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SANTA BARBARA PLANT

Distribution current as of 12/22/77



**Burroughs Corporation**



COMPUTER SYSTEMS GROUP  
SANTA BARBARA PLANT

B1800/B1700 COBOL COMPILER

2212 5314

**PRODUCT SPECIFICATION**

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
A	7/1/75	<i>J. Male</i>	Original Issue
B	5/16/77	<i>J. Male</i>	Changes for the VI.1 Release 3-16 Added INDEXED I-O, MERGE, SORT RESTART OPTION, SORT WITH VIRTUAL COLLATING SEQUENCE, USE FOR Q-EMPTY/Q-FULL, and WAIT to list of ANSI 68 COBOL Extensions.
C	2/6/78	<i>J. Male</i>	MARK VII.0 RELEASE Pages 4-13 to 4-15 Updated Burroughs Extension List Added WHEN and EXTEND clauses Deleted HERE option

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### GENERAL DESCRIPTION

Programming applications are written in the Cobol Language as specified in the B1800/B1700 Systems Cobol Reference Manual. The source language therein described is the USA Standard Cobol, X3.23-1968, to which Burroughs extensions have been added. The Cobol Compiler reads this source program and translates it into a set of S-Instructions described in the Cobol S-Language Product Specification #2201 6729.

### RELATED PUBLICATIONS

<u>TITLE</u>	<u>NUMBER</u>
Cobol Compiler Logic	2212 5397
Cobol S-Language	2201 6729
B1800/B1700 Cobol Reference Manual	1057197

### STRATEGY OF COMPILATION

Upon reading the source program, the initial parser distributes information about each source image to various work files. These work files are then transformed by a series of "passes" or phases until enough information about each basic element of the program is obtained. At that time a complete syntax check is accomplished. If there were no syntax errors up to and including the syntax checking phase, the code generation phase is invoked, otherwise this phase is omitted. The final phase builds the code file on disk if, indeed, code generation took place. In addition, a variety of reporting is produced according to the S-Option Cards included with the compilation card deck.

### \$-CARDS

The COBOL Compiler Control Card (\$ sign in column 7) is used to notify the compiler as to which options are required during the compilation. If this card is omitted, \$CARD LIST CHECK SINGLE CONTROL will be assumed. There must be at least one space between each item on the control card. The options may be in any order. Columns 1 thru 6 of the \$-Card are used for sequence numbers. Any number of \$-Cards may be used and may appear anywhere in the source deck. The options specified will become either active or inactive from that point on. The options available for the COBOL Compiler Option Control cards are as follows:

**ANSI** Causes the compiler to inhibit certain non-ANSI extensions.

1. The warning message regarding the PERFORM of an independent section.

2. The optional ELSE clause for:

AT END  
INVALID KEY  
ON SIZE ERROR

**CARD** This option is for documentation only. The input is from the Source Language Cards or paper tape.

**CHECK** Causes the compiler to check for sequence errors and print a warning message for each sequence error. The CHECK option is set on by default at the beginning of each compile, but may be terminated with the NO option.

**CODE** Lists the object code following each line of source code from the point of insertion.

**CONTROL** Prints the \$ Option Control Cards on the output listing. The LIST option must be on.

- DOUBLE** Causes the output listing to be printed in a double-spaced format.
- LIST** Creates a single-spaced output listing of the source language input, with error and/or warning messages, where required.
- LISTP** This option causes the compiler to print a listing of source images and to print errors as they occur.
- MERGE** Primary input is from a source other than a card reader and may be merged with a patch deck in the card reader. It is assumed to be from a disk file, with a file-ID of COBOLW/SOURCE, by default. If it is desirable to change the input file-ID or change the input device from disk to tape, a LABEL EQUATION CARD must be used. The internal file name is SOURCE. The NEW option may be used with the MERGE option to create a new output source file plus changes.
- NEW** Creates a NEW output source file (with changes, if any, entered through the use of the MERGE option) but does not include the Compiler Option Cards, if any, which must be merged in from the card reader when compiling from disk or tape. The output file will be created on disk by default with the file-ID of COBOLW/SOURCE. If it is desirable to change the output file-ID device from disk to tape, a LABEL EQUATION CARD must be used. The internal file name is NEWSOURCE.
- NO** When the NO option precedes any other option (except MERGE which cannot be terminated), it will terminate the function of that option.
- NO DEBUG** When this option is specified, the compiler will not generate monitor object code even though the statements are left in the source programs. This permits the user to approximate a conditional compile for the debugging facilities.

