# CANSIM: operation manual for data entry 

1974
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# CANSIM: OPERATION MANUAL FOR DATA ENTRY 1974 

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## PROLOGUE

This manual describes part of a system which had its inception in a data storage, retrieval and manipulation computer package developed by M.C. McCracken. This prototype system was developed in 1964 at Southern Methodist University, where there was a need to collect and manipulate time series data to estimate parameters for an econometric model. The first version used card images stored on magnetic tape and a small retrieval program which simply reformatted the data for input to statistical utility programs. In January 1965 the development of a more advanced system was started and a working version of the new system was in use by April of 1965.

The Economic Council of Canada provided funds for the development of an expanded system on a CDC 3400 computer at the University of Montreal. This expanded version has been in use, with modifications, since September 1965. In May 1966 the Bank of Canada became the first agency other than the Council to make use of the system and during the summer and fall of 1966 the National Energy Board and the Department of Finance began using the system for miaintenance and manipulation of the data necessary in their own analytical operations.

In November of 1966 Statistics Canada accepted the responsibility for the entry of data into the base and maintenance of the existing programs. The Economic Council and the Bank of Canada expressed the hope that the system would eventually be modified into a true information system for use in the operations of statistical agencies of the Canadian Government.

As a result, in July 1967, an inter-departmental team was set up under the direction of Dr. T.J. Vander Noot to implement a national data base for socio-economic data. This manual comprises one volume of the documentation for this system. Amendments to the manual will be issued from time to time and are included in the price.

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## INTRODUCTION

CANSIM (Canadian Socio-Economic Information Management System) is designed for the efficient and economic management of a large volume of time series data. The prograns for data storage, retrieval and manipulation comprising the system were written for the IBM-360. Management, control and maintenance of the system are the responsibility of Statistics Canada. Accuracy of the included data is the responsibility of the agency compiling it. Operation of the programs is supervised by the General Time Series Staff (GTSS) of Statistics Canada.

The subject of this operational manual is the data entry sub-system which provides for entry, update and revision of the data. A companion manual entitled CANSIM: Users' Manual for Data Retrieval and Manipulation is also available. The following sections attempt to cover all points which might give rise to difficulties, and to warn where danger of error is greatest.

The data base will expand to include large numbers of time series originating in Statistics Canada and elsewhere. New entries, updates and revisions will flow directly from the data source to GTSS for action. As the output of Statistics Canada becomes increasingly computorized, data-capture routines will provide for entry to the data base of updates and revisions directly from tapes or cards created as part of the data processing operations. In the meantime, however, action requests will be prepared manually by the responsible agency and
section or, in the case of a relatively small number of series, by GTSS

Ten operations, listed in Section 3.2, are used to enter data into the data base together with titles, notes, foot notes and all other information required to identify, print out, and safeguard the data, to change any item of information, and to enter data points into the base as projections, estimates, current data or revisions. For each operation, a form has been designed which simplifies the entry of information for keypunching. The inclusion of card numbers assists in assembling the card deck for submission to the computer and helps ensure that information provided is complete.

Step-by-step detailed procedure for establishing matrix and series headers and data entry action is outlined in Section 3, sample forms for submission to keypunch in Section 4, and printouts of results in Section 5.

A list of error messages which will be printed out when an error has caused refusal of the requested action is given in Section 6. Error messages don't in every instance cause refusal of the requested action. The error messages should be used in conjunction with printed out results of the action to locate and correct errors. Careful scrutiny of error messages is recommended as a guide in setting up clerical checking routines. Codes identifying the agency and section responsible for accuracy and security of the data are recorded by GTSS.
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## PROCEDURES FOR INITIATING ACTION REQUESTS

Section 4 contahs a simple matrix and the various forms used in the data entry program. The sequence of steps to be followed in entering information into the CANSIM system is given below. Printouts of successful actions and examples of error messages for refused actions will be found in Sections 5 and 6. CANSIM Staff will assist and advise users on request.
A. To enter a matrix into the base requires the following steps:

1. (a) Obtain matrix number and Databank series number(s) from CANSIM Staff.
(b) Assign Data Entry Security Word to the matrix.
(c) Assign CANSIM series number(s) to matrix components in a hierarchical framework, work. ing downwards through successive levels. Refer to Glossary (CANSIM Series Number).
(d) For series with secured data point(s), assign appropriate secret, confidential, or series secured security word.
2. Maintain a register with the following entries:
(a) Matrix number
(b) Series number(s)
(c) Security level(s)
(d) Security word(s)
(e) Data entry security word
(f) Date of entry
(g) Name, location, and telephone number of responsible officer.

CANSIM Staff must be supplied with items (a), (b), (f) and (g) only.
3. Complete AM, AS, and ED forms and check carefully. ${ }^{1}$
4. Completed formis may be submitted to CANSIM Staff who will arrange for key punching, verifying, and entry into the base.
5. Forms and results of data entry runs will be sent to submitter.
B. 1. For operations on the existing data base or to enter a new series to a matrix existing in the base, select and complete the appropriate forms (CM, AS, ED, CS, DS, TS, SS, DM) for the action desired, and perform steps A. 4 and A.S.
C. Resubmissions to correct errors.

1. Check printouts to locate and correct errors.

Note: Since errors may be detected one at a time, there could be a second refusal and it may be worthwhile at this point to check all edited fields.
2. Perform steps A.4. and A.5.

[^0]
## CARD FORMATS

## General

In the sample card formats in this section, character means any alphabetic, numeric or machine permissible special symbol.

Where blank columns are permitted in any field, the card format specifies whether the entry is to be right
justified or left justified (see Glossary). ${ }^{2}$ To avoid repetitive coding, most forms have been separated into two sections. Entries in the first part (columns 1-27) are coded once for all cards pertaining to the same matrix; in the second part (columns $28-80$ ) entries will vary from card to card and must be entered.

2 The following are always left or right justified as indicated:

## Left

Right
Agency Code
Matrix number
Section Code
Data

Security words
Series number

## OPERATION CODES

There are ten oferations in the datta entry program, and each is explained in sections as follows

| Code | Operation | Section |
| :---: | :---: | :---: |
| AM | Add Matrix Header | 3.3 |
| CM | Change Matrix Header | 3.4 |
| AS | Add Series Header | 3.5 |
| CS | Change Series Header | 3.6 |
| ED | Enter Data Point into Base | 3.7 |
| TS | Terminate Series | 3.8 |
| SS | Re-activate Series (Start Series) | 3.8 |
| DS | Delete Series | 3.8 |
| DM | Delete Matrix | 3.9 |
| RS | Renumber Series | 3.10 |

Ihe ADD MaIRIX opontion enters the Manix Header into the base.

The matrix number, system identification and the codes identifying the agency and section responsible for accuracy and security of the data must, without exception, appear on all cards.

A FREEZE option is available whereby all series in a matrix may be frozen. By freezing a matrix, using the SECRET Security Word field, you may now update CANSIM prior to release date with assurance that no unauthorized retrievals will be made. Similarly, any matrix under suspicion may be frozen for an indefinite period.

To facilitate the retrieval of a Series Directory every matrix must have a security level indicator which is input in column 80 of card 001 . See Glossary - Section 10 - Directory.

Matrix numbers are assigned by CANSIM staff and are recorded in a Matrix Register. Numbers are allocated as required for immediate use. Numbers of matrices acleased by the delete action request may be reused after one year.

The matrix long title is entered continuously using up to 6 cards, each of which may contain up to 50 characters of the title. All information necessary to describe the matrix should be included, such as seasonally adjusted and unadjusted, frequency, unit of measure, etc.

