

MANUAL TRANSLATION MODIFICATION PROCEDURE
ALLOCATING ADDITIONAL ACOF TABLES (EF-2 AND 2B-EF-2)
NO. 2/2B ELECTRONIC SWITCHING SYSTEM

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1. GENERAL

1.01 This section provides the procedures for allocating new attendant control of facilities (ACOF) translation tables, and expanding existing ACOF key control translation tables where their maximum size has not yet been allocated.

1.02 Whenever this section is reissued, the reason(s) for reissue will be given in this paragraph.

1.03 The ability to add and subtract in octal and to add in binary is essential to the successful utilization of the procedures in this section. The size and address of each block of program store will be read out of the No. 2 ESS program store or the 2B main store in response to a TTY input message. The standard change in program store (CHIPS) procedure required to change the program store cards or 2B main store requires an octal input. All address calculation and indexing is done by octal addition and subtraction. Refer to Section 232-127-101 for methods of addition and subtraction in octal, binary-to-octal conversions, and tables for decimal-to-octal conversion.

1.04 Parity will not be calculated in this section for words where the parity bit is the most significant bit. In these cases, parity will be calculated when the procedures in Section 232-127-303 or Section 232-327-303 are performed.

1.05 Reproducible forms are provided in Fig. 5, 6, and 7 of this section to be used when allocating ACOF translation tables.

1.06 The use of the Input Message Manual (IM-2H200) and the Output Message Manual (OM-2H200) may be required to interpret TTY messages.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

When to Use the Procedure

1.07 *The use of a manual translation change procedure is not intended to be a part of the day-to-day routine or course of action. A manual translation change procedure should only be used when there is no practical alternative and normal scheduling of office data administration (ODA) update procedures is not feasible.* The ODA update procedures can be performed with a greater accuracy due to the inherent error check in the ODA routine. The manual translation modification procedure contains a much greater probability of error due to hand manipulation and recording of the address numbers and memory contents.

2. DESCRIPTION

2.01 The ACOF feature allows the centrex attendant to restrict station lines from accessing outgoing tie, foreign exchange (FX), and Common Control Switching Arrangement (CCSA) trunk groups.

2.02 The procedures in this section to add or change the size of ACOF tables deal only with those items necessary to key control ACOF.

2.03 For systems with the EF-2 or 2B-EF-2 generic (Fig. 1), the procedures in this section will concern the following translations:

- SPTBL MTI entry
- EXPTBL MTI entry
- Scan Point Translator
- Scan Point Auxiliary Subtranslator
- Expansion Head Table
- Expansion Table
- Pointer Table
- ACOF Group Table
- CF Bit in Trunk Group and Simulated Facilities Group Translations.

3. PROCEDURE FOR EXPANDING AN EXISTING ACOF GROUP TABLE AND FOR ADDING A NEW ACOF GROUP TABLE FOR EF-2 AND 2B-EF-2 GENERICS

3.01 To expand an existing ACOF group table or to add a NEW ACOF group table in a system with the EF-2 or 2B-EF-2 generic, complete the following procedures:

STEP	PROCEDURE
1	Provide a complete description of the changes to be made to the ACOF group table by filling out TG-2H forms 2101; 2109-1, 6; 2202-1, 3, 5; 2210; and 2217. Refer to the Translation Guide.
2	Record the scan point number (SPN) associated with the ACOF key of the ACOF group to be expanded on an ACOF-4 form (Fig. 2) in item 1.
3	Use the scanner and row from item 1 to obtain the address of the word pair from Table A. Enter this address in item 2.
4	Perform a 2-word program store read at the address in item 2. Record the contents of the two words in item 3. Use the following message to perform the read: For No. 2 ESS Offices UB PS:RP:aaaaaa! aaaaaa = octal address in item 2.

STEP	PROCEDURE
	<p><i>For No. 2B ESS Offices</i></p> <p style="text-align: center;">DMP:PS aaaaaa!</p> <p>aaaaaa = octal address in item 2.</p> <p>The octal contents of word 1 must be 10000400.</p>
5	The octal contents of word 2 in item 3 contain the octal starting address of the auxiliary subtranslator. Record the seven least significant digits of word 2 in item 4.
6	Use the row and point from item 1 to obtain the octal value of x+10 from Table B. Enter this value in item 5.
7	Add item 5 to the address in item 4. Record the sum in item 6(a).
8	Read the contents of the word located at the address in item 6(a). Record the contents in item 6(b). Use the following message:
	<p><i>For No. 2 ESS Offices</i></p> <p style="text-align: center;">UB PS:RP:aaaaaa 0 1!</p> <p>aaaaaa = octal address in item 6(a).</p>
	<p><i>For No. 2B ESS Offices</i></p> <p style="text-align: center;">DMP:PS aaaaaa!</p> <p>aaaaaa = octal address in item 6(a).</p> <p>Note: If expanding an existing ACOF group table, digit 6 must be a 1. If the sixth digit is not a 1, an error has been made.</p>
9	If item 6(b) is all zeroes, proceed to Step 11a. Otherwise, record the five least significant digits of item 6(b) in item 7. The most significant digit of the five must be three or less.
10	Use the following help message to find the address of the word pair which contains the ACOF group table pointer.
	<p>A HP:Y/ TBL 0 pppp/ END!</p>
	ppppp = item 8.
	Record the address in item 10(a) and proceed to Step 13.

STEP	PROCEDURE
11a	<p>If a new ACOF group table is being added, a 2-word expansion entry must be allocated to contain the ACOF group table pointer. To do this, use the following message:</p> <p style="text-align: center;">A RC:PST:0002/ TBL 2/ END!</p> <p>Record the resulting address in item 9. Record the pointer in item 8 in the spaces after the digits 41.</p>
12	<p>If the value of the point (item 1) is odd, add 1 to the address in item 9. If the value of the point is even, add 0 to the address in item 9. Record the result in item 10(a).</p>
13	<p>Perform a 1-word program store read at the address in item 10(a). Record the contents of the word in item 10(b). Use the following input message:</p> <p><i>For No. 2 ESS Offices</i></p> <p style="text-align: center;">UB PS:RP:aaaaaa 0 1!</p> <p>aaaaaa = octal address in item 10(a).</p> <p><i>For No. 2B ESS Offices</i></p> <p style="text-align: center;">DMP:PS aaaaaa!</p> <p>aaaaaa = octal address in item 10(a).</p>
14	<p>If a new ACOF group table is being added, proceed to Step 31. Otherwise, record the seven least significant digits of item 10(b) on a GNX-1 form as the address at the START location. These digits are the starting address of the ACOF group table.</p>
15	<p>Begin a program store read at the ACOF group table address. Continue the read until a word with the octal content 17777777 is found. Record the address and contents of each word read on the GNX-1 form. Use the following messages:</p> <p><i>For No. 2 ESS Offices</i></p> <p style="text-align: center;">UB PS:RP:aaaaaa bbbbbb!</p> <p>aaaaaa = octal address beginning with START address on GNX-1 form. Increment by octal 4 each read. bbbbbb = octal address equal to aaaaaa + 2.</p> <p><i>For No. 2B ESS Offices</i></p> <p style="text-align: center;">DMP:PS aaaaaa!</p>