**NO SEQ** Terminates the SEQ option and resumes using the sequence number in the source statement as it is read in.

**NOCOP** This option causes the compiler to generate current operand table entries in-line in the code. This option requires more memory to run, but it will increase execution speed by approximately two per cent.

**"<non-numeric literal>"** Inserted in columns 73-80 of all following card images when creating a new source file and/or listing. This option can be turned off or changed by a subsequent control card with the area between the quote marks containing blank characters.

**REF** Provides monitoring of data-names specified in the MONITOR declaration and referenced in the program, even if their values are unchanged. This option must be used in conjunction with the MONITOR statements.

**SEQ** Starts re-sequencing the output listing and the new source file, if applicable, from the last sequence number read in and increments the sequence number by ten or by last increment presented in a previous \$-Option Card. When resequencing starts at the beginning of the program source statements, the sequence will start with 000010.

**SEQ nnnnnn** Starts re-sequencing the output listing and new source file, if applicable, from the sequence number specified by nnnnnn and increments the sequence numbers by ten.

**SEQ +nnnnnn** Starts re-sequencing the output listing and new source file, if applicable, from the last sequence number read in and increments by the number specified by + nnnnnn. When re-sequencing starts at the beginning of the program source statements, the sequence will start with 000010.



**SEQ nnnnnn +nnnnnn** Starts re-sequencing the output listing and new source file, if applicable, from the sequence number specified by nnnnnn and increments by the value of +nnnnnn.

**SINGLE** Causes the output listing to be printed in a single-spaced format.

**SPEC** This option negates the CONTROL and LIST option and causes only the syntax errors and associated source code to be printed if syntax ERRORS occur. Otherwise, the CONTROL and LIST options remain in effect.

**STACK nnnnnn** This option allows the perform stack size in bits to be changed. The perform stack is used to save the return address (39 bits) associated with a perform. The return address is removed from the stack when the terminal paragraph of that perform is reached. The default stack size is 1,000 bits.

**SUPPRESS** Suppresses all warning messages except sequence error messages. The sequence error message can be suppressed with the NO CHECK option.

The NEW option does not have to be included when operating with a tape or disk source input, thus allowing temporary source language alterations without creating a new source output file.

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The MERGE option without the NEW option allows a disk or tape input file to be referenced and to have external source images included from the card reader on the output listing and in the object program. A new output source file will not be created.

Columns 1-6 of the Compiler Option Control Card may be left blank when compiling from cards. A sequence number is required when compiling from tape or disk and the insertion of the S-Option is requested within the source input.

### COBOL COMPILER LANGUAGE

This section contains a list of ANSI (1968) COBOL elements and their disposition in the Burroughs COBOL Compiler Language for B1700 systems. Elements added as Burroughs extensions are also tabulated.

Each revision of this specification will indicate these elements which are currently implemented. Items which may be implemented in the future are marked "\*\*\*" in the Comment column.

Table 3.1, a list of elements (including Burroughs extensions), is composed of four columns, from left to right:

- NAME
- LEVEL KEY (in one or more columns)
- DISPOSITION KEY (Burroughs)
- COMMENTS

The level of each element is noted in the module section, described below.

#### Modules

Eight types of modules are listed. Each construct appears in at least one module but may occur in more.

Module names heading the columns in the center of Table 3.1 are abbreviated as follows:

D	Deleted Element
N	Nucleus Module
Q	Sequential Access Input-Output Module
A	Random Access Input-Output Module
S	Sort Module
G	Segmentation Module
L	Library Module
T	Table Handling Module

**LOW, MIDDLE HIGH**

Each element's level in each of the modules in which it appears is noted as L, M, or H in the center section of Table 3.1.