The matrix short title has a miximuin of th characters. Where abbreviations are required, care should be taken to achieve the maximum intelligibility.

## Matrix Note and Footnotes

A matrix may have one matrix note and up to 9 footnotes. The matrix note will normally include reference to publications or other information on sources, definitions, methods, major revisions and their effect on comparability of historical data. In addition, it is useful to include the approximate time lag to publication expressed in number of calendar days after the close of the reference period. Although the text of the footnotes is entered in the matrix header, foutnotes refer only to data points. A single data point may make reference to a maximum of 4 footnotes, and reference to footnotes is made by the Enter Data (ED) action. Normally a note which refers to a specific series should be made a footnote. A note which refers to several series or to most of the series in the matrix shouid be included in the matrix note. Users are reminded that a limit of 9 footnotes per matrix can be quickly exhausted. Whenever possible therefore, a note should be included in the matrix note particularly when it applies to most of the series in the matrix. The text of the matrix note is entered continuously, 50 characters per card, up to a maximum of 10 cards ( 500 characters). The text of each footnote is limited to 120 characters entered continuously on 3 cards.

The identifying number of the footnote to be entered in columns 69.72 of the Enter Data form will be found in the second digit of the card number. For example, the three cards belonging to footnote four are 141, 142, and I43.
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## CHANGE MATRIX, OPERATION CODE (CM)

The CHANGE MATRIX (CM) operation permits the changing of any entry in the matrix header except the matrix number. The card format differs from the ADD MATRIX in only one respect: new agency and section codes may be entered in columns $59-62$ and 63.66 to replace the codes existing in the matrix header.

An entry in columns 31-80 of card 001 replaces the corresponding information existing in the matrix header but fields left blank are not altered. The procedure to unfreeze a matrix, to blank the Secret Security Word (cols. 38-44) or the Confidential Security Word (cols. $45-51$ ) would be to enter asterisks. The only other field on card 001 which may contain an asterisk is Directory Security Level Indicator (col. 80).

The following changes to the Directory Security Level Indicator are permitted:

P to S
$S$ to $P$
P to * - Submit CS for secure series

> S to *-Submit CS for secure series
> * to S
> * to P

See Glossary.
If changes are to be made in the matrix long title (cards 002-007), matrix note (cards 011.020), or an individual footnote (1-3 cards), it is strongly recommended that the entire set of cards for that field be redone. For example, to change a matrix long title which presently consists of 6 cards (cards 002-007) to a title of 4 cards, requires cards 002.005 and, in addition, 006 and 007 with blanks in columns 31-80. The purpose of including cards 006 and 007 is to blank out what was previously in this portion of the long title. To change a title of 4 cards to a tille of 4 or more cards requires no blank cards.

If changes are to be made to either the short title (card 008 ) or source (card 009 ), card 008 or 009 should be resubmitted with the corrected short title or source.

Card Format: ADD MATRIX, Operation Code (AM)
CHANGE MATRIX, Operation Code (CM)

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Auto-duplicate |  |  |
| All cards! - Columns 1.27 |  |  |
| 1. 4 | TSDB | System Identification. |
| 5-8 | 4 characters maximum, left justified. | Agency responsible for accuracy and security of data. |
| 9.12 | 4 characters maximum, left justified. | Section of Agency responsible. |
| 13-19 | Code Word . . . . . . . . . | Not required for AM, but mandatory for CM. |
| 20-21 | AM or CM | Operation code. |
| 22-27 | 6 digits maximum, right justified. | Matrix number. |
| Fields varying from card to card |  |  |
| Card number 1 |  |  |
| 28.30 | 001 | Card number |
| 31-37 | 7 characters maximum, left justified. | Data Entry Security Word, mandatory for Add Matrix. |
| 38.44 | 7 characters maximum, 7 asterisks, or blank, left justified. | If any data points are classified secret, security code " 1 ", within this matrix, the secret security word must be assigned, entered, and recorded by data source. If this matrix is to be frozen, enter "FREEZE". |

[^1]Card Format: Add MATRIX, Operation Code (AM) - Continued Change MATRIX, Operation Code (CM) - Continued

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Fields varying from card to card - Conc. |  |  |
| Card number 1 - Conc.: |  |  |
| 45-51 | 7 characters maximum, 7 asterisks, or blank, left justified. | If any data points are classified confidential within this matrix, security code "2", the confidential security word must be assigned, entered, and recorded by data source. |
| 52 | 1,2 or blank | Crossfoot requested; $1=y e s \quad 2=$ no. Blank allowed only on Change Matrix. |
| 53-58 | Blank |  |
| 59.62 | 4 characters maximum or blank, left justified. | New Agency Code (for Change Matrix only). |
| 63-66 | 4 characters maximum or blank, left justified. | New Section Code (for Change Matrix only). |
| 67.79 | Blank |  |
| 80 | P, S, blank or asterisk | Directory Security Level Indicator. Blank allowed only on CM. |
| Natrix titles |  |  |
| Card numbers $2-7$ inclusive: |  |  |
| 28.30 | 002.007 | Card numbers. |
| 31.80 | 50 characters maximum | Matrix long title. Enter text continuously through 6 cards to a maximum of 300 characters (refer to Section 4 for sample). |
| Card number 8: |  |  |
| 28-30 | 008 | Card number. |
| 31.70 | 40 characters maximum | Matrix short title. |
| Source |  |  |
| Card number 9: |  |  |
| 28.30 | 009 | Card number. |
| 31.80 | 50 characters maximum | Source. |
| Matrix note |  |  |
| Card numbers 11.20 inclusive: |  |  |
| 28-30 | 011-020 | Card numbers. |
| 31-80 ...... | 50 characters maximum | One matrix note is allowed per matrix. Enter text continuously through 10 cards to a maximum of 500 characters. Refer to Section 4. |

Card Format: Add MATRIX, Operation Code (AM) - Concluded Change MATRIX, Operation Code (CM) - Concluded

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## ADD SERIES, OPERATION CODE (AS)

The ADD SERIES (AS) operation enters header information relating to a specific series. Entry of data is covered in Section 3.7.

Further necessary information concerning each entry is given in the Glossary (Section 10). Report Frequency codes are set out in Section 8.

Card Format: Add Series, Operation Code (AS)

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Auto-duplicate |  |  |
| $\begin{aligned} & \text { All cards - Columns } \\ & \text { 1-27: } \end{aligned}$ |  |  |
| 1. 4 | TSDB | System Identification. |
| 5. 8 | 4 characters maximum, left justified. | Agency responsible for accuracy and security of data. |
| 9.12 | 4 characters maximum, left justified. | Section of agency responsible. |
| 13-19 | 7 characters maximum, left justified. | Code Word. This is the Data Entry Security Word which was entered in the matrix header and is mandatory to permit access to a matrix. |
| 20-21 | AS | Operation Code. |
| $22 \cdot 27$ | 6 digits maximum, right justified. | Matrix number. |
| Fields varying from card to card |  |  |
| Card number 1: |  |  |
| 28-30 | 001 | Card number. |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |
| 51.52 | 00 to 09 | Scalar Factor or Power Factor. |
| 53.54 | 00 to 09 | Number of decimal places. |
| 55-56 | Blank | Formerly Data Mask Type - internally converted to 03. |
| 57.59 | 001 to 998 or 999 | Variance allowed expressed as a per cent as determined by the data source, or $999=$ no edit requested. |
| 60-66 | 7 characters maximum, left justified, or blank. | Series security word, security level " 3 ". To freeze an individual series, enter "FREEZE". See Glossary. |
| 67.68 | 01 to 17 | Report Frequency. |
| 69.71 | 000 to 999 | Expected time of update. 999 if update can occur at any time. |
| -2.79 | \& characters. Alphabetic, left justified. Numeric, right justified. | Databank series number. The alphabetic is the agency symbol i.e. D for Statistics Canada, B for Bank of Canada; and numeric is the identification number. |
| 80 | ${ }^{\prime}$, S, or blank | Directory Security Level Indicator. See Glossary. |