STEP	PROCEDURE
	aaaaaa = octal address beginning with START address on GNX-1 form. Increment by octal 10 each read.
16	Record the number of the trunk groups and simulated facilities groups (SFGs) to be added to the ACOF group table in item 11(a) and item 11(b).
17	Divide item 11(a) and item 11(b) by two and record the quotients in item 11(c) and item 11(d).
18	Using the GNX-1 form on which the ACOF group table is recorded, look for words with all zero as their contents. Record the number of all zero words in item 12(a) on the ACOF-4 form.
19	In item 12(b), record the number of words where the four least significant digits are either 0000, 2000, 4000, or 6000. These words are partially unused and another group can be entered in them.
20	Of the words found in Step 16, record in item 12(c) the number of words where the digit next to the most significant digit is 4, 5, 6, or 7. These partially unused words contain an SFG.
21	Divide item 12(c) by two and record the quotient in item 13(a).
22	Add item 12(a) to item 13(a). Record the sum in item 13(b).
23	Compare item 13(b) to item 11(d). <ul style="list-style-type: none"> <li data-bbox="423 1213 1406 1245">(a) If item 13(b) is greater than or equal to item 11(d), proceed to Step 24. <li data-bbox="423 1276 1203 1308">(b) If item 13(b) is less than item 11(c), proceed to Step 26.
24	Subtract item 11(d) from item 13(b). Record the difference in item 14(a). If the number in item 14(a) is a fractional number, round up to the next highest whole number and record the number in item 14(b).
25	If item 14(a) is greater than or equal to item 11(c), the number of unused entries in the existing ACOF group table will accommodate the new groups being added. Use an ACOF-5 form (Fig. 3) to build the new words that will be entered into the ACOF group table. <ul style="list-style-type: none"> <li data-bbox="423 1591 1555 1654">(a) First, record the addresses and initial contents of the unused words on the ACOF-5 form. <li data-bbox="423 1686 1555 1812">(b) Each word can hold two group numbers, but within each word the groups must be the same type (either two trunk groups or two SFGs). If the groups in a word are to be SFGs, set the most significant bit of the binary word contents to a one. If the groups are to be trunk groups, set the most significant bit to a zero. <li data-bbox="423 1843 1555 1906">(c) Record the group numbers in decimal in the space provided. If the word is partially used, only one group, the second, can be added to the word.

STEP

PROCEDURE

- (d) Convert the first group number to binary and record the result in the section of the binary word contents labeled 1ST GRP. Record the bits starting from right to left and fill all bit positions in the 1ST GRP section. If the word is partially used already, determine the first group number from the initial contents.
- (e) Convert the second group number to binary and record the result in the section of the binary word contents labeled 2ND GRP. Record the bits from right to left and fill all bit positions in the 2ND GRP section.
- (f) Convert the binary word contents to octal and record the result as the new contents of the word.
- (g) Repeat this procedure until all groups are added, then proceed to Step 32.

26 The existing ACOF group table is unable to accommodate all of the groups being added. A new ACOF group table must be allocated. First, record the length of the old group table obtained from the GNX-1 form in item 15 of the ACOF-4 form. If Step 25(a) is performed, the new ACOF group table length is equal to the old table's length plus the difference between item 14(a) and item 11(c). If Step 25(a) was not performed, the new ACOF group table length is equal to the old table's length plus item 11(c) plus item 14(b). Record the length of the new ACOF table in item 16. If the number is fractional, round off to the next highest whole number.

27 Allocate the new ACOF group table using the following message.

A RC:PST:ssss 00!

ssss = item 16.

Record the starting address of the new ACOF group table in item 10(c). Justify to the right so that there are seven octal digits.

28 Use an ACOF-5 form (Fig. 4) to build the new ACOF group table words.

- (a) First, record the addresses and initial contents of all the words in the new ACOF group table on ACOF-5 form.
- (b) Record the seven least significant digits of the initial contents of all the words in the old ACOF group table that were fully used as the new contents of words in the new ACOF group table. **DO NOT** record the contents of the last word of the old ACOF group table in any word but the last word of the new ACOF group table.
- (c) Each word can contain two group numbers, but each group must be of the same type within a word (either two trunk groups or two SFGs). If the groups in a word are to be SFGs, set the most significant bit of the binary word contents to a one. If the groups are to be trunk groups, set the most significant bit to a zero.
- (d) Record the decimal group numbers in the space provided. If the word was partially used in the old ACOF group table, only the second group can be added to the word.

STEP

PROCEDURE

- (e) Convert the first group number to binary and record the result in the section of the binary word contents labeled 1ST GRP. Record the bits starting from right to left and fill all bit positions in the 1ST GRP section. If the word was partially used in the old ACOF group table, the first group number must be obtained from the old ACOF group table.
- (f) Convert the second group number to binary and record the result in the section of the binary word contents labeled 2ND GRP. Record the bits from right to left and fill all bit positions in the 2ND GRP section.
- (g) Convert the binary word contents to octal and record the result as the new contents of the ACOF group table word.
- (h) Repeat this procedure until all groups are added.
- 29 On the GNX-1 form where the old ACOF group table is recorded, enter all zeros as the new contents of all the old table's words.
- 30 In order to implement the CHIPS procedures, the data must be arranged in a CHIPS format. The GNX-1 form and the ACOF-5 form are already arranged in a CHIPS format. Data on the ACOF-4 form that may require the CHIPS procedure is arranged in the CHIPS format. This data is contained in item 10 of the ACOF-4 form. Proceed to Step 36.
- 31 Determine the number of words required for the ACOF group table.
- (a) Record the number of trunk groups to be entered in the ACOF group table in item 17(a). If item 17(a) is an odd number, add one to item 17(a) and record the result in item 17(b).
- (b) Record the number of simulated facilities groups (SFGs) to be entered in the ACOF group table in item 18(a). If item 18(a) is an odd number, add one to item 18(a) and record the result in item 18(b).
- (c) Calculate the number of words in the ACOF group table using the following formula:

$$L = 1/2 (T+S)+1$$

L = number of words in ACOF group table
 T = even number of trunk groups from item 17
 S = even number of SFGs from item 18.

