CENTRALIZED AUTOMATIC REPORTING ON TRUNKS (CAROT)

CAROT 2

SYSTEM TROUBLE-LOCATING PROCEDURES

1. GENERAL

1.01 This section outlines trouble-locating procedures for localizing malfunctions in CAROT System equipment. Detailed procedures for isolating and clearing troubles associated with the CAROT controller are provided in TOPs 190-102-300 (for Generic 1 Systems) and 190-102-301 (for Generic 2 Systems).

1.02 This section is reissued to provide Generic 2 references and to provide typical ROTL test sequence information via Figs. 1 and 2, Chart 1, and Table A. Since this reissue is a general revision, no arrows have been used to denote significant changes. Equipment Tests Lists are not affected.

1.03 Two main sources of diagnostic information are available to aid in trouble-locating real-time diagnostic messages and the CAROT operational summary. Real-time diagnostic messages are produced by the test program during routine or demand testing procedures. The CAROT operational summary is generated by the results analysis program.

1.04 A typical CAROT System troubleshooting sequence that can be followed by CAROT center personnel to investigate troubles appearing on the routines test results printout is given in Fig. 3. For system malfunctions that have been diagnosed by following this sequence, an additional diagnostic aid, the interrogator program, is available to assist in isolation of a trouble. The interrogator program is described in Part 4.

2. AUTOMATIC SYSTEM DIAGNOSTICS

2.01 The CAROT test program can diagnose malfunctions in three categories. The categories, including an example of malfunctions that can occur, are as follows:

(a) Serving office equipment—lack of expected dial tone.

(b) Remote office test line (ROTL) equipment—failure of the ROTL to recycle upon receiving the recycle command.

(c) Automatic Transmission Measuring System (ATMS) equipment—Responder self-check failure.

For all malfunctions, the CAROT controller takes the appropriate action so that testing can continue as efficiently as possible, and the malfunction is recorded. Some diagnostic messages are printed in real time; others are merely recorded for analysis and printed the following morning.

A. Real-Time Diagnostic Messages

2.02 Real-time diagnostic messages are displayed on the CAROT console while routine or demand testing is in progress. They are also typed on the line printer if previously requested

by the operator. Each message is preceded on the same line by the time of occurrence. The messages, their meanings, the test program disposition, and the followup corrective actions required are listed in Table B. Messages such as **ROUTINE TESTING STARTED:** are for information only and require no corrective action.

B. CAROT Operational Summary

2.03 The CAROT operational summary is produced on the line printer each morning at the conclusion of analysis. It is a summary of both equipment malfunctions and error conditions due to erroneous data base information and is divided into two sections. The first section is a list, sorted by ROTL office, of all equipment malfunctions and data base problems associated with an individual ROTL. The second section is a list of responder problems only, sorted by far-end office responder. Table C lists the trouble messages in the summary, their meanings, the test program disposition, and the suggested followup corrective action. Detailed information on the CAROT operational summary is given in Section 190-102-015.

3. USE OF REAL-TIME MONITORING CIRCUITS AND TEST PROCESS SEQUENCE CHARTS

3.01 Figure 4 is a flowchart of the CAROT 2 test process for expanded ROTLs showing the following:

    (a) ROTL accessing

    (b) Trunk and test equipment accessing— transmission or operational

    (c) Release per successful trunk seizure

    (d) Recycle per unsuccessful trunk seizure

    (e) Recycle after operational test.

3.02 Figure 1 shows the transmission test sequence for the ROTL test process, and Fig. 2 shows the operational test sequence. The bold numbers indicate that the information in heavy print is followed; therefore, no responses which would inhibit testing were received by CAROT. If a negative response is received, or if other problems are encountered, an applicable error message is sent to CAROT and appropriate action is taken to recycle the testing sequence.

3.03 Chart 1 is to be used with Fig. 1 and 2 to provide a step-by-step explanation of the typical ROTL test sequence. Steps 1 through 35 of Chart 1 are used with Fig. 1 and describe the transmission tests performed. Steps 1 through 7, and 50 through 64 are used with Fig. 2 and describe the operational tests performed. Steps 1 through 7 are common to both tests and are shown in Fig. 1 and 2.