Card Format: Add Series, Operation Code (AS) - Concluded

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Fields varying from card to card - Conc. |  |  |
| Card number 2: |  |  |
| 28-30 | 002 | Card number. |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |
| 51-60 | 10 characters maximum | Unit of Measure i.e. dollars, bushels, tons etc. |
| 61.80 | 20 characters maximum | Series title (If title longer than 20 characters, continue to card 3). |
| Card number 3: |  |  |
| 28.30 | 003 | Card number. |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |
| 51-80 | 30 characters maximum | Series title. |

## CHANGE SERIES, OPERATION CODE (CS)

This operatios: may be used to thange any entry (ixtept report frequency) which appears in columns $51-80$ of cards 1.3 inclusive of the add series format. Entries in columns $1-50$ inclusive of card 1 cannot be changed by a change series action. See Change Matrix.

An entry in any field (cols. 51.80) of card 001 replaces the corresponding entry in the series header. To unfreeze a series or blank the series security word (cols. 60-66) enter asterisks. The Directory Security Level Indicator (column 80) may be changed to P or S if the indicator in the matrix header is an asterisk. Asterisks must not be entered in other fields of card 001 .

To change Unit of Measure, the new Unit of Measure should be entered in card 002, together with the first part of the series title.

If change is required in the series title, both cards 002 and 003 may be required. For example, to change a title presently on cards 002 and 003 to a title requiring only 1 card requires card 003 with blanks in columns 51.80 in addition to card 002 containing the new title and the Unit of Measure.

## INTER DATA. OPER ITION CODE (ED)

The GANSIM tists entry prognat alows phe dat: point per card. Information in colamms $1-27$ on this form is common to all data points; therefore, a new form must be used to enter data points for each different matrix number.

The E:Tor Mestages in Suction 6 inditate the tare with which the data entry fomm must be completed. Particular care is required in deciding the correct data entry code (col. 67). There are 5 data entry codes as follows:

| Code | Can replace | Can be replaced by codes |
| :---: | :---: | :---: |
| 1 - Projection into future | Blank field, codes 1 or 5. | 1,2, or 3. |
| 2-Estimate of current figure | Blank field, codes 1 or 5 . | 3 or 4. |
| 3 - Current figure | Blank field, codes 1, 2, or 5 . | 4 |
| 4 - Revision of current figure | Codes 2, 3, 4 or 5. Never a blank field. | 4 |
| 5- Initial entry of data | Blank field. | 1,2,3, or 4 |

Note: Entry type 3 must be used on updates against a type 2 when data values are the same. Entry type 4 must be used on upsates against a type 2 when data values are different. Entry type 2 can be replaced by another type 2 data value by entering a " C " in tilumn 74.

Card Format: Enter Data, Operation Code (ED)

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Auto-duplicate |  |  |
| All cards - Columns 1-27: |  |  |
| 1. 4 | TSDB | System Identification. |
| 5. 8 | 4 characters maximum, left justified. | Agency responsible for accuracy and security of data. |
| 9.12 | 4 characters maximum, left justified. | Section of Agency responsible. |
| 13.19 | 7 characters maximum, left justified. | Code Word. This is the Data Entry Security Word which was entered in the matrix header and is mandatory to permit access to a matrix. |
| 20.21 | ED | Operation Code. |
| 22-27 | 6 digits maximum, right justified. | Matrix Number. |

Card Format: Enter Data, Operation Code (ED) - Concluded

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| Fields varying from card to card |  |  |
| 28-30 | 001-999 | Card number (optional). |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |
| 51.56 | 6 digits maximum, left justified. | Reference Date (YYMMDD) i.e., Feb. 12, $1968=680212$. |
|  |  | Caution - Be sure that the reference date is consistent with the Report Frequency. Differences can lead to creation of blank slots when entering historical data (Entry Type 5). |
| 57-66 | 10 digits maximum, right justified. | Data. Do not enter decimals or leading zeros. Whenever data for a particular reference date is not available (for example, because of confidentiality or a strike), a zero value must be entered with a footnote "data not available for (reference date)". This footnote enables users to differentiate between true " 0 " and not available " 0 ". |
| 67 | 1,2,3,4, or 5 | Data Entry Type. |
| 6888 | 1,2,3, or blank | Security level of this data point. Ensure that the corresponding security word has been entered in the matrix header or the series header. |
|  | 4 digits maximum or blank, left justified. | A data point may make reference to four footnotes. Enter here the specific footnote number(s) in the matrix lieader which refer to this data point. |
| 73 | 9 or blank | Blank - Checks that the per cent change from the last period in the base falls within the variance allowed entered in the series header. <br> 9 - Override, i.e., no variance allowed check is made. |
| 74 | C, D, or blank | C - To correct an erroneous entry made for data points, entry type, security, or footnotes. If the field is left blank, that field will not be changed. In order to blank security enter an asterisk in column 68; to blank footnotes enter four asterisks in columns 69. 72. To change footnote references enter in columns 69.72 all the footnote numbers which apply to the data point regardless of whether they appeared before the correction. |
|  |  | D - To delete the entire "data point slot". Columns $1-56$ must be complete and identical to that which is presently on base. To change reference date, first delete the data point slot and resubmit data with proper reference date. |
|  |  | Blank - Normal data action. Columns 1-67 must be complete. In addition column 68 if data is secure and columns 69.72 if reference to footnotes required. |
| 75.80 | Blank |  |

## GENERATE DATA (GD)

This montine generates Enter Data (ED) transatetions by using a control card(s). The card layout is

Simblat to that of a correction of deletion ation request except that a START and END date is required

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| 1-4 | TSDB | System Identification. |
| 5-8 | 4 characters maximum, left justified. | Agency. |
| 9.12 | 4 characters maximum, left justified. | Section. |
| 13-19 | 7 characters maximum, left justified. | Code Word. |
| 20-21 | GD | Operation Code. |
| 22-27 | 6 digits maximum, right justified. | Matrix Number. |
| 28-30 | 001-999 | Card Number (Optional). |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |
| 51-56 | 6 digits maximum, left justified. | START DATE (YYMMDD) First reference date. |
| 57.022 | 6 digits maximum, left justified. | END DATE (YYMMDD) Last reference date. |
| 63 | $\mathrm{M}, \mathrm{Q}$, or A | Frequency. ${ }^{1}$ |
| 64.66 | Blank | Not used. |
| 67 | 1,2,3,4,5, or blank | Data Entry Type. |
| 68 | 1,2,3,*, or blank ...... | Security level. |
| 69.72 | 4 characters maximum, blank, or ****. | Footnotes. |
| 73 | Blank | Not used. |
| 74 | C, D, or X | Action request. ${ }^{2}$ |
| 75-80 | Blank | Not used. |

[^2]
## IERMINATE, START, AND DELETE SERIES OPERATION CODES (TS, SS, and DS)

These operations require the signature of the authorized requesting officer. Within Statistics Canada, requests without proper signature will not be accepted by GTSS. Government users submitting entries directly should ensure that requests to terminate, re-activate or delete scries are similarly controlled.

TERMINATE SERIES results in a closed file. Further requests to enter data will be refused. A series terminated in error may be re-activated by using the Start Series operation. A Change Series operation can be
performed on a terminated series. Data may be retrieved from a terminated series.

