PAYMENT

☐ Charge to NTIS Deposit Account No. _____

☐ Bill My Organization to the Attention of:

CONTRACT MONITOR AND TELEPHONE NUMBER

III. RELEASING AGENCY DECISION

RELEASING AGENCY

ADDRESS *(Street, City, State)*

☐ APPROVED FOR RELEASE TO REQUESTER IN SECTION II

☐ APPROVED FOR RELEASE TO ALL REGISTERED DDC USERS WITH ADEQUATE SECURITY CLEARANCE AND NEED-TO-KNOW

☐ DISAPPROVED. REASON FOR DISAPPROVAL:

TYPED NAME AND TITLE

SIGNATURE

DATE

DTIC FORM 55 NOV 79

COPIES TO BE RETAINED: WHITE-DTIC YELLOW-RELEASING AGENCY PINK-DTIC SUSPENSE GOLD-REQUESTER

PREVIOUS EDITIONS MAY BE USED UNTIL STOCK IS EXHAUSTED

U.S. GOVERNMENT PRINITNG OFFICE: 1984 - 443-714/7338

CAMERA OPERATOR'S FILMING LIST

1. CAMERA NUMBER	2. DATE	3. OPERATOR

4. FILM SIZE
☐ 105 MM ☐ 35 MM ☐ 16 MM

5. REEL NUMBER

6. BATCH NUMBER

7. DOCUMENT TYPE
☐ AD
☐ ATI

8. TYPE OF ACTION
☐ ERRATA ☐ TARGETS ONLY
☐ RETAKE ☐ RECLASSIFICATION

ACCESSION NUMBER	CLASSIFICATION			NO. FICHE	NO. FRAMES	REMARKS
	U	C	S			

DTIC FORM MAY 84 148 PREVIOUS EDITIONS ARE OBSOLETE.

SPECIAL REQUESTS RECORD - DTIC-DDR

DATE

USER CODE	DOCUMENT NUMBER	REQUESTER	USER TYPE	DOC. CLASS.	DOC. LIM.	TYPE COPY	NO. OF COPIES	M-MAIL P-PICKUP C-COURIER	DATE ORDERED	DATE SHIPPED	NAME

DTIC Form 212 - Special Requests Record - DTIC-DDR

DTIC FORM 212 AUG 85

PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

DTIC Form 212A - Special Request

SPECIAL REQUEST

	NTIS DEPOSIT ACCT. NO.	USER CODE
REQUESTING ORGANIZATION	CUSTOMER ROUTING	
DATE SHIPPED	PROCESSOR	DATE

MODE OF DELIVERY ☐ SHIP ☐ PICK-UP ☐ COURIER

DOCUMENT NUMBER	TYPE	QTY	DOCUMENT NUMBER	TYPE	QTY	DOCUMENT NUMBER	TYPE	QTY

DTIC FORM FEB 80 212A

DTIC Form 273 - Document Request - Deposit Account

DOCUMENT REQUEST - DEPOSIT ACCOUNT

DTIC DOCUMENT NUMBER (1 - 7)	NTIS DEPOSIT ACCOUNT NUMBER (8 - 12)	CONTRACT NUMBER (13 - 18)	QTY. (25 - 27)	TYPE COPY (28)	OVER-RIDE CODE (43)	DTIC USER CODE (44 - 48)	ROUTING INFORMATION (49 - 66)

NAME

DATE

DTIC FORM 273 DEC 81

PREVIOUS EDITION WILL BE USED UNTIL SUPPLY IS EXHAUSTED

MICROFICHE RETAKE ORDER

DATE		
REEL NUMBER	TAB NUMBER	INSPECTOR
OPERATOR		CAMERA NUMBER

ACCESSION NUMBER	Classification			NO. FICHE	REASON FOR RETAKE
	U	C	S		

DTIC FORM MAR 80 327

PREVIOUS EDITIONS MAY BE USED UNTIL STOCK IS EXHAUSTED.

DTIC Form 397 - Conversation Record

CONVERSATION RECORD

3. ☐ TELEPHONE (INCOMING) ☐ TELEPHONE (OUTGOING) ☐ OFFICE VISIT		1. DATE	2. TIME
4. DTIC USER CODE	5. NTIS DEPOSIT ACCOUNT NUMBER	6. CALL MADE BY/TO	
7. OFFICE/FIRM/COMPANY and LOCATION		8. PHONE NUMBER and/or EXTENSION	

9. REASON FOR CALL	
10. DTIC ACTION TAKEN	
11. NAME OF PERSON RECEIVING/ MAKING CALL	

DTIC FORM DEC 82 397

PREVIOUS EDITION IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION			1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION	6b. OFFICE SYMBOL *(If applicable)*		7a. NAME OF MONITORING ORGANIZATION
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SECURITY CLASSIFICATION OF THIS PAGE

NOTES

1. U.S. Department of Defense. Defense Technical Information Center. Summary Managment Data Report, August 1985, p. 6.

2. Ibid., p.8.

3. Interview with Robert Tidler, DTIC Receiving and Distribution Branch, Cameron Station, Alexandria, VA, 7 August 1985.

4. Interview with Harry Proctor, DTIC Selection Section, Cameron Station, Alexandria, VA, 7 August 1985.

5. Interview with Harry Schrecengost, DTIC Selection Section, Cameron Station, Alexandria, VA, 16 August 1985.

6. Interview with Harry Proctor, DTIC Selection Section, Cameron Station, Alexandria, Va, 7 August 1985.

7. Interview with Harry Schrecengost, DTIC Selection Section, Cameron Station, Alexandria, VA, 16 August 1985.

8. Interview with Virginia Becks, DTIC Bibliographic Database Branch, Cameron Station, Alexandria, VA, 13 August 1985.

9. Interview with Elizabethe Hall, DTIC Acquisition Section, Cameron Station, Alexandria, VA, 13 August 1985.

10. Interview with John Baldwin, DTIC Subject Analysis Branch, Cameron Station, Alexandria, VA, 13 August 1985.

11. Interview with Winifred Bell, DTIC Database Support Branch, Cameron Station, Alexandria, VA, 13 August 1985.

12. Interview with Everett Harley, DTIC Micrographic Division, Cameron Station, Alexandria, VA, 27 August 1985.

13. Interview with Newton Spilman, DTIC Office of Quality Assurance, Cameron Station, Alexandria, VA, 11 September 1985.

14. Interview with Diane Campbell, DTIC Master Microform Processing Branch, Cameron Station, Alexandria, VA, 27 August 1985.