Record the length of the ACOF group table in item 19.

- 32 To allocate the new ACOF group table, use the following message:

A RC:PST:ssss 00!

ssss = item 19.

STEP	PROCEDURE
	Record the starting address of the ACOF group table in item 10(c).
33	<p data-bbox="240 438 1175 464">Use an ACOF-5 form (Fig. 4) to construct the ACOF group table words.</p> <ul style="list-style-type: none"><li data-bbox="256 501 1390 558">(a) First, record the address and initial contents of each word in the ACOF group table on the ACOF-5 form.<li data-bbox="256 596 1390 747">(b) Each word can contain two group numbers, but each group must be of the same type within a word (either two trunk groups or two SFGs). Record the decimal group numbers for each word in the space provided. If an odd number of trunk groups or SFGs are being entered in the ACOF group table, some words will have only one group number. Zeros are used for the second group number.<li data-bbox="256 785 1390 898">(c) If the groups within a word are trunk groups, set the most significant bit of the binary word contents to a zero. If the groups are SFGs, set the most significant bit to the binary word contents to a zero. If the groups are SFGs, set the most significant bit to one.<li data-bbox="256 936 1390 1029">(d) Convert the first group number to binary and record the result in the portion of the binary word contents labeled 1ST GRP. Record the bits starting from right to left and fill all bit positions in the 1ST GRP section.<li data-bbox="256 1066 1390 1159">(e) Convert the second group number to binary and record the result in the portion of the binary word contents labeled 2ND GRP. If there is no second group, enter zeros.<li data-bbox="256 1197 1390 1253">(f) Convert the binary word contents to octal and record the result as the new contents of the ACOF group table word.<li data-bbox="256 1312 1354 1337">(g) For the last word in the ACOF group table, record 7777777 as the new contents.
34	<p data-bbox="240 1413 1390 1526">If any new tables were allocated to replace an existing table, the old table must be returned to spare memory. Record the address and initial contents of all words in the old table on a GNX-1 form if this has not been done. Record zeros as the new contents of all the words in the old table.</p>
35	<p data-bbox="240 1602 1390 1782">In order to implement the CHIPS procedures, the data must be arranged in a CHIPS format. The GNX-1 form and the ACOF-5 form are already arranged in a CHIPS format. Data on the ACOF-4 form that may require the CHIPS procedure is also arranged in the CHIPS format. The data on the ACOF-4 form that may require CHIPS procedures is located in item 10. The data in each item on the ACOF-4 form may be transferred to separate GNX-1 forms in order to better arrange the data for the CHIPS procedure.</p>
36	<p data-bbox="240 1850 1390 1906">Once all forms are completed, implement the changes on them using Section 232-127-303 for EF-2 or Section 232-327-303 for 2B-EF-2.</p>

STEP	PROCEDURE
37	Once the changes are implemented, return any old table replaced by a new table to spare memory. This is done using recent change messages. Refer to Section 232-118-104 for recent change procedures.
3.02 Proceed to Part 4 and use the procedures to place the trunk groups and SFGs under ACOF control.	<i>For SFGs use the following message:</i>
	A VY:SIM:nnn!
	nnn = SFG number
4. PLACING TRUNK GROUPS AND SIMULATED FACILITIES GROUPS UNDER ACOF CONTROL	4.03 Now the CF bit in word 1 must be set to one. To do this, refer to the sections on recent change procedures and recent change update procedures as follows:
4.01 Once the ACOF translation tables are set up, the trunk groups and simulated facilities groups (SFGs) must be placed under ACOF control. This is done using recent change messages.	<ul style="list-style-type: none"> ● Section 232-118-104 or Section 680-536-012 for EF-2 and 2B-EF-2 Recent Change Procedures
4.02 Use a verify message to obtain the original octal contents of the trunk group and SFG translations.	<ul style="list-style-type: none"> ● Section 232-004-301 for No. 2 ESS Recent Change Update Procedure
<i>For trunk groups use the following message:</i>	<ul style="list-style-type: none"> ● Section 232-304-301 for No. 2B ESS Recent Change Update Procedure.
	A VY:GRP:nnn!
	nnn = trunk group number.