DELETE SERIES removes the series from the base. For safety, the delete series action ends with a card-out routine. Thus a series deleted in error may be re-entered into the base after checking that the entry type of the first data point in a series is 5 and all others are $5,3,2$ or l-not 4

The card format for TS, SS and DS differs only in the operation code entered in columns 20-21.

Card Format: Terminate, Start, Delete Series

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| 1. 4 | TSDB | System Identification. |
| 5. 8 | 4 characters maximum, left justified. | Agency Code. |
| 9.12 | 4 characters maximum, left justified. | Section Code. |
| 13-19 | 7 characters maximum, left justified. | Code Word (Data Entry Security Word). |
| 20-21 | TS, SS or DS | Operation Code. |
| 22-27 | 6 digits maximum, right justified. | Matrix number. |
| 31-50 | 20 characters maximum, left justified. | CANSIM series number. |

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## DELETE MATRIX, OPERATION CODE (DM)

Tris uperation requires the signature of the aubiorked requesting officer. Within Statistics Canada, requests without proper signature will not be accepted by GTSS. Government users submitting entries directly should ensure that requests to delete matrix are similarly controlled.

The DELETE MATRIX (DM) action removes the matrix from the base. The matrix number thus released
can be used in a subsequent ADD MATRIX action. However, to minimize the chance of "dialing the wrong number" the matrix number will not be reissued immediately. For safety, the DELETE MATRIX operation ends with a cardout routine; thus if a matrix is deleted in error, it can be re-entered into the base. This command is inoperative if the series contained in the matrix have not already been deleted.

Card Format: Delete Matrix (DM)

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| 1. 4 | TSDB | System Identification. |
| 5. 8 | 4 characters maximum, left justified. | Agency Code. |
| $9-12$ | 4 characters maximum, left justified. | Section Code. |
| 13-19 | 7 characters maximum, left justified. | Code Word (Data Entry Security Word). |
| 20.21 | DM | Operation Code. |
| 22.27 | 6 digits maximum, right justified. | Matrix number. |

## RF NLMBER SERIES, OPERATION CODE (RS)

This operation renumbers CANSIM seriws numbers within a mantix and should be used only when absolutely
nocessary

Card Format: Renumber Series, Operation Code (RS)

| Column number | Contents | Explanation |
| :---: | :---: | :---: |
| 1-4 | TSDB | System Identification. |
| 5. 8 | 4 characters maximum, left justified. | Agency Code. |
| $9-12$ | 4 characters maximum, left justified. | Section Code. |
| 13-19 | 7 characters maximum, left justified. | Code Word (Data Entry Security Word). |
| 20.21 | RS | Operation Code. |
| 22-27 | 6 digits maximum, right justified. | Matrix number. |
| 31-50 | 20 characters maximum, left justified. | Present CANSIM Series Number. |
| 51.70 | 20 characters maximum, left justified. | New CANSIM Series Number. |

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## SAMPLE FORMS FOR SUBMISSION TO KEY PUNCH

This section contams a set of completed forms used for nine operations of the data entry program.

1. Add Matrix (AM)
2. Change Matrix (CM)
3. Add Series (AS)
4. Change Series (CS)
5. Enter Data (ED)
6. Delete Series (DS)
7. Terminate Series (TS)
8. Start Series (SS)
9. Delete Matrix (DM)

All cards in any request operating on a matrix always have information in columns 1.27 autoduplicated. In any action request operating on a series, all cards will have information in columns 1-27 and 31-50 auto-duplicated.

Entries which are always left-justified are: Agency, Section. Series number, Data Entry Security Word and other security words. The matrix number will always be right justified. The data will be right justified. Signed numbers will have the sign entered in the left hand column immediately preceding the first digit.

## ABd or Change Matrix Operations

Note that columns $59-66$ are used only in the CHANGE MATRIX operation. In this action they may be used to replace the agency and section codes in the base (the codes existing in the base must, of course, appear in colunins 5-8 and 9-12).

The matrix long title ( 300 characters), matrix note ( 500 characters), and footnotes ( 120 characters each) are entered continuously without hyphens for words which would extend beyond column 80 .

## Delete, Terminate and Start Operations

To be executed a DELETE MATRIX, DELETE SERIES, TERMINATE SERIES, START SERIES form must bear the signature of the authorized requesting officer in the agency responsible for the data. As a safety measure the final setp in delete series or matrix actions is a card-out routine which provides for immediate re-entry in case of error. A card-out routine is time-consuming and costly; the authorized officers are requested to consider requests carefully before initiating the delcte series or matrix actions. Note that all series within a matrix must be deleted prior to deleting the matrix header.

## Add Matrix (pages 23 and 24)

This establishes matrix 7 on the CANSIM base. Note that Data Entry Security Word (cols. 31-37) is :andatory for this operation. This word becomes the Code Word, and any future requests to add or make
changes to this matrix, or changes to series within this matrix, requires this code word. Because of secure data, "secret" and "confidential" security words are entered. Four footnotes are also entered.

Add Series (pages 25 to 34)
A separate Add Series form is required for each series to be added. Here we are adding the following series to matrix $7: 1,1.1,1.1 .1,1.1 .2,1.1 .3,1.1 .4,1.1 .5$, 1.1.6, 1.1.7 and 1.1.8. Note that in every case the Code Word is mandatory in columns (13-19), which is the Data Entry Security Word established in the matrix header. Series 1.1.2 has a series security word.

## Data Entry (page 35)

Cards 001-006. - These are normal data entry actions to add current data for reference date 720900 . Note that column 74 is blank, and entry type (column 67) must satisfy requirements outlined in section 3.7. Series 1.1.4 and 1.1.6 has 9 in column 73 (variance allowed check will not be made).

Card 007. - This operation deletes the "data point slot" for reference date 720610 (date should be 720600). Note D in column 74.

Card 008. - This operation enters the data deleted by card 007 with the correct reference date 720600. Note that column 74 is blank.

Card 009. - Normal data entry action to add current data for reference date 720900.9 in column 73 (variance allowed check will not be made).

Card 010. - Normal data entry action to revise a current figure for reference date 720300. Note 4 in column 67 and 9 in column 73. Although there is no security level change, 2 must be entered in column 68 .

Card 01[. - This operation corrects the data for reference date 720600 . Note $C$ in column 74 and 9 in column 73.

Card 012. - Normal data entry action to add current data for reference date 720900 .

## Change Matrix (page 36)

This operation changes the following in matrix 7 : Data Entry Security Word from "ACCT 00I" to "ACCT 111 ",
Secret Security Word from "ACCTSEC" to "blanks".
Confidential Security Word from "ACCTCON" to "ACCTFID",
Agency Code from "STC3" to "STC4", and Section Code from " 1100 " to " 2222 ".

```
Change Series (page 3?)
    This operation changes the following in series
1.1.2:
    Variance allowed from "025" to "010".
    Series Security Word from "ACCTSSW" to
    "Blanks", and Title to "MILITARY PAY, RAW".
    Note the blanks in columns 51-80 of card 003
    which are required to blank the previous entry in
    and005
```


## Terminate Serics (inge 38)

This operation terminates series 1.1.6. Data may be retrieved from a terminated scries. Note signature of the requeting officer

## Start Series (page 39)

Series 1.1 .6 is re-activated by this Start Series Operation - it was terminated before data was clean.

Delete Series (pages 40 and 41)
Deletes series I and I.I from matrix 7. Signature of the requesting officer required.