3.04 Table A provides information concerning the signals transmitted between CAROT and ROTL during testing.

3.05 A speaker and associated amplifier (303A) can be used to monitor testing on any given port. The desired port can be selected by means of the port selector switch in the real-time monitoring circuits. If this arrangement is used in trouble-locating, the operation of the selected port can be followed while trunk testing is in progress.

4. INTERROGATOR PROGRAM

4.01 The CAROT controller includes an interrogator feature that can be used to localize CAROT System equipment troubles involving port hardware, ROTLs, responders, and associated test lines. This feature can also be used as a final checkout of a CAROT controller after installation. The feature allows the operator to check call disposition or to make transmission measurements by initiating commands through the CAROT console or by placing calls from each port to various ROTLs. To make the desired tests, the CAROT operator can have the interrogator program implement the following operations:

    (a) Placing calls to a ROTL, using the port hardware selected by the operator.

    (b) Inputting information from the keyboard storing it, and transmitting it as required by the ROTLs to seize trunks and far-end test lines.

    (c) Causing measurements or ATMS self-checks, or both, to be made between the ROTL responder and the far-end test line and responder.

4.02 Additional information on the operation and use of the CAROT interrogator program is given in TOP 190-102-305.

CHART 1

ROTL TEST SEQUENCE

SEQUENCE NUMBER	EVENT
1	CAROT dials ROTL.
2	Test progress tone (TPT 2225 Hz) is received.
3	Determination of TPT time is made. TPT must be present < 60 seconds.
4	Sequence advances to SEND PRIMING INFO.
5	Confirmation is made of TPT presence.
6	Determination TPT time is made. TPT must be present < 30 seconds.
7	Determination of type of test is made—transmission (T) or operational (O).

Note: If transmission test is to be conducted, proceed to sequence number 8. If operational test is to be conducted, proceed to sequence number 50.

TRANSMISSION TEST

8	Sequence advances to SECOND TONE TRMSN.
9	TPT is received.
10	Determination of TPT time is made. TPT must be present for < 2 minutes.
11	Sequence advances to THIRD TONE TRMSN.
12	TPT is received.
13	Determination of TPT time is made. TPT must be present for < 30 seconds.
14	Sequence advances to MEASURE.
15	Determination of test line type is made. In this sequence, test line is type 105.
16	Determine if trunk tested is first trunk in trunk group (assumed yes).
17	Sequence advances to SEND LOSS SELF-CHECK.
18	Determine if ROTL passed loss self-check test.
19	Sequence advances to SEND NEAR-END NOISE SELF-CHECK.
20	Determine if ROTL passed noise self-check test.

CHART 1 (Contd)

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21   Sequence advances to SEND FAR-END NOISE SELF-CHECK.

22   Determine if ROTL passed noise self-check.

23   Sequence advances to SELF-CHECK.

24   Begin self-check determination.

25   Determine if all self-check tests were passed.

26   Sequence advances to SEND LOSS MEASUREMENT. Loss measurements are made on trunk.

27   Determine if loss figure is within limits.

28   Sequence advances to SEND NEAR-END NOISE MEASUREMENT. Noise measurements are made on trunk.

29   Determine if loss figure is within limits.

30   Sequence advances to SEND FAR-END NOISE MEASUREMENT. Far-end noise measurements are made on trunk.

31   Determine if noise figure is within limits.

32   Sequence advances to SEND RELEASE MF.

33   TPT is received.

34   Determination of TPT time is made, TPT must be present for < 1 minute. Executes release command.

35   Sequence recycles to SEND PRIMING INFO (sequence number 4). End of transmission tests of this trunk.

OPERATION TEST

50   Sequence advances to SECOND TONE OPR.

51   TPT is received.

52   Determination of TPT time is made. TPT must be present for < 2.3 seconds.

53   Sequence advances to THIRD TONE OPR.

54   TPT is received.

55   Sequence advances to WAIT 13.

CHART 1 (Contd)

56	Timing sequence begins.
57	Determination of far-end test line is made. In this sequence, FETL is synchronous.
58	Determination of TPT presence is made. TPT should not be present.
59	Determine whether or not this is the first timing routine trial. In this sequence, the timing routine has been attempted previously.
60	Determine whether or not this is the sixth timing routine trial. In this sequence, the timing routine has cycled five previous times.
61	Determination of TPT presence is made. TPT must occur within 1 second.
62	Initiation of CENTREX TRANSFER TEST.
63	A 60-IPM low tone must be received within 8 seconds. A pass message is transmitted, and sequence to RECYCLE THREE. End of operational test sequence for this trunk.
64	Test sequence ends and recycles to SEND RECYCLE THREE.