L	Low Level
M	Middle Level
H	High Level

Note that a construct may be in different levels when in different modules.

All constructs of "Low" Level must be included; "Middle" Level constructs require that all low constructs be available; "High" Level requires that all low and middle constructs be available.

**DISPOSITION**

The column headed "Disp" includes the key for the type of disposition.

Disposition of an element is indicated by one of the following:

**KEY**

- "Y" = ANSI COBOL Construct Implemented
- "N" = ANSI COBOL Construct Not Implemented
- "E" = Burroughs Extension to ANSI COBOL (1968)
- "Q" = Disposition of Construct to be Specified

If "Disposition" is "N" with no comment the element is not implemented by Burroughs; if ANSI deleted the element this fact is noted in the comment column.

**"DELETED" (Q) CATEGORY**

The "Deleted" category includes elements of Codasyl COBOL which are omitted from the ANSI standard. The presence of deleted language elements in a COBOL implementation does not render it non-standard.

No deleted elements are included in the B1800/B1700 COBOL language except as indicated by comments or notes.

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"Extension" Category

Burroughs extensions to ANSI COBOL are listed at the end of Table 4.1.

B1700 SYSTEMS

TABLE 4.1 ANSI (1968) COBOL ELEMENT LISTING

Construct Name	Module	Disp	Comment
	D N O A S G L T		
INTRODUCTION	- L - - - - -	Y	Except FMT Punctuation
<b>Language Concepts</b>			
Characters, Words			
0...9 A...Z -(Hyphen	- L - - - - -	Y	
Character, Punctuation			
. " ( ) Space	- L - - - - -	Y	
, ;	- H - - - - -	Y	
Operator, Arithmetic			
+ - * **	- H - - - - -	Y	
Character, Relation			
> < =	- H - - - - -	Y	
Character, Editing			
B O + - CR DB Z * \$ , .	- L - - - - -	Y	
Currency Sign Substitution	- L - - - - -	Y	
Decimal Point Substitution	- L - - - - -	Y	
Character Set Substitution			
Words			
Maximum Size 30 Characters	- L - - - - -	Y	
Must Begin with Alphabetic	- L - - - - -	Y	
No Restriction	- H - - - - -	Y	
Data-Name	- L - - - - -	Y	
Condition-Name	- L - - - - -	Y	
Procedure-Name			
Non-Numeric Only	- L - - - - -	Y	
Numeric Permitted	- L - - - - -	Y	
Literals			
Numeric,			
Must allow for 1 thru at least 18 digits	- L - - - - -	Y	

Construct Name	Module	Disp	Comment
	D	N	Q A S G L T
Non-Numeric, 1 to at least 120 char.	-	L	- - - - - Y
Figurative Constants			
Zero	-	L	- - - - - Y
Zeros Zeroes	-	H	- - - - - Y
Space	-	L	- - - - - Y
Spaces	-	H	- - - - - Y
High-Value	-	L	- - - - - Y
High-Values	-	H	- - - - - Y
Low-Value	-	L	- - - - - Y
Low-Values	-	H	- - - - - Y
Quote	-	L	- - - - - Y
Quotes	-	H	- - - - - Y
All Literal	-	H	- - - - - Y
Special Registers			
Tally	-	L	- - - - - Y
Special-Names	-	L	- - - - - Y
Reserved Words			
Key Words	-	L	- - - - - Y
Optional Words	-	L	- - - - - Y
Connectives			
Qualifier			
Of In	-	H	- - - - - Y
Series			
,	-	H	- - - - - Y
Logical			
And	-	H	- - - - - Y
Or	-	H	- - - - - Y
And Not	-	H	- - - - - Y
Or Not	-	H	- - - - - Y
Level Numbers			
01 thru 10	-	L	- - - - - Y
1 thru 49	-	H	- - - - - Y
1 or 2 digits	-	H	- - - - - Y
66, 88, Levels	-	H	- - - - - Y
77 Level	-	L	- - - - - Y
Qualification			
None	-	L	- - - - - Y