## Delete Matrix (page 42)

This operation to delete matrix 7 will be rejected. All series within matrix 7 must be deleted first.

| $T$ $S$ $D$ $B$ <br> $(1-4)$    <br>   $T$ $C$ |
| :--- |



AM (20-21) UPERATION CODF.

OPERATION ONLY)

| $1 / 1$ | 0 | $(9-12)$ |
| :--- | :--- | :--- |
| SECTION |  |  |

$\square$ 7 (22-27) MATRIX NLMBER

CARD \# 1

| 0 | 0 | 1 |
| :--- | :--- | :--- |$(28-30)$


| $A \mid 31-37) ~ D A T A ~ E N T R Y ~ S E C U R I T Y ~ W O R D ~$ |
| :--- | :---: | :---: | :---: | :---: |

2 (52) CROSSFOOI
$\square$ (53-58) LEFT BLANK

| A | $\mathbf{C}$ | $\mathbf{T}$ | $\mathbf{S}$ | $\mathbf{E} \mid \mathbf{C}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | $\mathbf{3 8 - 4 4 )}$ "SECRET" SECURITY WORD

A|C|C|T|C| $\mathbf{A} \mid \mathbf{N}$ (45-51) "CONFIDENTIAL" SECURITY WORD
$\square$ (59-62) AGENCY? (b3-nn)
(To Change agency ANI/OR SECTION)
P (80) DIRECTORY SECURITY
-


ADD OR CHANGE MATRIX FORM-TSDB-P-2
MATRIX NUMBER 7 DATE STAMP NOU, 13/73

| $\begin{array}{\|l\|} \hline \text { CARD NO. } \\ (28-30) \\ \hline \end{array}$ |  |
| :---: | :---: |
| 1,1,1 |  |
| 1, 1, 2 | E.M. ${ }^{\text {c }}$ |
| 1, 1, 3 |  |
| 1, 2, 1 |  |
| 1,2,2 |  |
| 1,2,3 |  |
| $1,3,1$ |  |
| 1,3,2 | $A, C, T, I, T, I, \phi, N, E, R, S, \ldots, 1,1,110$ |
| 1, 3, 3 |  |
| 1,4,1 |  |
| 1,4,2 | $S, I, C, A, H, C, H, A, N, G, E, I, N, I, N, V, E, N, T, Q, I)$ |
| 1,4,3 |  |
| 1, 5, 1 |  |
| 1,5,2 |  |
| $1,5,3$ |  |
| 1, 6, 1 | $1,1,1,1,1,1,1,1,1,1,1,1,1$ |
| $1,6,2$ |  |
| 1,6,3 |  |
| 1, 7,1 |  |
| $1,7,2$ |  |
| 1, 7, 3 | $7$ |
| 1,8,1 |  |
| 1,8,2 |  |
| 1,8,3 |  |
| 1,9,1 |  |
| 1,9,2 |  |
| 1,9,3 |  |

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Giencral lime series stafl
ADD OR CHANGE SERIES FORM-TSDB



Statistics Canada Statistique Canada

General Time Series Stalf
ADD OR CHANGE SERIES FORM.TSDB


[^3]General Time Series Staff
ADD OR CHANGE SERIES FORM - TSDB

A|S (20-21) Operation code

| (22-27) Martix number |
| :--- | :--- | :--- | :--- |

AS or CS

$$
\text { Nov. } 13 / 73
$$

(80) Directory security

$C$| 0 | 0 | 2 |
| :--- | :--- | :--- | :--- |
| $(28-30)$ |  |  |


| $1.11 .11 \mid$ |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| (31-50) Series number |  |  |  |  |

S|A|L|A|R|I|E|S|, $\mid$ W|A|G|E|S| $\mid$ || $|S| U$

| 0 | 0 | 3 |
| :--- | :--- | :--- | :--- |
| $(28-30)$ |  |  || $1 / .11$. | $1 \mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $(31-50)$ | Series number |  |  |  |  |  |  |

General Time Series Staff
ADD OR CHANGE SERIES FORM -TSDB


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General Time Series Staff
ADD OR CHANGE SERIES FORM-TSDB


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General time series valt
ADD OR CHANGE SERIES FORM. TSDB


[^4]


CARD: $2 \quad$| 0 | 0 | 2 |
| :--- | :--- | :--- |
| $(28 \cdot 30)$ |  |  |

| I. | (31-50) Series number |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

D|D|L|L|AR|S| | ( 51.60 ) Unit of measure

A|C|C|R|D|. |N|E|T| IINC|.| |\$|F||F (61-80) Tiele (fifst pari)

CARD = $3 \quad$| 0 | 0 | 3 |
| :--- | :--- | :--- |
|  | $28-30)$ |  |

| 1 . |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | (31.50) Series number



General Time Series Staff
ADD OR CHANGE SERIES FORM - TSDB


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General Time Series Staff
ADD OR CHANGE SERIES FORM - TSDB



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|  | $S$ | 0 | $B$ |
| :--- | :--- | :--- | :--- |

AC|C|TOO|1 (13-19)
OIH: WORD
DA! E. STAMP
NOU. $13 / 73$
STTC] (5-8) agency
ELD (zo-2), operation code


0408-77: 20-10-72



Generol Time Series Staff
DELETE MATRIX FORM - TSDB
[7] stole (1.4
पIII (s.e) agencr. 121 SECTION
$\qquad$ (13-19) CODE WORD
[0].] (zo-21) operation coote
IITID (22-27) matrix mumber

$t$

SIGNATURE OF REQUESTING OFFICER $\qquad$

TERMINATE, START OR DELETE SERIES FORM-TSDB
「ITS DIEl 1.4


STCL
(2)2[2] 2 (9-12) section

TS 120-2ll opemation cooe

|  | 1 | (22-27) MATRIX NUMBER |
| :--- | :--- | :--- | :--- |

OO. 1 Ia zoi caronumber


SIGNATURE OF REQUESTING OFFICER $\qquad$ 1. Know

## Statistics Canada Statistique Canada

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DELETE MATRIX FORM - TSDB

$\qquad$ (5. 8) AGENCY19-12) SECTION
$\square$ 113. 191 CODE WORD
[D]. (20-21) OPERATION CODE

|  |  |  |  |
| :--- | :--- | :--- | :--- | (22-27I MATAIX NUMBEA

om 1
DATE STAMP


SIGNATURE OF REQUESTING OFFICER $\qquad$

## TERMINATE, START OR DELETE SERIES FORM - TSDB



S[TCT4] (5.8) agency

ACCCTITII (13-19) CODE MORO
SS (20-21) operation code(7) 122-27) matrix mumber

OLO 1 sol caronumber

## 

Sigmature of mequesting officem __ ynow
3-180:-30.3.73

1*

## Statistics Canada Statistique Canada

General Time Series Staff

## DELETE MATRIX FORM - TSDB

on 1
DATE STAMP

[D] M 120-211 OPERATION CODE
$\square$ 122.271 MATRIX NUMBER

SIGNATURE OF REQUESTING OFFICER $\qquad$


## TERMINATE, START OR DELETE SERIES FORM - TSDB

```
T/5|0| | 1.4
```

TS.SS.DS
DATE STAMP
NOU. 13/73
STTCTH (ser agency
2/2[2] 2 - I21 Section
A|C|C|T|I|l|13-92 CODE WORD
Dis 120-211 OPERATION CODE
$\square$ 7 2. 27: MATRIX NUMEER