NOTES:

1. SOME DISPOSITIONS MAY BE OVERRIDEN BY THE RESULTS OBTAINED FROM RECYCLE ONE.
2. FOR 4-WIRE SWITCHING OFFICES, TWO LOSS MEASUREMENTS ARE MADE (ONE EACH ON THE TRANSMIT AND RECEIVE PAIRS). FOR ALL NO. 4 ESS TRUNKS, AND FOR NO. 4XB CARRIER OR V-REPEATED TRUNKS, THE SECOND MEASUREMENT (ON THE TRANSMIT SIDE) IS MEANINGLESS AND IS NOT RECORDED.
3. THE SEQUENCE NOTED DOES NOT APPEAR ON THIS FLOWCHART AS THE SEQUENCE IS NOT APPLICABLE TO THE "BEST CASE" EXAMPLE.

LEGEND:

AR	AUDIBLE RING
BB	BROADBAND (3 SEC OF STEADY TONE OTHER THAN TPT OR MWT)
BY	BUSY
D	DISCONNECT TIMING FAILURE
DRO	DELAYED REORDER - H AND D FOR 15 SECONDS; THEN REORDER
EFOB	EQUIPMENT FAILURE OR BLOCKAGE - FAILURE TO SEIZE TEST EQUIPMENT
FEBY	FAR END BUSY
H&D	HIGH AND DRY
MILW	MILLIWATT
MWT	MILLIWATT TONE
NEBY	NEAR END BUSY
NOAS	NO ANSWER SUPERVISION
OPSY	OPERATIONAL BUSY - TEST GEAR BUSY
PERR	PRIMING INFORMATION ERROR
PKTO	PARKING TONE TIMEOUT - GREATER THAN 30 SEC OF TEST TONE
RCLF	ROTL RECYCLE FAILURE - ROTL FAILED TO RECYCLE IN RESPONSE TO RECYCLE COMMAND
RERR	ROTL ERROR-UNALLOWED RESPONSE FROM ROTL
RLFL	RELEASE FAILURE - ROTL FAILED TO RESPOND TO RELEASE COMMAND
RO	REORDER
SC	SELF-CHECK
SPHT	SUPERVISORY HIT - TRUNK FAILURE
TPT	TEST PROGRESS TONE
VA	VOICE ANNOUNCEMENT - ANY TONE NOT FITTING PATTERN OF OTHER DESIGNATED TONES
<	"LESS THAN" SYMBOL
>	"GREATER THAN" SYMBOL

Fig. 1—Transmission Test Sequence (Sheet 1 of 2)

Fig. 1—Transmission Test Sequence (Sheet 2 of 2)

Fig. 2—Operational Test Sequence (Sheet 1 of 2)

NOTES:
1. SOME DISPOSITIONS MAY BE OVERRIDDEN BY THE RESULTS OBTAINED FROM RECYCLE ONE.
2. ALL SIX BURSTS OF TPT MUST OCCUR WITHIN A 10-SECOND INTERVAL.
3. ALL FOUR BURSTS OF TPT MUST OCCUR WITHIN A 6-SECOND INTERVAL.
4. THE SEQUENCE NOTED DOES NOT APPEAR ON THIS FLOWCHART AS THE SEQUENCE IS NOT APPLICABLE TO THE "BEST CASE" EXAMPLE.