Construct Name	Module	Disp	Comment
	D N O A S G L T		
Implementor-Name Option	D - - - - -	Y	Documentn.Only
Implementor-Name Series	D - - - - -	Y	Documentn.Only
Segment-Limit Option	- - - - - H - -	Y	
Special-Names			
Copy Library-Name	- - - - - M -	Y	
Replacing Option	- - - - - H -	Y	
Implementor-Name is Mnemonic	- L - - - - -	Y	
On Status Option	- L - - - - -	N	No Hdwr.Sw
Off Status Option	- L - - - - -	N	No Hdwr.Sw
Implementor-Name Series	- L - - - - -	Y	
Currency Sign Option	- L - - - - -	Y	
Decimal-Point Option	- L - - - - -	Y	
Input-Output Section			
File Control			
Copy Library-Name	- - - - - M -	Y	
Replacing Option	- - - - - M -	Y	
Select File-Name	- - L - - - -	Y	
Optional Option	- - H H - - -	Y	
Assign to Implementor-Name	- - L - - - -	Y	
Implementor-Name Series	- - L - - - -	Y	MCP Hdls per Std
Multiple Reel, Unit Option	- - L - - - -	Y	MCP Hdls per Std
Reserve Option	- - H - - - -	Y	
File-Limit(s) Option			
Literal thru Literal	- - L - - - -	Y	
Literal Series	- - H H - - -	Y	
Data-Name thru Data-Name	- - H H - - -	Y	
Data-Name Series	- - H H - - -	Y	
Access Mode Option			
Sequential	- - L - - - -	Y	
Random	- - - M - - -	Y	
Processing Mode Option			
Sequential	- - L - - - -	Y	
Actual Key Option	- - - M - - -	Y	
Symbolic Key Option	D - - - - -	Y	Documentn.Only
Or Implementor-Name	- - - - M - - -	Q	*** (Sort Only) Syntax not yet Specified
Select Clause Series	- - L - - - -	Y	
I/O Control			
Copy Library-Name	- - - - - M	Y	



Construct Name	Module							Disp	Comment	
	D	N	Q	A	S	G	L			T
1 thru 49	-	H	-	-	-	-	-	-	Y	
1 or 2 Digits	-	H	-	-	-	-	-	-	Y	
66, 88 Levels	-	H	-	-	-	-	-	-	Y	
77 Level	-	L	-	-	-	-	-	-	Y	
Occurs Integer Times	-	-	-	-	-	-	-	L	Y	
Ascending, Descending										
Data-Name	-	-	-	-	-	-	-	H	N	*** (Indexing)
Data-Name Series	-	-	-	-	-	-	-	H	N	*** (Indexing)
Ascending, Descending Series	-	-	-	-	-	-	-	H	N	*** (Indexing)
Indexed by Option	-	-	-	-	-	-	-	L	Y	
Integer to Integer Times	-	-	-	-	-	-	-	H	Y	
Depending on Option	-	-	-	-	-	-	-	H	Y	Documentn.Only
Picture										
Pic Abbreviation	-	L	-	-	-	-	-	-	Y	
Character String										
Size Limit 30	-	L	-	-	-	-	-	-	Y	
Data Character Symbols										
A X 9	-	L	-	-	-	-	-	-	Y	
Operational Symbols										
S V P	-	L	-	-	-	-	-	-	Y	
Replacement or Float Chars.										
\$ + - Z *	-	L	-	-	-	-	-	-	Y	
Currency Sign Substitution	-	L	-	-	-	-	-	-	Y	
Fixed Insertion Characters										
O B , . \$ + - DB CR	-	L	-	-	-	-	-	-	Y	
Decimal Point Substitution	-	L	-	-	-	-	-	-	Y	
Record Contains Clause	-	-	L	M	-	-	-	-	Y	
Recording Mode Clause	D	-	-	-	-	-	-	-	Y	
Redefines Clause										
Un-Nested	-	L	-	-	-	-	-	-	Y	
No Restriction	-	M	-	-	-	-	-	-	Y	
Renames Clause	-	M	-	-	-	-	-	-	Y	
Synchronized Clause	-	L	-	-	-	-	-	-	Y	Left, Right
Sync Abbreviated	-	L	-	-	-	-	-	-	Y	
Type Is										
Usage Is										
Computational	-	L	-	-	-	-	-	-	Y	
Comp Abbreviation	-	L	-	-	-	-	-	-	Y	
CMP Abbreviation	-	L	-	-	-	-	-	-	Y	Implies 4 Bit