0 O11 (ab. 30) caronumber
$\square$
I) (3)-50) SERIES NUMAER
$\qquad$ d. Know

DELETE MATRIX FORM - TSDB

[0]m] 120-211 OPERATION CODE


DM
DATE STAMP
(8.8) agency9. 12) SECTION

SIGNATURE OF REQUESTING OFFICER


[^6]General Time Series Staff

## DELETE MATRIX FORM - TSDB


STTACTH| (s-b) agency
2/2[2] (9.12) SECTION

om 1

O- m (20-211 OPERATION CODE
[1] ID 7] (22. 27) matrix number
l. Know





| CARD | SERIES | Last perlod | TMIS PERIDO | PERCT | date | ET | SL | FTMT |  | mR | ERROR MESSAGE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ $=1$ | 1.1.1 | 8315 | 8201 | -1.4 | 720900 | 3 |  |  |  |  |  |  |
| tra | 1:1:2 | 176 | 173 | $-1: 7$ | 720900 | 3 | 3 |  |  |  |  |  |
| 12: | $1: 1: 3$ | 1380 -275 | 1120 -192 | -18.8 | 720900 720900 | 3 | 2 |  |  |  |  |  |
| \% | 1:1.5 | 1215 | 1124 | $-36: 2$ -7.5 | 720900 | 3 3 | $\frac{2}{2}$ |  | 9 |  |  |  |
| 4 | 1.1 .6 | 124 | 56 | -54.8 | ?2c9co | 3 | 2 | 2 | - |  |  |  |
| $4{ }^{4}$ | $1: 1.7$ | 11 | 10 |  | 720610 | 5 |  |  |  | 0 |  |  |
| 909 | 1.1.7 | 11 | 691 | 736.4 | 720900 | 3 | 2 |  |  |  | VARIANCE EXCEEGEO |  |
| 813 | 1.1.8 | -85 | -33 | -61.2 | 720300 | . | 2 |  | 8 |  | R-PREVILUS DATA POINT |  |
| 618 | 1.1.8 | -3 | -94 | 184.8 | 720600 | 5 |  |  | 9 | $c$ |  |  |
| 212 | 1.1 .8 | -9 | -81 | $-13.8$ | 720900 | 3 | 2 |  |  | $c$ |  |  |

- 


-

## ERROR MESSAGES

## General

The CANSIM system edits all operations. Unless cards are correct in format etc., an error message will be printed out. The rejected action should be corrected and
resubmitted. In some cases, the error message may be only a warning that an error may have existed in the action request. For example, although an error message "W - Referenced FTNT - Non-existent" is printed the data has been entered on the base.

CANSIM: Error Messages

| Messages | Action requests to which relate |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | AM | CM | DM | AS | CS | TS/DS/SS | ED |
| Blank or invalid system identification | X | X | X | X | X | X | X |
| Blank agency | X | X | X | X | X | X | X |
| Blank section | X | X | X | X | X | X | X |
| Blank or invalid operation code | X | X | X | X | X | X | X |
| Blank or invalid matrix number | X | X | X | X | X | X | X |
| Matrix number already in base | X |  |  |  |  |  |  |
| Blank or invalid card No. | X | X |  | X | X |  | X |
| Card 001 missing, operation rejected | X | X |  | X | X |  |  |
| Card duplicated. First card taken | X | X |  | X | X |  |  |
| Invalid card No. operation rejected | X | X |  | X | X |  | X |
| Blank data entry security word. | X |  |  |  |  |  |  |
| Blank or invalid crossfoot field | X | X |  |  |  |  |  |
| Wrong agency for this matrix |  | X | X | X | X | X | X |
| Wrong section for this matrix |  | X | X | X | X | X | X |
| Matrix number not in base |  | X | X | X | X | X | X |
| Blank or invalid series number |  |  |  | X | X | X | X |
| Series number already in base |  |  |  | X |  |  |  |
| Blank or invalid scalar factor |  |  |  | X | X |  |  |
| Invalid No. of decimal places |  |  |  | X | X |  |  |
| Invalid mask type |  |  |  | X | X |  |  |
| Blank variance |  |  |  | X |  |  |  |
| Blank or invalid report frequency |  |  |  | X | X |  |  |
| Blank or invalid update time |  |  |  | X | X |  |  |
| Blank unit of measure |  |  |  | X | X |  |  |
| Series number not in matrix |  |  |  |  | X | X | X |
| Invalid reference date |  |  |  |  |  |  | X |
| No entry to terminated series |  |  |  |  |  |  | X |
| Reference date inconsistent . |  |  |  |  |  |  | X |
| Data point blank or not numeric |  |  |  |  |  |  | X |
| Blank or invalid entry type |  |  |  |  |  |  | X |
| Invalid security level . . . |  |  |  |  |  |  | X |
| Invalid footnote indicators |  |  |  |  |  |  | X |
| Invalid action request $\ldots \ldots \ldots$ Entry type 1 cannot replace types 2,3 , or 4 |  |  |  |  |  |  | X |
| Entry type 2 cannot replace types 2,3 , or 4 |  |  |  |  |  |  | X |
| Entry type 3 cannot replace types 3 or 4 . |  |  |  |  |  |  | X |
| Entry type 4 cannot replace type I ... |  |  |  |  |  |  | X |
| Entry type 4 cannot enter blank data field |  |  |  |  |  |  | X |
| Blank code word. |  | X | X | X | X | X | X |
| Wrong code word |  | X | X | X | X | X | X |



R - Rejected, transaction must be resubmitted.
W - Warning only.

## HINTS AND CAUTIONS AND NOTES

1. In order to get a complete printout of crossfoot messages for a matrix it is necessary to raise dummy (C in 74) ED actions for only 1 series for each reference date.
2. The first data point (ET5) in a series can only be revised by putting a 9 in the override - column 73 on ED.
3. Delete Series vs. Delete Slot - If all data points are to be deleted a delete series should be raised ( 1 card) as opposed to one card for every reference date (delete
slot). Should it be necessary to add the series back on, the DS operation can generate the header and data on cards - the data may be re-entered after checking that Entry Type is 5 on initial data point and $5 / 3 / 2 / 1$ on all others.
4. On a correction ( C in 74) to other than the data poirt variance is not calculated, i.e., LAST PERIOD and PER CENT CHANGE are not output.
5. Do not use "PUBLIC" as a security word. This is a keyword in the retrieval program.

## REPORT FREQUENCY AND REFFRENCE DATES

The frequency of updates for a series is modicated by a two digit code in columns 67 -68 of card 001 of AS. When a data point is entered (ED), the reference date must be consistent with the report frequency for the
sories as entered it the series header. Frequency codes now programmed for use are shown below, together with samples of matching reference dates.

| Frequency | Frequency code | Reference date | Example |
| :---: | :---: | :---: | :---: |
| Daily reports | 01 | Sept. 1/67 | 670901 |
| Weekly reports | 02 | Sept. 1/67 | 670901 |
| 10-day reports | 03 | Sept. 1/67 | 670901 |
| Bi-weekly | 04 | Sept. 1/67 | 670901 |
| Semi-monthly | 05 | Sept. 1/67 | 670901 |
| Monthly | 06 | Sept. 1/67 | 670901 |
| Bi-monthly | 07 | Sept. 1/67 | 670901 |
| Five times per year | 08 | Sept. 1967 | 670900 |
| Quarterly | 09 | Sept. 1967 | 670900 |
| Three times per year | 10 | Sept. 1967 | 670900 |
| Semi-annual | 11 | Dec. 1967 | 6712 |
| Annual | 12 | 1967 | 67 |
| Biennial | 13 | 1967 | 67 |
| Triennial | 14 | 1967 | 67 |
| Quadrennial | 15 | 1967 | 67 |
| Quinquennial | 16 | 1967 | 67 |
| Decennial | 17 | 1961 | 61 |

## DECK SIRUCIURF

Jobs submited whit twforent operathon codes should have cards in the following order for any given matrix number:

AM
CM
AS
CS
ED
TS
SS
DS
DM

Difs means that s! ! series cuda (AS and CS) for series within matrix 1 will follow matrix cards (AM and CM) for matrix 1. ED cards for series within inatrix 1 , will follow all series cards for matrix 1 . The crossfoot check is performed after the last ED, i.e., do not enter AS, ED, AS, ED which would cause the crossfoot routine to be performed twice.