15. Interview with John Crossin, DTIC Reference Section, Cameron Station, Alexandria, VA, 29 August 1985.

16. Interview with Janie Key, DTIC Microfiche Maintenance and Reproduction Branch, Cameron Station, Alexandria, VA, 27 August 1985.

17. Interview with John Crossin, DTIC Reference Section, Cameron Station, Alexandria, VA, 29 August 1985.

18. Interview with Daniel Cicoria, DTIC Micrographic Division, Cameron Station, Alexandria, VA, 11 September 1985.

19. U.S. Department of Defense. Defense Technical Information Center. Summary Management Data Report, August 1985, p. 37.

20. Interpreted from the quarterly compilations of DTIC Form 294 - Daily Activity Report, DTIC Reference Section, for 1983 and 1984.

21. Interview with Rita Clark, DTIC Reference Section, Cameron Station, Alexandria, VA, 24 September 1985.

22. U.S. Department of Defense. Defense Technical Information Center. Summary Management Data Report, August 1985, p. 39.

23. Telephone interview with Wayne Kuenzli, Defense Logistics Agency, Technology Division, Acquisition Management Branch, 26 September 1985.

24. Interview with Rita Clark, DTIC Reference Section, Cameron Station, Alexandria, VA, 24 September 1985.

25. Ibid.

26. Interview with Patricia Gaynor, DTIC Special Projects, Cameron Station, Alexandria, VA, 16 September 1985.

27. Gaynor, Patricia, "Defense Technical Information Center Document Order System Functional Requirements," internal report, July 1982.

28. Interview with John Saunders, DTIC Information Research and Technology Division, Cameron Station, Alexandria, VA, 26 September 1985.

SOURCES

Baldwin, John. DTIC Subject Analysis Branch. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Barner, William. "Request Processing at DTIC." Internal report, January, 1985.

Becks, Virginia. DTIC Bibliographic Database Branch. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Beitzell, Joanne. DTIC Source Control Area, Bibliographic Database Branch. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Bell, Winifred. DTIC Database Support Branch. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Campbell, Diane. DTIC Master Microform Processing Branch. Cameron Station, Alexandria, VA. Interview, 27 August 1985.

Cicoria, Daniel. DTIC Micrographic Division. Cameron Station, Alexandria, VA. Interview, 11 September 1985.

Clark, Rita. DTIC Reference Section. Cameron Station, Alexandria, VA. Interview, 24 September 1985.

Crossin, John. DTIC Reference Section. Cameron Station, Alexandria, VA. Interview, 29 August 1985.

Crumbacker, Madeline. DTIC Selection Section. Cameron Station, Alexandria, VA. Interview, 9 August 1985.

DTIC Form 294 - Daily Activity Report (Quarterly Compilations). DTIC Reference Section, 1983 and 1984.

Erwin, James. DTIC Information Systems Division. Cameron Station, Alexandria, VA. Interview, 12 September 1985.

Gaynor, Patricia. DTIC Special Projects. Cameron Station, Alexandria, VA. Interview, 16 September 1985.

Gaynor, Patricia, "Defense Technical Information Center Document Order System Functional Requirements." Internal report, July 1982.

Hall, Elizabethe. DTIC Acquisition Section. Cameron Station, Alexandria, VA.
Interview, 13 August 1985.

Harley, Everett. DTIC Micrographic Division. Cameron Station, Alexandria, VA. Interview, 27 August 1985.

Jacobs, Charles. DTIC Analysis Division. Cameron Station, Alexandria, VA. Interview, 14 August 1985.

Jarus, Jan. DTIC Acquisition Section. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Key, Janie. DTIC Microfiche Maintenance and Reproduction Branch. Cameron Station, Alexandria, VA. Interview, 27 August 1985.

Kuenzli, Wayne. Defense Logistics Agency. Technology Division. Acquisition Management Branch. Telephone interview 26 September 1985

Lynch, Suzanne B. "Reproduction of Quality Hard Copy Documents from Microfiche." Intern project paper, September 1981.

Proctor, Harry. DTIC Selection Section. Cameron Station, Alexandria, VA. Interview, 7 August 1985.

Rhedmon, Gertrude. DTIC Acquisition Section. Cameron Station, Alexandria, VA. Interview, 13 August 1985.

Saunders, John. DTIC Information Research and Technology Division. Cameron Station, Alexandria, VA. Interview, 26 August 1985.

Schrecengost, Harry. DTIC Selection Section. Cameron Station, Alexandria, VA. Interview, 16 August 1985.

Spilman, Newton. DTIC Office of Quality Assurance. Cameron Station, Alexandria, VA. Interview, 11 September 1985.

Tidler, Robert. DTIC Receiving and Distribution Branch. Cameron Station, Alexandria, VA. Interview, 7 August 1985.

U.S. Department of Defense. Defense Technical Information Center. Summary Management Data Report, August 1985.