Construct Name	Module	Disp	Comment
	D N Q A S G L T		
Computational-N	D - - - - -	Y	Acceptable: Computational-1 Computational-3 (See Extensions)
Display	- L - - - - -	Y	Implies 8-Bit Display Implied if usage omitted
Index	- - - - - L	Y	
Value Is			
Literal	- L - - - - -	Y	
Literal Series	- H - - - - -	Y	
Literal thru Literal	- H - - - - -	Y	
Literal Range Series	- H - - - - -	Y	
Value Of			
Data-Name is Literal	- - L - - - - -	Y	
Data-Name is Literal Series	- - L - - - - -	Y	
Data-Name is Data-Name	- - H H - - - - -	Y	ID, Actual Key

**Procedure Division**  
 -----

**Division Header**  
 -----

Declarative Delimiters			
Declaratives	- - H H - - M -	Y	
End Declaratives	- - H H - - M -	Y	
Arithmetic Expressions			
Arithmetic Operators	- H - - - - -	Y	
Conditions			
Logical Operators	- H - - - - -	Y	
Relation Conditions	- L - - - - -	Y	
Relational Operators			
(Not) Greater Than	- L - - - - -	Y	
(Not) >	- H - - - - -	Y	
(Not) Less Than	- L - - - - -	Y	
(Not) <	- H - - - - -	Y	
(Not) Equal To	- L - - - - -	Y	
(Not) =	- H - - - - -	Y	
Abbreviation 1	- H - - - - -	Y	
Abbreviation 2	- H - - - - -	Y	
Abbreviation 3	- H - - - - -	Y	

Construct Name	Module	Disp	Comment
	D N Q A S G L T		
Comparison			
Numeric Operands	- L - - - - -	Y	
Non-Numeric Operands			
Equal Size	- L - - - - -	Y	
Unequal Size	- H - - - - -	Y	
Index-Names - Data Items	- - - - - L	Y	
Sign Condition	- H - - - - -	Y	
Not Option	- H - - - - -	Y	
Class Condition	- L - - - - -	Y	
Not Option	- L - - - - -	Y	
Condition-Name Condition	- H - - - - -	Y	
Not Option	- H - - - - -	Y	
Switch Status Condition	- L - - - - -	Y	See "Simulated Switches" Exten
Arithmetic Operand Size Limit 18 Digits	- L - - - - -	Y	Up to 125 Digit Composite Total
Accept Identifier (Maximum of one Fixed Unit)	- L - - - - -	Y	
Each Accept Statement	- L - - - - -	Y	
No Restriction	- H - - - - -	Y	
From Option	- H - - - - -	Y	
Add Identifier, Literal (To or Giving Required)	- L - - - - -	Y	
No Restriction	- H - - - - -	Y	
Identifier, Literal Series	- L - - - - -	Y	
To Identifier	- L - - - - -	Y	
To Identifier Series	- H - - - - -	Y	
Giving Identifier	- L - - - - -	Y	
Rounded Option	- L - - - - -	Y	
Size Error Option	- L - - - - -	Y	
Corresponding Format	- H - - - - -	Y	
Alter Procedure Name	- L - - - - -	Y	
Procedure-Name Series	- H - - - - -	Y	
Close File-Name	- - L - - - -	Y	
File-Name Series	- - H H - - -	Y	
Reel Option	- - L - - - -	Y	
Unit Option	- - H - - - -	Y	
No Rewind, Lock Option	- - H H - - -	Y	
Compute Identifier			
Rounded Option	- H - - - - -	Y	