## GLOSSARY



## GLOSSARY - Continued

Crossfoot Concluded

## Current File

Data .......................

For example:
1.1 Personal Income
1.1.1 Direct Taxes
1.1.2 Disposable Personal Income.

Since crossfooting is performed by levels, more than one error message may occur in a matrix.

## See Open File.

Individual data points are entered into the CANSIM base; however, these data points represent single observations in time series such as monthly or annual series of commercial failures in Ontario from January 1951 to date.

An eight-character identifier, one alphabetic, left justified, seven numeric, right justified (no leading zeroes). May be used to retrieve series from CANSIM and is the only key to series retrieved in Databank, Utility or Random formal.

A group of records (individual series) having a common coding and format.
$\qquad$ Data Entry Types are coded as follows:
1 - Projection into future
2-Estimate of current figure
3-Current figure
4 - Revision of current figure
5 - Initial entry of data.
For details, see Section 3.7.
Data Point ............... One observation, for example, January 1967 value of exports to Great Britain, is a data point. (Always right justified, with no con?mas or decimals. If sign required, enter the sign immediately preceding the first digit.)

Deck Structure ........... The prescribed sequence of cards for submitting action requests. See Section 9.

## Delete

Delete Matrix and Delete Series, remove the information from the data base. These operations end with a card-out routine which provides the card decks for resubmission when the delete action has been made in error. A "D" action request (column 74 of ED card) deletes the entire data point slot for the reference date indicated.

A listing of Matrices and Series included in the base is called the Series Directory. The preparation of matrix and series titles should take into consideration the need to provide all essential information in the Directory. Each series must have a security level - to accomplish this all Add Matrices (AM - column 80 - card 001 ) must have a security level of $\mathrm{P}, \mathrm{S}$ or $* ; \mathrm{P}$ if all series in a matrix are public, $S$ if all are secure, and * if mixed, i.e., security is indicated at the series level.
If matrix header is $\mathbf{P}$ or $\mathbf{S}$, column 80 of add Series (AS) must be blank. If * (mixed) it must have P or S .
Note: Data point security levels and Directory security level indicators are two distinct types of security and should not be misconstrued.
Note that the Directory lists all series in order of matrix structure regardless of the Directory Security Level Indicator.

Edit . . . ................ Editing made to action requests to ensure correct agency code, crossfoot check, etc.

Fintry Type ................ See Data Entry Type.
Error Message . . . ............ See Section 6.

GIOSSARY -- Continued

Expected Time of Update
Field V'. . . . . . . . . . . . . . . . . . .

See $U_{i}$ date Time.
A group of card columns specified by the card format for use in entering data or other information required in the data entry program.
$\qquad$ A collection of related records treated as a unit.
Footnote
There may be up to 9 footnotes in one matrix header. Although the text of the footnotes are entered in the matrix header, footnotes refer only to data points. A single data point may refer to a maxinum of 4 footnotes, and reference to footnotes is made by the enter Data (ED) action. See Sections 3.3 and 3.7.

Format . ................. Instructions supplied to the computer on the size and location of fields in which information to be read will be found as well as a description of what is in each field.

Freeze . . . . . . . . . . . . . . . . Allows entry to, but not retrieval of, individual series or a complete matrix, i.e., the Data Entry Security Word is the only word which allows access to series in FREEZE status. Every data point in a series is frozen regardless of its security level.

Frequency . . . . . . . . . . . . . . See Report Frequency.

## Gentrate Data (GD)

General Time Series Staff (GTSS)


Justified

## Leading Zeros

Level of Security $\sqrt{ }$. ..........

A routine to generate a set or group of ED transactions associated with a correction or deletion. This is a stand-alone program which is not part of the Data Entry modules.

Located in Statistics Canada. Maintains registers of matrix numbers, agency and section responsibility codes of Statistics Canada and other Government Users. Receives and/or controls all data entry and retrieval requests within Statistics Canada.

Left justified - Start entry in the left hand column of the field. Right justified - End entry in the right hand column of the field.

When right justified digits partially complete a field, the program may require that remaining left hand columns be filled with leading zeros.

Each data point in the base may have any one of four levels of security. The security level of each data point is indicated by a single digit (col. 68 of ED form). The four security levels are as follows:
(a) Public. - Data which is freely available to the public (a blank or zero in column 68 and no security code word).
(b) Secret. - Data may be so classified under the security provisions of the Statistics Act. ("1" in column 68 and secret security word in the matrix header.)
(c) Confidential. - Data may be so classified because of dubious quality or pending release date. (" 2 " in column 68 and confidential security word in the matrix header.)
(d) Series - Secure. - Uilized when it is necessary to discriminate between users of individual series within the same matrix (" 3 " in column 68 and security word in the series header).

A secured data point (codes 1,2, or 3 in col. 68) cannot be retrieved without the appropriate security word being used. The secret code word can retrieve confidential, or series - secure data, but a confidential code word cannot retrieve secret data.


| Open File | Series which require updating to include current statistics, as opposed to terminated. |
| :---: | :---: |
| Operation Code | There are 9 types of action requests or operation codes in the data entry program. See Section 3.2. |
| Over-ride | When data points are entered, the machine edit may include an instruction to check the percentage change from the preceding period in the base (See Add Series Section 3.5). A figure exceeding the variance-allowed may only be entered by indicating override on the ED action request. |
| Printout | See Section 5 for examples of data entry printouts. In addition to the printout of successful actions, it is possible to retrieve all or part of the data in a particular series. See CANSIM Users' Manual for data retrieval and manipulation. Catalogue 12-531. |
| Projection | One type of data entry permitted is a projection into the future. The projection may be replaced only by a projection, an estimate of the current figure, or the current figure. See Section 3.7: |
| Public | Public as a security level, means that the statistics are freely available to the public with no security restrictions. |

Re-activate Series (SS) ....... See Start Series.
Record $\int \ldots \ldots$. . . . . . . . . . A logical grouping of data which is handled by the computer as a single entry.

## GLOSSARY - Continued


$\square$
Run
Scalar Factor or Power Factor

The calendar period to which the data value applies. For examples see Section 8. To correct a reference date existing in the base using the enter data action (ED), first, delete the data point slot, and then resubmit the data with the proper reference date. Refer to Section 3.7.

Used to change the CANSIM Series number within a matrix.
See Section 8 for codes and examples. Report frequency indicates the periodicity of data available. Note that you cannot mix report frequencies in a series. For example, Labour Force, quarterly from 1946, monthly from 1952, would require two separate series within the matrix. To change Report Frequency, first, delete the series, change columns 67-68 on series header card 001 and resubmit.

The CANSIM System has a number of commands which enable the user to retrieve data as printouts, on cards, or on tape/disk which may be used as input to programs such as MASSAGER, FANTOM, and X-11, etc. See CANSIM Users' Manual for Data Retrieval and Manipulation.
Revision . . . . . . . . . . . . . . . . See Data Entry Type.