TABLE A
SCANNER AND ROW TABLE

SCANNER	RANGE OF ROWS	ADDRESS FOR EF-2 GENERIC	ADDRESS FOR 2B-EF-2 GENERIC	SCANNER	RANGE OF ROWS	ADDRESS FOR EF-2 GENERIC	ADDRESS FOR 2B-EF-2 GENERIC
00	00 to 15	443400	743400	15	32 to 47	443574	743574
00	16 to 31	443402	743402	15	48 to 63	443576	743576
00	32 to 47	443404	743404	16	00 to 15	443600	743600
00	48 to 63	443406	743406	16	16 to 31	443602	743602
01	00 to 15	443410	743410	16	32 to 47	443604	743604
01	16 to 31	443412	743412	16	48 to 63	443606	743606
01	32 to 47	443414	743414	17	00 to 15	443610	743610
01	48 to 63	443416	743416	17	16 to 31	443612	743612
02	00 to 15	443420	743420	17	32 to 47	443614	743614
02	16 to 31	443422	743422	17	48 to 63	443616	743616
02	32 to 47	443424	743424	18	00 to 15	443620	743620
02	48 to 63	443426	743426	18	16 to 31	443622	743622
03	00 to 15	443430	743430	18	32 to 47	443624	743624
03	16 to 31	443432	743432	18	48 to 63	443626	743626
03	32 to 47	443434	743434	19	00 to 15	443630	743630
03	48 to 63	443436	743436	19	16 to 31	443632	743632
04	00 to 15	443440	743440	19	32 to 47	443634	743634
04	16 to 31	443442	743442	19	48 to 63	443636	743636
04	32 to 47	443444	743444	20	00 to 15	443640	743640
04	48 to 63	443446	743446	20	16 to 31	443642	743642
05	00 to 15	443450	743450	20	32 to 47	443644	743644
05	16 to 31	443452	743452	20	48 to 63	443646	743646
05	32 to 47	443454	743454	21	00 to 15	443650	743650
05	48 to 63	443456	743456	21	16 to 31	443652	743652
06	00 to 15	443460	743460	21	32 to 47	443654	743654
06	16 to 31	443462	743462	21	48 to 63	443656	743656
06	32 to 47	443464	743464	22	00 to 15	443660	743660
06	48 to 63	443466	743466	22	16 to 31	443662	743662
07	00 to 15	443470	743470	22	32 to 47	443664	743664
07	16 to 31	443472	743472	22	48 to 63	443666	743666
07	32 to 47	443474	743474	23	00 to 15	443670	743670
07	48 to 63	443476	743476	23	16 to 31	443672	743672
08	00 to 15	443500	743500	23	32 to 47	443674	743674
08	16 to 31	443502	743502	23	48 to 63	443676	743676
08	32 to 47	443504	743504	24	00 to 15	443700	743700
08	48 to 63	443506	743506	24	16 to 31	443702	743702
09	00 to 15	443510	743510	24	32 to 47	443704	743704
09	16 to 31	443512	743512	24	48 to 63	443706	743706
09	32 to 47	443514	743514	25	00 to 15	443710	743710
09	48 to 63	443516	743516	25	16 to 31	443712	743712
10	00 to 15	443520	743520	25	32 to 47	443714	743714
10	16 to 31	443522	743522	25	48 to 63	443716	743716
10	32 to 47	443524	743524	26	00 to 15	443720	743720
10	48 to 63	443526	743526	26	16 to 31	443722	743722
11	00 to 15	443530	743530	26	32 to 47	443724	743724
11	16 to 31	443532	743532	26	48 to 63	443726	743726
11	32 to 47	443534	743534	27	00 to 15	443730	743730
11	48 to 63	443536	743536	27	16 to 31	443732	743732
12	00 to 15	443540	743540	27	32 to 47	443734	743734
12	16 to 31	443542	743542	27	48 to 63	443736	743736
12	32 to 47	443544	743544	28	00 to 15	443740	743740
12	48 to 63	443546	743546	28	16 to 31	443742	743742
13	00 to 15	443550	743550	28	32 to 47	443744	743744
13	16 to 31	443552	743552	28	48 to 63	443746	743746
13	32 to 47	443554	743554	29	00 to 15	443750	743750
13	48 to 63	443556	743556	29	16 to 31	443752	743752
14	00 to 15	443560	743560	29	32 to 47	443754	743754
14	16 to 31	443562	743562	29	48 to 63	443756	743756
14	32 to 47	443564	743564	30	00 to 15	443760	743760
14	48 to 63	443566	743566	30	16 to 31	443762	743762
15	00 to 15	443570	743570	30	32 to 47	443764	743764
15	16 to 31	443572	743572	30	48 to 63	443766	743766

**TABLE B
ROW AND POINT TABLE**

RANGE OF ROWS	POINT	OCTAL X+10
00, 16, 32 or 48	0	10
00, 16, 32 or 48	1	10
00, 16, 32 or 48	2	11
00, 16, 32 or 48	3	11
00, 16, 32 or 48	4	12
00, 16, 32 or 48	5	12
00, 16, 32 or 48	6	13
00, 16, 32 or 48	7	13
00, 16, 32 or 48	8	14
00, 16, 32 or 48	9	14
00, 16, 32 or 48	10	15
00, 16, 32 or 48	11	15
00, 16, 32 or 48	12	16
00, 16, 32 or 48	13	16
00, 16, 32 or 48	14	17
00, 16, 32 or 48	15	17

RANGE OF ROWS	POINT	OCTAL X+10
03, 19, 35 or 51	0	40
03, 19, 35 or 51	1	40
03, 19, 35 or 51	2	41
03, 19, 35 or 51	3	41
03, 19, 35 or 51	4	42
03, 19, 35 or 51	5	42
03, 19, 35 or 51	6	43
03, 19, 35 or 51	7	43
03, 19, 35 or 51	8	44
03, 19, 35 or 51	9	44
03, 19, 35 or 51	10	45
03, 19, 35 or 51	11	45
03, 19, 35 or 51	12	46
03, 19, 35 or 51	13	46
03, 19, 35 or 51	14	47
03, 19, 35 or 51	15	47

RANGE OF ROWS	POINT	OCTAL X+10
01, 17, 33 or 49	0	20
01, 17, 33 or 49	1	20
01, 17, 33 or 49	2	21
01, 17, 33 or 49	3	21
01, 17, 33 or 49	4	22
01, 17, 33 or 49	5	22
01, 17, 33 or 49	6	23
01, 17, 33 or 49	7	23
01, 17, 33 or 49	8	24
01, 17, 33 or 49	9	24
01, 17, 33 or 49	10	25
01, 17, 33 or 49	11	25
01, 17, 33 or 49	12	26
01, 17, 33 or 49	13	26
01, 17, 33 or 49	14	27
01, 17, 33 or 49	15	27

RANGE OF ROWS	POINT	OCTAL X+10
04, 20, 36 or 52	0	50
04, 20, 36 or 52	1	50
04, 20, 36 or 52	2	51
04, 20, 36 or 52	3	51
04, 20, 36 or 52	4	52
04, 20, 36 or 52	5	52
04, 20, 36 or 52	6	53
04, 20, 36 or 52	7	53
04, 20, 36 or 52	8	54
04, 20, 36 or 52	9	54
04, 20, 36 or 52	10	55
04, 20, 36 or 52	11	55
04, 20, 36 or 52	12	56
04, 20, 36 or 52	13	56
04, 20, 36 or 52	14	57
04, 20, 36 or 52	15	57

RANGE OF ROWS	POINT	OCTAL X+10
02, 18, 34 or 50	0	30
02, 18, 34 or 50	1	30
02, 18, 34 or 50	2	31
02, 18, 34 or 50	3	31
02, 18, 34 or 50	4	32
02, 18, 34 or 50	5	32
02, 18, 34 or 50	6	33
02, 18, 34 or 50	7	33
02, 18, 34 or 50	8	34
02, 18, 34 or 50	9	34
02, 18, 34 or 50	10	35
02, 18, 34 or 50	11	35
02, 18, 34 or 50	12	36
02, 18, 34 or 50	13	36
02, 18, 34 or 50	14	37
02, 18, 34 or 50	15	37

RANGE OF ROWS	POINT	OCTAL X+10
05, 21, 37 or 53	0	60
05, 21, 37 or 53	1	60
05, 21, 37 or 53	2	61
05, 21, 37 or 53	3	61
05, 21, 37 or 53	4	62
05, 21, 37 or 53	5	62
05, 21, 37 or 53	6	63
05, 21, 37 or 53	7	63
05, 21, 37 or 53	8	64
05, 21, 37 or 53	9	64
05, 21, 37 or 53	10	65
05, 21, 37 or 53	11	65
05, 21, 37 or 53	12	66
05, 21, 37 or 53	13	66
05, 21, 37 or 53	14	67
05, 21, 37 or 53	15	67