Construct Name	Module	Disp	Comment
	D N Q A S G L T		
= Choice	- H - - - - -		Y
Identifier, Literal			
Arithmetic Exponent	- H - - - - -		Y
Size Error Option	- H - - - - -		Y
Copy Library Name	- - - - - M -		Y
Replacing Option	- - - - - H -		Y
Display Literal, Identifier	- L - - - - -		Y
(Truncation at fixed			
Unit Size)	- L - - - - -		Y
No Restriction	- H - - - - -		Y
Literal, Identifiers Series	- L - - - - -		Y
Upon Option	- H - - - - -		Y
Divide Identifier Literal			
Into Identifier	- L - - - - -		Y
By Identifier	- L - - - - -		Y
Giving Identifier	- L - - - - -		Y
Rounded Option	- L - - - - -		Y
Remainder Option	D - - - - -		Y
Size Error Option	- L - - - - -		Y
Enter Statement	- L - - - - -		N
Examine Statement	- L - - - - -		Y
Exit Statement	- L - - - - -		Y
Go to Procedure-Name	- L - - - - -		Y
Optional Procedure-Name	- H - - - - -		Y
Depending on Option	- L - - - - -		Y
If Condition			
Then Option	D - - - - -		Y
Statement, Next Statement	- L - - - - -		Y
Nested Statements (True)	- H - - - - -		Y
Move Identifier Literal			
To Identifier	- L - - - - -		Y
To Identifier Series	- L - - - - -		Y
Corresponding Identifiers	- H - - - - -		Y

Construct Name	Module	Disp	Comment
	D N Q A S G L T		
Multiply Identifier, Literal			
By Identifier	- L - - - - -		Y
Giving Identifier	- L - - - - -		Y
Rounded Option	- L - - - - -		Y
Size Error Option	- L - - - - -		Y
Note Sentence, Paragraph	- L - - - - -		Y
Open Input File-Name	- - L - - - -		Y
Reversed Option	- - H - - - -		Y
No Rewind Option	- - H - - - -		Y
Output File-Name	- - L - - - -		Y
No Rewind Option	- - H - - - -		Y
Input-Output File-Name	D - - - - -		Y
I/O File-Name	- - L - - - -		Y
File-Name Series	- - H H - - -		Y
Perform Procedure-Name	- L - - - - -		Y
Thru Option	- L - - - - -		Y
Format 2	- L - - - - -		Y
Format 3	- H - - - - -		Y
Format 4	- H - - - - -		Y
Read File-Name at End	- - L - - - -		Y
Into Option	D - - - - -		Y
Invalid Key	- - - M - - -		Y
Release Record-Name	- - - - M - - -		Y (Sort)
From Option	- - - - H - - -		Y (Sort)
Return File-Name	- - - - M - - -		Y (Sort)
Into Option	- - - - H - - -		Y (Sort)
Search Statement	- - - - - - H	N	*** (Indexing)
Seek File-Name	- - - M - - - -		Y
Key Conversion	D - - - - -		Y
Set Index-Name, Identifier To..	- - - - - - L		Y
Index-Name, Identifier Series	- - - - - - M		Y
Format 2	- - - - - - H		Y
Sort Statement	- - - - M - - -		Y (Sort)
Basic Sorting	- - - - M - - -		Y (Sort)
Extended Sorting	- - - - H - - -		Y (Sort)
Stop Statement	- L - - - - -		Y
Subtract Literal, Identifier			
Literal, Identifier Series	- L - - - - -		Y
From Series	- H - - - - -		Y
Giving Identifier	- L - - - - -		Y
Rounded Option	- L - - - - -		Y