LEGEND:
AR   AUDIBLE RING
BB   BROADBAND (3 SEC OF STEADY TONE, OTHER THAN TPT OR MWT)
BY   BUSY
D   DISCONNECT TIMING FAILURE
DRO   DELAYED REORDER - H AND D FOR 15 SECONDS; THEN REORDER
EFOB EQUIPMENT FAILURE OR BLOCKAGE - FAILURE TO SEIZE TEST EQUIPMENT
FEBY FAR END BUSY
H&D   HIGH AND DRY
MILW MILLIWATT
MWT   MILLIWATT TONE
NEBY NEAR END BUSY
NOAS NO ANSWER SUPERVISION
OPSY OPERATIONAL BUSY - TEST GEAR BUSY
PERR PRIMING INFORMATION ERROR
PRTO PARKING TONE TIMEOUT - GREATER THAN 30 SEC TEST TONE
RCLF ROTL RECYCLE FAILURE - ROTL FAILED TO RECYCLE IN RESPONSE TO RECYCLE COMMAND
RERR ROTL ERROR - UNALLOWED RESPONSE FROM ROTL
RLFL RELEASE FAILURE - ROTL FAILED TO RESPOND TO RELEASE COMMAND
RO   REORDER
SC   SELF-CHECK
SPHT SUPERVISORY HIT - TRUNK FAILURE
TPT   TEST PROGRESS TONE
VA   VOICE ANNOUNCEMENT - ANY TONE NOT FITTING PATTERN OF OTHER DESIGNATED TONES
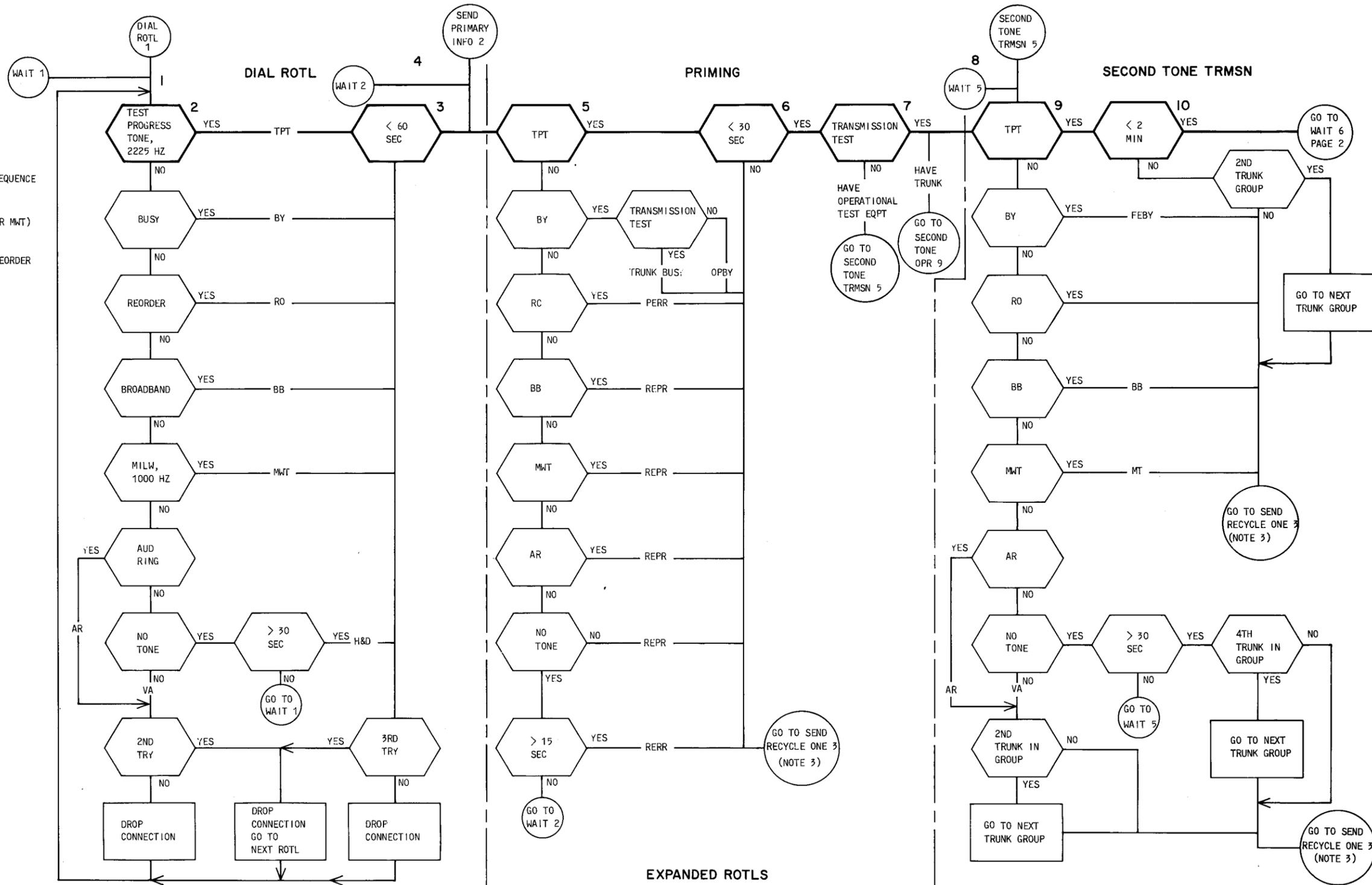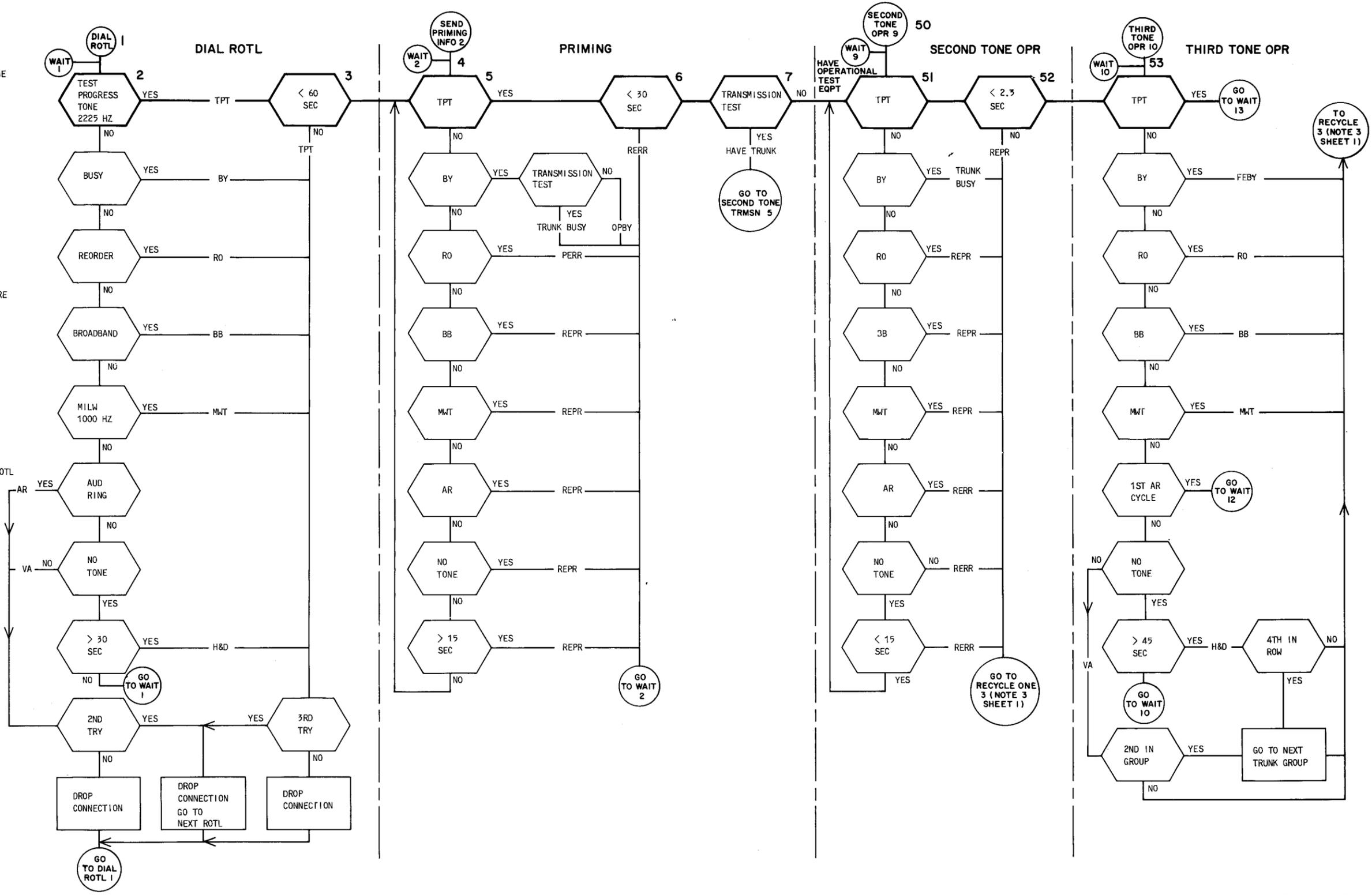<   "LESS THAN" SYMBOL
>   "GREATER THAN" SYMBOL