**TABLE B (Contd)
ROW AND POINT TABLE**

RANGE OF ROWS	POINT	OCTAL X+10
06, 22, 38 or 54	0	70
06, 22, 38 or 54	1	70
06, 22, 38 or 54	2	71
06, 22, 38 or 54	3	71
06, 22, 38 or 54	4	72
06, 22, 38 or 54	5	72
06, 22, 38 or 54	6	73
06, 22, 38 or 54	7	73
06, 22, 38 or 54	8	74
06, 22, 38 or 54	9	74
06, 22, 38 or 54	10	75
06, 22, 38 or 54	11	75
06, 22, 38 or 54	12	76
06, 22, 38 or 54	13	76
06, 22, 38 or 54	14	77
06, 22, 38 or 54	15	77

RANGE OF ROWS	POINT	OCTAL X+10
09, 25, 41 or 57	0	120
09, 25, 41 or 57	1	120
09, 25, 41 or 57	2	121
09, 25, 41 or 57	3	121
09, 25, 41 or 57	4	122
09, 25, 41 or 57	5	122
09, 25, 41 or 57	6	123
09, 25, 41 or 57	7	123
09, 25, 41 or 57	8	124
09, 25, 41 or 57	9	124
09, 25, 41 or 57	10	125
09, 25, 41 or 57	11	125
09, 25, 41 or 57	12	126
09, 25, 41 or 57	13	126
09, 25, 41 or 57	14	127
09, 25, 41 or 57	15	127

RANGE OF ROWS	POINT	OCTAL X+10
07, 23, 39 or 55	0	100
07, 23, 39 or 55	1	100
07, 23, 39 or 55	2	101
07, 23, 39 or 55	3	101
07, 23, 39 or 55	4	102
07, 23, 39 or 55	5	102
07, 23, 39 or 55	6	103
07, 23, 39 or 55	7	103
07, 23, 39 or 55	8	104
07, 23, 39 or 55	9	104
07, 23, 39 or 55	10	105
07, 23, 39 or 55	11	105
07, 23, 39 or 55	12	106
07, 23, 39 or 55	13	106
07, 23, 39 or 55	14	107
07, 23, 39 or 55	15	107

RANGE OF ROWS	POINT	OCTAL X+10
10, 26, 42 or 58	0	130
10, 26, 42 or 58	1	130
10, 26, 42 or 58	2	131
10, 26, 42 or 58	3	131
10, 26, 42 or 58	4	132
10, 26, 42 or 58	5	132
10, 26, 42 or 58	6	133
10, 26, 42 or 58	7	133
10, 26, 42 or 58	8	134
10, 26, 42 or 58	9	134
10, 26, 42 or 58	10	135
10, 26, 42 or 58	11	135
10, 26, 42 or 58	12	136
10, 26, 42 or 58	13	136
10, 26, 42 or 58	14	137
10, 26, 42 or 58	15	137

RANGE OF ROWS	POINT	OCTAL X+10
08, 24, 40 or 56	0	110
08, 24, 40 or 56	1	110
08, 24, 40 or 56	2	111
08, 24, 40 or 56	3	111
08, 24, 40 or 56	4	112
08, 24, 40 or 56	5	112
08, 24, 40 or 56	6	113
08, 24, 40 or 56	7	113
08, 24, 40 or 56	8	114
08, 24, 40 or 56	9	114
08, 24, 40 or 56	10	115
08, 24, 40 or 56	11	115
08, 24, 40 or 56	12	116
08, 24, 40 or 56	13	116
08, 24, 40 or 56	14	117
08, 24, 40 or 56	15	117

RANGE OF ROWS	POINT	OCTAL X+10
11, 27, 43 or 59	0	140
11, 27, 43 or 59	1	140
11, 27, 43 or 59	2	141
11, 27, 43 or 59	3	141
11, 27, 43 or 59	4	142
11, 27, 43 or 59	5	142
11, 27, 43 or 59	6	143
11, 27, 43 or 59	7	143
11, 27, 43 or 59	8	144
11, 27, 43 or 59	9	144
11, 27, 43 or 59	10	145
11, 27, 43 or 59	11	145
11, 27, 43 or 59	12	146
11, 27, 43 or 59	13	146
11, 27, 43 or 59	14	147
11, 27, 43 or 59	15	147

TABLE B (Contd)
ROW AND POINT TABLE

RANGE OF ROWS	POINT	OCTAL X+10
12, 28, 44 or 60	0	150
12, 28, 44 or 60	1	150
12, 28, 44 or 60	2	151
12, 28, 44 or 60	3	151
12, 28, 44 or 60	4	152
12, 28, 44 or 60	5	152
12, 28, 44 or 60	6	153
12, 28, 44 or 60	7	153
12, 28, 44 or 60	8	154
12, 28, 44 or 60	9	154
12, 28, 44 or 60	10	155
12, 28, 44 or 60	11	155
12, 28, 44 or 60	12	156
12, 28, 44 or 60	13	156
12, 28, 44 or 60	14	157
12, 28, 44 or 60	15	157

RANGE OF ROWS	POINT	OCTAL X+10
14, 30, 46 or 62	0	170
14, 30, 46 or 62	1	170
14, 30, 46 or 62	2	171
14, 30, 46 or 62	3	171
14, 30, 46 or 62	4	172
14, 30, 46 or 62	5	172
14, 30, 46 or 62	6	173
14, 30, 46 or 62	7	173
14, 30, 46 or 62	8	174
14, 30, 46 or 62	9	174
14, 30, 46 or 62	10	175
14, 30, 46 or 62	11	175
14, 30, 46 or 62	12	176
14, 30, 46 or 62	13	176
14, 30, 46 or 62	14	177
14, 30, 46 or 62	15	177

RANGE OF ROWS	POINT	OCTAL X+10
13, 29, 45 or 61	0	160
13, 29, 45 or 61	1	160
13, 29, 45 or 61	2	161
13, 29, 45 or 61	3	161
13, 29, 45 or 61	4	162
13, 29, 45 or 61	5	162
13, 29, 45 or 61	6	163
13, 29, 45 or 61	7	163
13, 29, 45 or 61	8	164
13, 29, 45 or 61	9	164
13, 29, 45 or 61	10	165
13, 29, 45 or 61	11	165
13, 29, 45 or 61	12	166
13, 29, 45 or 61	13	166
13, 29, 45 or 61	14	167
13, 29, 45 or 61	15	167