Construct	Module	Disp	Comment
	D N Q A S G L T		
Size Error Option	- L - - - - -	Y	
Corresponding Format	- H - - - - -	Y	
Use			
Error Procedure			
File-Name	- - H H - - - -	Y	
File-Name Series	D - - - - -	Y	
Input Choice	- - H H - - - -	Y	
Output Choice	- - H H - - - -	Y	
Input-Output Choice	D - - - - -	Y	
I/O Choice	- - H H - - - -	Y	
Label Procedure			
Before, After Choice	- - H H - - - -	Y	Documentn. Only MCP Allows Only 1 Access
Beginning, Ending Option	- - H H - - - -	Y	
File Option	- - - H - - - -	Y	
Reel, Unit Option	- - H - - - - -	Y	
File-Name Choice	- - H H - - - -	Y	
File-Name Series	D - - - - -	Y	
Input Choice	- - H H - - - -	Y	
Output Choice	- - H H - - - -	Y	
I/O Choice	- - H H - - - -	N	No Labels on DF
Key Conversion Formula	D - - - - -	Y	
Write Record-Name	- - L - - - - -	Y	
From Option	D - - - - -	Y	
Advancing Option	- - L - - - - -	Y	
Invalid Key Format	- - - M - - - -	Y	
Segmentation			
Priority Numbers	- - - - - M - -	Y	
Fixed Portion Priorities 0-49	- - - - - M - -	Y	
Must be Contiguous	- - - - - M - -	Y	
No Restriction	- - - - - H - -	Y	
Independent Segments 50-99	- - - - - M - -	Y	
Must be Contiguous	- - - - - M - -	Y	
No Restriction	- - - - - H - -	Y	
Segment Limit	- - - - - H - -	Y	
Library			
Copy Library Name	- - - - - M -	Y	
Replacing Option	- - - - - H -	Y	



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Construct Name	Module	Disp	Comment
	D	N	Q A S G L T
Reference Format	-	L	- - - - - Y
Representation	-	L	- - - - - Y
Sequence Numbers	-	L	- - - - - Y
Continuation of Lines			
Non-Numeric Literals	-	L	- - - - - Y
Words and Numerals	-	H	- - - - - Y
Formats			
Division Header	-	L	- - - - - Y
Section Header	-	L	- - - - - Y
Paragraph-Name and Paragraphs	-	L	- - - - - Y
Data Division Entries	-	L	- - - - - Y
Declaratives	-	-	H H - - - - Y
Reserved Words	-	L	- - - - - Y

TABLE 4.2 BURROUGHS EXTENSIONS TO ANSI 68 COBOL

Name or Function -----	Comment -----
FILE CONTAINS	May be declared: <integer> BY <integer> RECORDS
CLOSE	Supports the following options: PURGE RELEASE CRUNCH
DATE	Formatted as: yyddd
TODAYS-DATE	Formatted as: mmddy
TODAYS-NAME	
MONITOR	Supports monitoring of: DATA-NAMES LABELs either: ALL or DEPENDING
OPEN	Allowed with: LOCK LOCK ACCESS PUNCH PRINT128 INTERPRET STACKERS I/O EXTEND
Simulated Hardware Switches	
TIME	
TRACE	
Undigit Literals	
ZIP	
* in (Col 7) Card	Comment Card
/ in (Col 7) Card	Page Overflow
s in (Col 7) Card	Compiler Options
USAGE IS	Supports: ASCII CMP-3

<u>Name or Function</u> -----	<u>Comment</u> -----
RECORDING MODE	Supports: ASCII
Data Segment-Limit	IS <literal>: for data segmen- tation.
REDEFINES	Operand can be original area or last redefined area.
Inter-Program Communication	All constructs.
DUMP	
Non-Numeric Literals:	
Adjacent Quote Marks	Two adjacent quote marks = a quote in the string
I/O CONTROL	Supports: APPLY option.
DIVIDE	Supports: MOD option
SORT	Allows the following options: INPLACE TAG-KEY ON ERROR RUN PURGE END USING supports: LOCK PURGE RELEASE GIVING supports: LOCK RELEASE
GO	Allowed without TO
MOVE	Gives truncation warning mes- sage on error.
MICR/OCR	All constructs.
DATE-COMPILED	Inserts Time
Space	Not required following periods, commas, or semi-colons.

Name or Function  
-----

Comment  
-----

WRITE TO

Supports: ERROR  
AUXILIARY  
STACKER

Data Management

All constructs.

J and K Signs

AT END, SIZE ERROR, INVALID KEY

All permit a conditional state-  
ment which associates an ELSE  
with these conditions.

WHEN

Allows a statement instead of an  
imperative statement when used  
with SEARCH, thus WHEN may be a  
proper terminator of an IF  
statement.

Abbreviations

PC  
CMP  
CMP-1  
CMP-3  
VA  
OC  
SY  
JS  
BZ

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