TIMING

TIMING
13

WAIT
13

TPT
GONE

TYPE 103

57 TYPE
FAR END   NON-SYNC

TPT
GONE   YES

4TH
TIME   NO

>6 SEC
(NOTE 3
SHEET 1)   NO

GO TO
TIMING
13

NO

TONE
PRESENT
FOR 2.3 SEC   NO

GO TO
TIMING
13

SYNC

58 TPT
GONE   NO

1ST
TIME   YES

1ST TONE
PRESENT
> 5 SEC   NO

GO TO
TIMING
13

NO

YES

P (PASS)

YES

F (FAIL)

YES

YES

1ST
TIME   YES

>6 SEC
(NOTE 3
SHEET 1)   NO

GO TO
TIMING
13

YES

GO TO
SEND RECYCLE
THREE 11 (NOTE
4, SHEET 1)

SEND
100-MILSEC
1300-HZ RING
FORWARD

YES

NO

> 10 SEC
(NOTE 2
SHEET 1)   NO

GO TO
TIMING
13

YES

59 1ST
TIME   YES

1ST TONE
PRESENT
<900
MILSEC   YES

IGNORE
DO NOT
COUNT

YES

1ST TONE
PRESENT
>5 SEC   NO

GO TO
TIMING
13

TPT
GONE   NO

YES

NO

F (FAIL)

SEND
100-MILSEC
1300-HZ RING
FORWARD

VA

2ND
TRUNK IN
GROUP   NO

YES

GO TO
TIMING
13

> 10 SEC
(NOTE 2
SHEET 1)

60 6TH
TIME

NO

TONE
ABSENT
FOR
>10 SEC

GO TO
TIMING
13

2ND
TRUNK IN
GROUP   NO

YES

TPT
WITHIN 2.4
SEC   NO

GO TO NEXT
TRUNK GROUP

YES   YES   YES

F (FAIL)   F (FAIL)   P (PASS)   F (FAIL)

GO TO NEXT
TRUNK GROUP

YES

P (PASS)

GO TO
RECYCLE
THREE 11
(NOTE 4
SHEET 1)

GO TO
RECYCLE
THREE 11
(NOTE 4
SHEET 1)

61 TPT
WITHIN 1
SEC   NO

YES

GO TO
SEND RECYCLE
THREE 11 (NOTE
4, SHEET 1)

62 CENTREX
TRANSFER
TEST

63 60-
IPM LT
WITHIN
8 SEC   NO F (FAIL)

YES

EXPANDED ROTLS

64

GO TO
SEND RECYCLE
THREE 11 (NOTE
4, SHEET 1)

Fig. 2—Operational Test Sequence (Sheet 2 of 2)