RANGE OF ROWS	POINT	OCTAL X+10
15, 31, 47 or 63	0	200
15, 31, 47 or 63	1	200
15, 31, 47 or 63	2	201
15, 31, 47 or 63	3	201
15, 31, 47 or 63	4	202
15, 31, 47 or 63	5	202
15, 31, 47 or 63	6	203
15, 31, 47 or 63	7	203
15, 31, 47 or 63	8	204
15, 31, 47 or 63	9	204
15, 31, 47 or 63	10	205
15, 31, 47 or 63	11	205
15, 31, 47 or 63	12	206
15, 31, 47 or 63	13	206
15, 31, 47 or 63	14	207
15, 31, 47 or 63	15	207

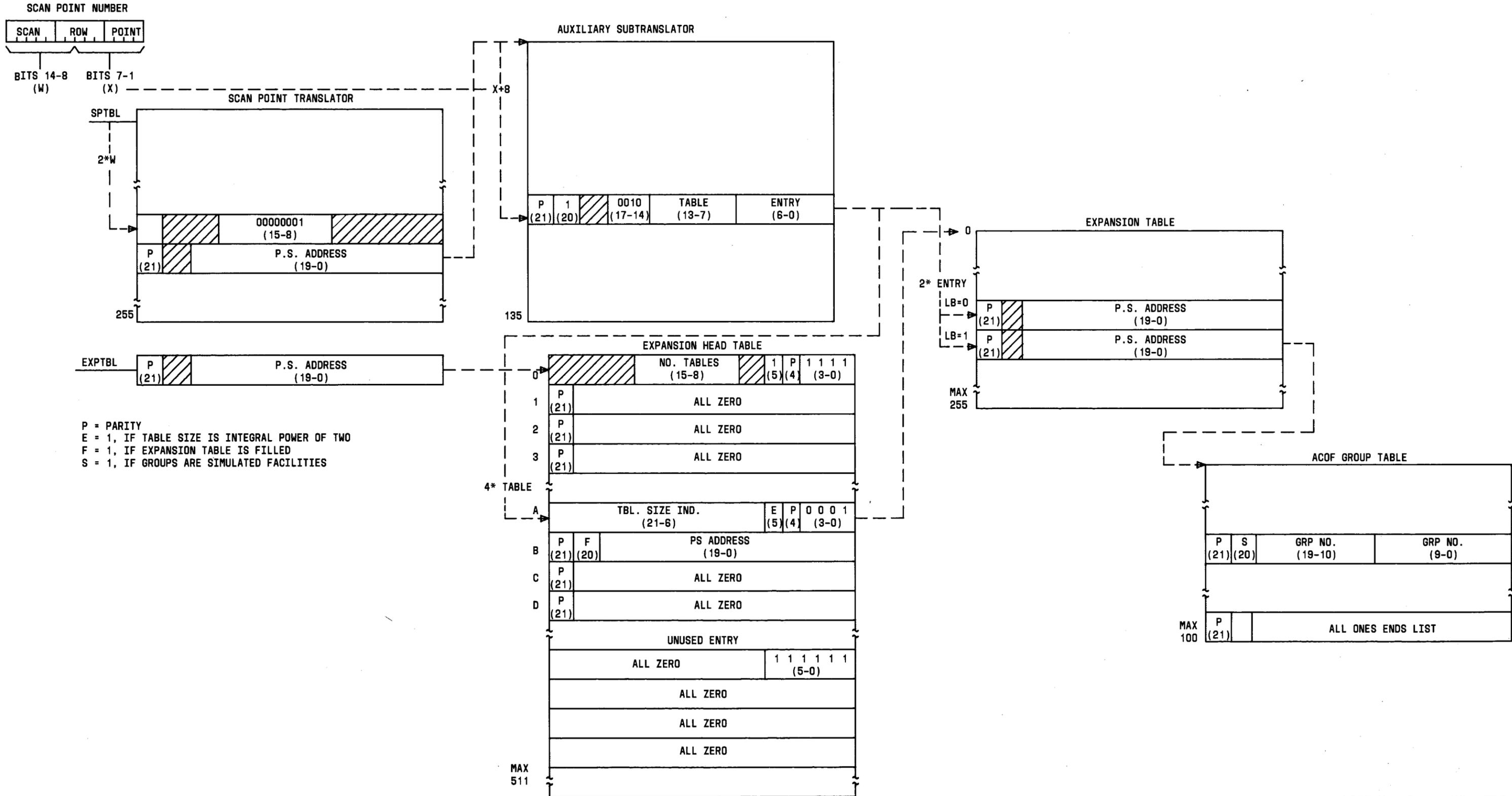


Fig. 1—Translations for ACOF Key Control With EF-2 and 2B-EF-2 Generics

OFFICE _____
 DATE _____

EXPANDING ACOF GROUP TABLE
 EF-2 AND 2B-EF-2

ACOF-4 FORM

CHIPS ADDRESS RANGE (_ _ _ _) (_ _ _ _)
 START STOP

Note: Enter data from right to left starting with the least-significant-bit.

- scanner row point
1. ACOF KEY SPN = 05 47 07
 2. ADDRESS OF WORD PAIR = 443454 (8)
 3. CONTENTS AT ITEM 2 ADDRESS: WORD 1 = 10000400 (8)
 WORD 2 = 01241415 (8)
 4. AUXILIARY SUBTRANSLATOR START ADDRESS = 1241415 (8)
 5. OCTAL X + 10 (octal) = 203 (8)
 6. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) <u>1241620</u>	(b) <u>04112415</u>	(c) _____
 7. FIVE LEAST SIGNIFICANT DIGITS OF ITEM 6(b) = 12415 (8)
 8. TABLE AND ENTRY POINTER = 41_ _ _ _ (8)
 9. ADDRESS OF ACOF GROUP TABLE POINTER PAIR = 544163 (8)
 10. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) <u>544164</u>	(b) <u>01000205</u>	(c) <u>00501230</u>
 11. a) TRUNK GRPS = 25 b) SFGs = 16
 c) TRUNK GRPS/2 = 12.5 d) SFGs/2 = 8

Fig. 2—Example of a Completed ACOF-4 Form When Expanding an Existing ACOF Group Table (Sheet 1 of 2)