Rounding ............... The Statistics Canada rule for rounding is as follows: an odd number followed by a 5 is always raised by 1 ; an even number followed by a 5 is raised by I except when the 5 is followed by zeros (an exact half).
For example:
\(\left.\left.$$
\begin{array}{ll}\begin{array}{l}3.5 \\
3.5001 \\
3.56\end{array}\end{array}
$$\right\} \quad $$
\begin{array}{l}4.5 \\
\text { rounds to } 4\end{array}
$$ \begin{array}{r}4.5001 <br>

4.51\end{array}\right\} \quad\)| rounds to 4 |
| ---: |
| rounds to 5 |

A single, continuous performance of a computer routine.
This code indicates the magnitude of the data entered in the ED form.
For example:

$$
\begin{array}{rr}
\text { billions }- \text { enter } 09=1,000,000,000 \\
\text { millions }- \text { enter } 06= & 1,000,000 \\
\text { thousands }- \text { enter } 03= & 1,000 \\
\text { tens }- \text { enter } 01= & 10 \\
\text { units }- \text { enter } 00= & 1
\end{array}
$$

also, indexes - enter 00
percentages - enter 00
In selecting the scalar factor consider carefully the size of the data. It is advisable to use the smallest possible scalar factor to permit maximum number of digits in the data.

Secret . . . . . . . . . . . . . . The Secret Security Word is entered in the Matrix Header. The data points with this security level must have a " 1 " in column 68 of the ED form. See Security and Level of Security.

A four-character mnemonic code identifying the section responsible for a given matrix.

Section responsible for availability, accuracy, and security of a given matrix.
Confidentiality of CANSIM is based primarily on code or passwords. To enter data into the base in the form of a new table (matrix), the agency must include a Data Entry Security Word. Future changes (updates and revisions) to this matrix must be accompanied by this security word (Code Word). The Data Entry Security Word can also be changed. Retrievals are similarly controlled. When secured data points are entered; a single digit code is appended indicating the

## GLOSSARY - Continued

Security - Concluded

## Security Code

$\qquad$

Series Header
security level of that specific data point. A " 1 " code makes that data point secret, and " 2 " confidential. At the time the matrix header is established on the base with the Data Entry Security Word, the Secret and Confidential security word should also be added. When it is necessary to discriminate between users of individual series in the same matrix, a " 3 " code may be used to make that data point secure. A series which has data points with " 3 " code is referred to as series - secured. The " 3 " code security word should be added to the series header at the time the series is established. Leaving the security column blank (public) allows that data point to be retrieved without any security check. The security words for " 1 ", " 2 ", or " 3 " codes may be changed.

There are four levels of security possible which restrict the retrieval of a data point or series: Secret, Confidential, Series - secure, and Public. In addition, a Data Entry Security Word is necessary to alter or add to the contents of any series. See also Security.

A sequence of data points arranged by time which are stored as a single unit together with the series header.

The number and title of a time series. The header also contains all necessary information about the series such as the scalar factor, unit of measure, number of decimal places in data, etc.

An "open-ended" descriptor which allows for the identification of a series within a matrix. A maximum of 20 characters (digits and decimal points) is allowed for series identification, and must not exceed 9 levels (i.e., maximum of $\$$ decimals). Numbers are left justified in column numbers $31-50$.

Within a matrix, series are entered in a hierarchical structure. Series numbers designate the level in the matrix and the position of the series within its level.
For example:

$$
\begin{array}{ll}
01 \text { exports and re-exports total } \\
02 \text { re-exports } \\
02 \text { domestic exports total } & (1) \\
03 \text { live animals total } & (1.1) \\
03 \text { food, feed, bev. and tob. total } & (1.2 .1) \\
04 \text { meat and meat preps } & (1.2 .2 .1) \\
04 \text { fish, fresh and frozen }
\end{array}
$$

In the sample line 04 fish, fresh and frozen, the " 04 " shows the level of aggregation, the " $(1.2 .2 .2)$ " the series and level indicator. The figure 1.2.2.2 is the series number and may be read as "the second 04 item under the second 03 level under the second 02 level under the first total".

This structure makes possible one automatic machine check of the data base. After each action request is completed, crossfoot is performed (if requested in AM by a 1 in col. 52), by which each level is aggregated to the next highest level. Failure of the check results in an error message. There is an implication that the levels will be complete, i.e., all contain data. In some cases to perform crossfoot, it may be necessary to introduce dummy residual series (with a security code if desired).

The following are causes of invalid series numbers:

1. More than 9 levels.
2. More than 3 digits per level.
3. First digit of a level is a zero.
4. Characters other than numerics or period.
5. Series number starts or ends with a period.
6. Series number has consecutive periods.

## GLOSSARY - Concluded

| Series Title | A fifty-character title for a series. Note that the title identifying the level need not be repeated for each series within the level. |
| :---: | :---: |
|  | For example: <br> 1. Expenditure on goods and services <br> 1.1 Federal <br> 1.2 Provincial <br> 1.3 Municipal |
|  | In the case of a matrix containing both seasonally adjusted (SA) and unadjusted (RAW), this information will appear in the matrix long title (Sce Long Title), and each series title will indicate (RAW) or (SA). Where units vary within a matrix, it may be possible to provide sufficient information in the matrix title or note; otherwise the units must appear in the series title. |
| Short Title | A forty-character title for a matrix, abbreviated from the long title. |
| Source | A fifty-character field describing the "source" of the data and used for publication purposes (name of publication, publication number, and agency). |
| Start Series | The data in a terminated series may be updated by re-activating the series, entering updates and then terminating again. See Section 3.8 . |
| Submission | A set of data and/or operations submitted at one time by the responsible agency for updating the data base. |
| Terminate | A series may be terminated and this prevents any further updating of the data but does not delete the series from the data base. Data may be retrieved from a lerminated series. See Start Series. |
| Title | See Long or Short Title. |
| TSDB | System Identification (Time Series Data Bank), must appear on all data entry cards. |
| Unfreeze | Frozen data may be made available by reinstating the "secret" security word (CM); the "series" security word (CS) or by entering "*******" if the field was previously blank. |
| Update Time | Update time is the number of days after the last data entry when the next update can be expected. |
| Variance Allowed | Variance allowed is the amount of variation expressed as a percentage between prior data and the data being entered. Variance is not checked when the data point being entered is an initial entry, projection, or estimate. Where a data point (code 3 or 4 ) is known to exceed the variance allowed entered in the series header, it is possible to override this check by entering " 9 " in column 73 of the ED form. In establishing the variance allowed for a series, one rule-of-thumb would be to expect rejection on $5 \%$ of data entries. |




[^0]:    1 A supply of forms, except ED which are a stock item (No. 0408-77), may be obtained from CANSIM Siaff, relephone number 5-7406.

[^1]:    1 There is no card number 10.

[^2]:    ${ }^{1} \mathrm{M}=$ monthly (YYMMDD) - YYMM must be complete. If day of month is required enter DD.
    $Q=$ quarterly (YYMMDD) - YYMM must be complete. If quarterly periods are January, April, July and October, enter 01, 04, 07 , or 10 in MM. Otherwise enter $03,06,09$ or 12 .
    $\mathrm{A}=$ annual (YYMMDD) - YY must be complete. If month is required enter MM.
    ${ }^{2} \mathrm{C}=$ correction - entry type, security level, and footnote fields must not be all blanks.
    $\mathrm{D}=$ delete - entry type, security level, and footnote fields must be all blanks.
    X = crossfoot - DO NOT USE, Not yet available.

[^3]:    2700-6: 11-1-73

[^4]:    2700-6: 11-1-73

[^5]:    2700-6: 11-1-73

[^6]:    signature of requesting officer
    l Know