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TABLE A

SIGNALS USED FOR CAROT-ROTL TESTING

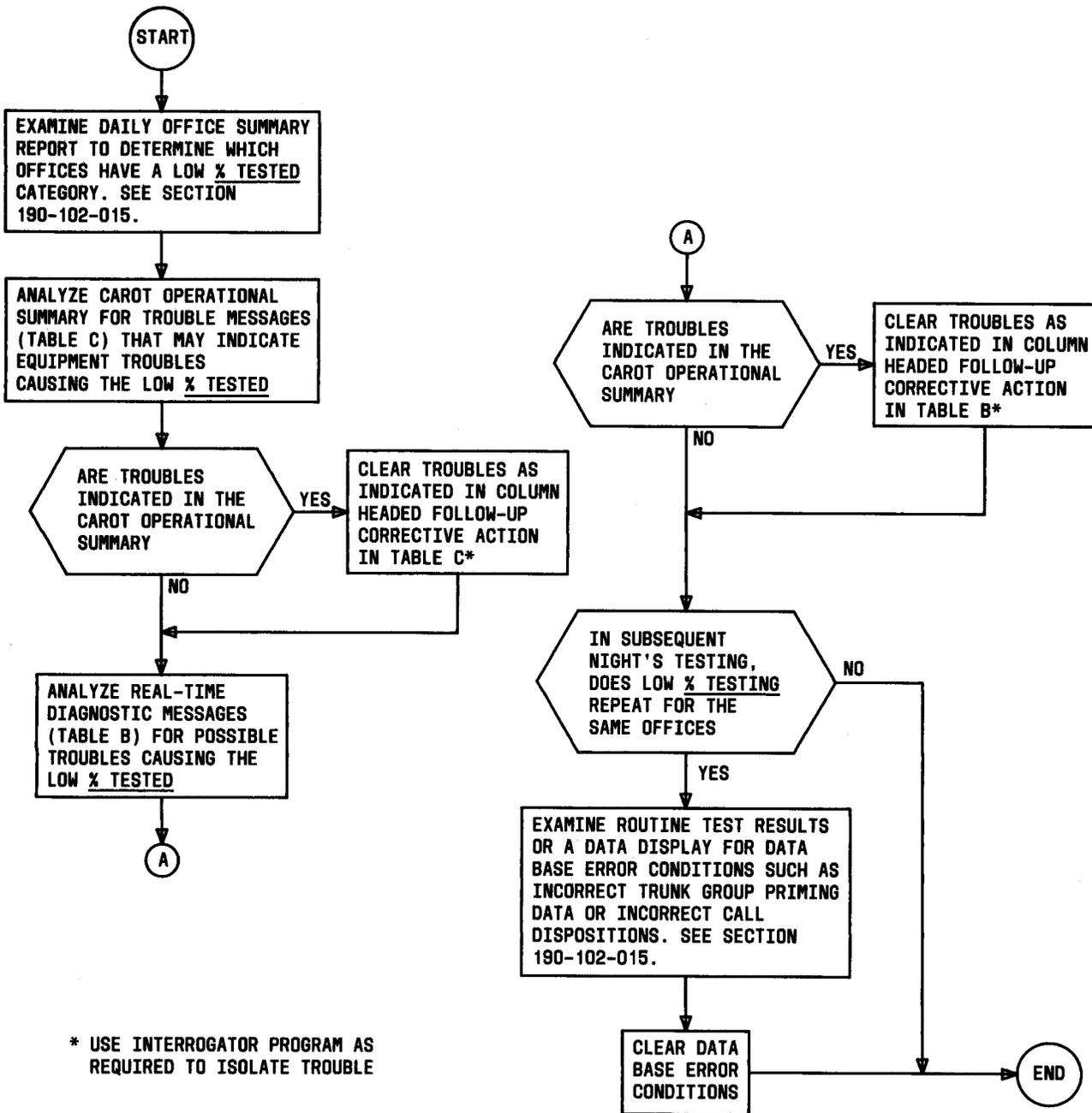| SIGNAL	FROM	TO	MEANING	
2225 Hz (0.5 second burst)	ROTL	Control location	Sent after ROTL seizure to indicate ROTL ready for priming	Test progress tone
1000 Hz (milliwatt)	End office	ROTL	Used for transmission measurements and to indicate test progress	Detected by ROTL responder
1300 Hz (2 seconds)	Control location	ROTL	Release ROTL (drop access trunk)	Release signal
1300 Hz (1 second)	Control location	ROTL	Release trunk under test (hold access trunk)	Recycle signal
1300 Hz (100 ms)	Control location	ROTL	Rering forward to 103 test line as error request following 120-IPM low tone	Rering
1200-Hz, 2200-Hz, 1200-Hz Freq. shift	Responder	Control location	Transmission measurement data	Data
120-IPM Low tone	ROTL	Control location	Error or far end busy on intertoll circuit	Use rering to set error information
60-IPM Busy tone	ROTL	Control location	Trunk busy	Detected by tone detector in remote office and relayed to control office by interrupted low tone
	End office	ROTL	Far end busy	
120-IPM Reorder tone	End office	ROTL	Circuits busy, reorder	
Announcement	End office	ROTL	Recorded announcement encountered in setting up test calls	

START

EXAMINE DAILY OFFICE SUMMARY
REPORT TO DETERMINE WHICH
OFFICES HAVE A LOW % TESTED
CATEGORY. SEE SECTION
190-102-015.