ACOF-4 FORM

12. a) NUMBER ALL ZERO WORDS = 10 (10)
- b) PARTIALLY UNUSED WORDS = 2 (10)
- c) PARTIALLY UNUSED WORDS CONTAINING SFG = 1 (10)
13. a) ITEM 12(c) DIVIDED BY TWO = 5 (10)
- b) PLUS ITEM 12(a) = 10.5 (10)
14. a) ITEM 13(b) MINUS ITEM 11(d) = 2.5 (10)
- b) ROUND UP IF NEEDED = 3 (10)
15. LENGTH OF OLD ACOF GROUP TABLE = 50 (10)
16. LENGTH OF NEW ACOF GROUP TABLE = 60 (10)
17. a) TRUNK GROUPS = — b) PLUS 1 IF REQUIRED = —
18. a) SFGs = — b) PLUS 1 IF REQUIRED = —
19. ACOF GROUP TABLE LENGTH = — (10)

Fig. 2—Example of a Completed ACOF-4 Form When Expanding an Existing ACOF Group Table (Sheet 2 of 2)

OFFICE _____
 DATE _____

EXPANDING ACOF GROUP TABLE
 EF-2 AND 2B-EF-2

ACOF-4 FORM

CHIPS ADDRESS RANGE (_ _ _ _ _) (_ _ _ _ _)
 START STOP

Note: Enter data from right to left starting with the least-significant-bit.

- scanner row point
1. ACOF KEY SPN = 03 14 67
 2. ADDRESS OF WORD PAIR = 443430 (8)
 3. CONTENTS AT ITEM 2 ADDRESS: WORD 1 = 10000400 (8)
 WORD 2 = 01241415 (8)
 4. AUXILIARY SUBTRANSLATOR START ADDRESS = 1241415 (8)
 5. OCTAL X + 10 (octal) = 173 (8)
 6. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) <u>1241610</u>	(b) <u>00000000</u>	(c) _____
 7. FIVE LEAST SIGNIFICANT DIGITS OF ITEM 6(b) = _____ (8)
 8. TABLE AND ENTRY POINTER = 41 _____ (8)
 9. ADDRESS OF ACOF GROUP TABLE POINTER PAIR = 1001000 (8)
 10. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) <u>1001000</u>	(b) <u>00000000</u>	(c) <u>00666775</u>
 11. a) TRUNK GRPS = _____ b) SFGs = _____
 c) TRUNK GRPS/2 = _____ d) SFGs/2 = _____

Fig. 3—Example of a Completed ACOF-4 Form When Adding a New ACOF Group Table (Sheet 1 of 2)

12. a) NUMBER ALL ZERO WORDS = _ _ _ (10)
- b) PARTIALLY UNUSED WORDS = _ _ _ (10)
- c) PARTIALLY UNUSED WORDS CONTAINING SFG = _ _ _ (10)
13. a) ITEM 12(c) DIVIDED BY TWO = _____ (10)
- b) PLUS ITEM 12(a) = _____ (10)
14. a) ITEM 13(b) MINUS ITEM 11(d) = _ _ _ (10)
- b) ROUND UP IF NEEDED = _ _ _ (10)
15. LENGTH OF OLD ACOF GROUP TABLE = _ _ _ (10)
16. LENGTH OF NEW ACOF GROUP TABLE = _ _ _ (10)
17. a) TRUNK GROUPS = 1 2 b) PLUS 1 IF REQUIRED = 1 2
18. a) SFGs = 1 5 b) PLUS 1 IF REQUIRED = 1 6
19. ACOF GROUP TABLE LENGTH = 1 5 (10)

Fig. 3—Example of a Completed ACOF-4 Form When Adding a New ACOF Group Table (Sheet 2 of 2)

OFFICE _____
 DATE _____

EXPANDING ACOF GROUP TABLE
 EF-2 AND 2B-EF-2

ACOF-4 FORM

CHIPS ADDRESS RANGE (_ _ _ _) (_ _ _ _)
 START STOP

Note: Enter data from right to left starting with the least-significant-bit.

- scanner row point
1. ACOF KEY SPN = _ _ _ _
 2. ADDRESS OF WORD PAIR = _ _ _ _ (8)
 3. CONTENTS AT ITEM 2 ADDRESS: WORD 1 = _ _ _ _ (8)
 WORD 2 = _ _ _ _ (8)
 4. AUXILIARY SUBTRANSLATOR START ADDRESS = _ _ _ _ (8)
 5. OCTAL X + 10 (octal) = _ _ _ (8)
 6. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) _ _ _ _	(b) _ _ _ _	(c) _ _ _ _
 7. FIVE LEAST SIGNIFICANT DIGITS OF ITEM 6(b) = _ _ _ _ (8)
 8. TABLE AND ENTRY POINTER = 41_ _ _ _ (8)
 9. ADDRESS OF ACOF GROUP TABLE POINTER PAIR = _ _ _ _ (8)
 10. TABLE AND ENTRY POINTER WORD

ADDRESS	INITIAL CONTENTS	NEW CONTENTS
(a) _ _ _ _	(b) _ _ _ _	(c) _ _ _ _
 11. a) TRUNK GRPS = _____ b) SFGs = _____
 c) TRUNK GRPS/2 = _____ d) SFGs/2 = _____

Fig. 5—Reproducible Copy of an ACOF-4 Form (Sheet 1 of 2)

ACOF-4 FORM

12. a) NUMBER ALL ZERO WORDS = _ _ _ (10)
- b) PARTIALLY UNUSED WORDS = _ _ _ (10)
- c) PARTIALLY UNUSED WORDS CONTAINING SFG = _ _ _ (10)
13. a) ITEM 12(c) DIVIDED BY TWO = _____ (10)
- b) PLUS ITEM 12(a) = _____ (10)
14. a) ITEM 13(b) MINUS ITEM 11(d) = _ _ _ (10)
- b) ROUND UP IF NEEDED = _ _ _ (10)
15. LENGTH OF OLD ACOF GROUP TABLE = _ _ _ (10)
16. LENGTH OF NEW ACOF GROUP TABLE = _ _ _ (10)
17. a) TRUNK GROUPS = _ _ _ b) PLUS 1 IF REQUIRED = _ _ _
18. a) SFGs = _ _ _ b) PLUS 1 IF REQUIRED = _ _ _
19. ACOF GROUP TABLE LENGTH = _ _ _ (10)

Fig. 5—Reproducible Copy of an ACOF-4 Form (Sheet 2 of 2)

OFFICE _____ ACOF GROUP TABLE ACOF-5 FORM
 DATE _____ WORKSHEET CHIPS ADDRESS RANGE (_ _ _ _ _) (_ _ _ _ _)
 START STOP

ADDRESS	INITIAL CONTENTS	NEW CONTENTS				
-----	-----	-----				
1ST GROUP NUMBER = ____	2ND GROUP NUMBER = ____					
BINARY WORD CONTENTS =	<table border="1"> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>1ST GRP</td> <td>2ND GRP</td> </tr> </table>		-----	-----	1ST GRP	2ND GRP
-----	-----					
1ST GRP	2ND GRP					

ADDRESS	INITIAL CONTENTS	NEW CONTENTS				
-----	-----	-----				
1ST GROUP NUMBER = ____	2ND GROUP NUMBER = ____					
BINARY WORD CONTENTS =	<table border="1"> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>1ST GRP</td> <td>2ND GRP</td> </tr> </table>		-----	-----	1ST GRP	2ND GRP
-----	-----					
1ST GRP	2ND GRP					

ADDRESS	INITIAL CONTENTS	NEW CONTENTS				
-----	-----	-----				
1ST GROUP NUMBER = ____	2ND GROUP NUMBER = ____					
BINARY WORD CONTENTS =	<table border="1"> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>1ST GRP</td> <td>2ND GRP</td> </tr> </table>		-----	-----	1ST GRP	2ND GRP
-----	-----					
1ST GRP	2ND GRP					

ADDRESS	INITIAL CONTENTS	NEW CONTENTS				
-----	-----	-----				
1ST GROUP NUMBER = ____	2ND GROUP NUMBER = ____					
BINARY WORD CONTENTS =	<table border="1"> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>1ST GRP</td> <td>2ND GRP</td> </tr> </table>		-----	-----	1ST GRP	2ND GRP
-----	-----					
1ST GRP	2ND GRP					

Fig. 6—Reproducible Copy of an ACOF-5 Form

OFFICE _____
 DATE _____

GENERAL TRANSLATION
 TABLE EXPANSION WORKSHEET

GNX-1 FORM

CHIPS Address Range (_____) (_____)
 START STOP

1. Circle *NEW* or *OLD*

Note: Enter data from right to left starting with the least significant digit.

2.	(A) ADDRESS	(B) INITIAL CONTENTS	(C) NEW CONTENTS
START	-----	-----	-----
START + 1 OCT	-----	-----	-----
START + 2 OCT	-----	-----	-----
START + 3 OCT	-----	-----	-----
START + 4 OCT	-----	-----	-----
START + 5 OCT	-----	-----	-----
START + 6 OCT	-----	-----	-----
START + 7 OCT	-----	-----	-----
START +10 OCT	-----	-----	-----
START +11 OCT	-----	-----	-----
START +12 OCT	-----	-----	-----
START +13 OCT	-----	-----	-----
START +14 OCT	-----	-----	-----
START +15 OCT	-----	-----	-----
START +16 OCT	-----	-----	-----
START +17 OCT	-----	-----	-----
START +20 OCT	-----	-----	-----
START +21 OCT	-----	-----	-----
START +22 OCT	-----	-----	-----
START +23 OCT	-----	-----	-----
START +24 OCT	-----	-----	-----
START +25 OCT	-----	-----	-----
START +26 OCT	-----	-----	-----
START +27 OCT	-----	-----	-----
START +30 OCT	-----	-----	-----
START +31 OCT	-----	-----	-----

Fig. 7—Reproducible Copy of a GNX-1 Form (Sheet 1 of 3)

Circle *NEW* or *OLD*

GNX-1 FORM

	(A) ADDRESS	(B) INITIAL CONTENTS	(C) NEW CONTENTS
START +32 OCT	-----	-----	-----
START +33 OCT	-----	-----	-----
START +34 OCT	-----	-----	-----
START +35 OCT	-----	-----	-----
START +36 OCT	-----	-----	-----
START +37 OCT	-----	-----	-----
START +40 OCT	-----	-----	-----
START +41 OCT	-----	-----	-----
START +42 OCT	-----	-----	-----
START +43 OCT	-----	-----	-----
START +44 OCT	-----	-----	-----
START +45 OCT	-----	-----	-----
START +46 OCT	-----	-----	-----
START +47 OCT	-----	-----	-----
START +50 OCT	-----	-----	-----
START +51 OCT	-----	-----	-----
START +52 OCT	-----	-----	-----
START +53 OCT	-----	-----	-----
START +54 OCT	-----	-----	-----
START +55 OCT	-----	-----	-----
START +56 OCT	-----	-----	-----
START +57 OCT	-----	-----	-----
START +60 OCT	-----	-----	-----
START +61 OCT	-----	-----	-----
START +62 OCT	-----	-----	-----
START +63 OCT	-----	-----	-----
START +64 OCT	-----	-----	-----
START +65 OCT	-----	-----	-----
START +66 OCT	-----	-----	-----
START +67 OCT	-----	-----	-----

Fig. 7—Reproducible Copy of a GNX-1 Form (Sheet 2 of 3)

Circle *NEW* or *OLD*

GNX-1 FORM

	(A) ADDRESS	(B) INITIAL CONTENTS	(C) NEW CONTENTS
START + 70 OCT	-----	-----	-----
START + 71 OCT	-----	-----	-----
START + 72 OCT	-----	-----	-----
START + 73 OCT	-----	-----	-----
START + 74 OCT	-----	-----	-----
START + 75 OCT	-----	-----	-----
START + 76 OCT	-----	-----	-----
START + 77 OCT	-----	-----	-----
START +100 OCT	-----	-----	-----
START +101 OCT	-----	-----	-----
START +102 OCT	-----	-----	-----
START +103 OCT	-----	-----	-----
START +104 OCT	-----	-----	-----
START +105 OCT	-----	-----	-----
START +106 OCT	-----	-----	-----
START +107 OCT	-----	-----	-----
START +110 OCT	-----	-----	-----
START +111 OCT	-----	-----	-----
START +112 OCT	-----	-----	-----
START +113 OCT	-----	-----	-----
START +114 OCT	-----	-----	-----
START +115 OCT	-----	-----	-----
START +116 OCT	-----	-----	-----
START +117 OCT	-----	-----	-----
START +120 OCT	-----	-----	-----
START +121 OCT	-----	-----	-----
START +122 OCT	-----	-----	-----
START +123 OCT	-----	-----	-----
START +124 OCT	-----	-----	-----
START +125 OCT	-----	-----	-----

Fig. 7—Reproducible Copy of a GNX-1 Form (Sheet 3 of 3)