ANALYZE CAROT OPERATIONAL
SUMMARY FOR TROUBLE MESSAGES
(TABLE C) THAT MAY INDICATE
EQUIPMENT TROUBLES
CAUSING THE LOW % TESTED

ARE TROUBLES
INDICATED IN THE
CAROT OPERATIONAL
SUMMARY

YES

CLEAR TROUBLES AS
INDICATED IN COLUMN
HEADED FOLLOW-UP
CORRECTIVE ACTION
IN TABLE C*

NO

ANALYZE REAL-TIME
DIAGNOSTIC MESSAGES
(TABLE B) FOR POSSIBLE
TROUBLES CAUSING THE
LOW % TESTED

A

A

ARE TROUBLES
INDICATED IN THE
CAROT OPERATIONAL
SUMMARY

YES

CLEAR TROUBLES AS
INDICATED IN COLUMN
HEADED FOLLOW-UP
CORRECTIVE ACTION
IN TABLE B*

NO

IN SUBSEQUENT
NIGHT'S TESTING,
DOES LOW % TESTING
REPEAT FOR THE
SAME OFFICES

NO

YES

EXAMINE ROUTINE TEST RESULTS
OR A DATA DISPLAY FOR DATA
BASE ERROR CONDITIONS SUCH AS
INCORRECT TRUNK GROUP PRIMING
DATA OR INCORRECT CALL
DISPOSITIONS. SEE SECTION
190-102-015.

* USE INTERROGATOR PROGRAM AS
REQUIRED TO ISOLATE TROUBLE

CLEAR DATA
BASE ERROR
CONDITIONS

END

Fig. 3—Troubleshooting CAROT System Troubles or Data Base Errors

REAL-TIME DIAGNOSTIC MESSAGES

MESSAGE	MEANING	TEST PROGRAM DISPOSITION*	FOLLOW-UP CORRECTIVE ACTION
Q2 MD BUSY = XYZ	Trunk XYZ (45-character Common Language Identification) has been confirmed as a Q2 and has been made maintenance busy by the controller and the ROTL associated with the trunk.	The trunk is listed in the routine test results printout under the TRUNKS EXCEEDING Q2 LIMITS CONFIRMED & MADE BUSY heading.	None
DISC READ ERROR (ROTL): ROTL START CHAIN TERMINATED	A disc error, not detected by the real-time EXEC disc error handler, has occurred during routine testing. This message normally precedes a "hard" disc failure.	The ROTL is skipped until the next test pass.	Run extensive diagnostics on the disc drive.
NO DIAL TONE ON PORT XY: PORT = NO	During routine or demand testing, port XY (1 through 14) cannot be used and has been marked unavailable for use.	Any ROTLs that were testing to port XY when this message occurred are shifted to another available port.	Investigate causes such as a malfunctioning port card, a bad subscriber loop on the port, or problems in the CAROT serving central office.
END OF ROUTINE TEST PASS X	The first ROTL has concluded its routine test pass X (X = 1, 2, or 3). The message is printed once for each pass.	No action is taken.	None
NO UPDATE RUN (BELL)	It has been determined that at the time scheduled for routine testing the update scheduling has not occurred.	The program tries to force update to run automatically, which may or may not correct the situation depending on the current state of the update switches.	Check to see that the recommended procedures for generating data base backups or restorals, or both, have been followed.
ROUTINE TESTING STARTED	The time scheduled for routine testing in the local "machine schedule" has arrived.	No action is taken.	None

See footnote at end of table.

TABLE B (Contd)

REAL-TIME DIAGNOSTIC MESSAGES

MESSAGE	MEANING	TEST PROGRAM DISPOSITION*	FOLLOW-UP CORRECTIVE ACTION
ANALYSIS STARTED:	The time scheduled for analysis to begin has arrived and all routine testing has already been completed.	Demand testing is inhibited until the conclusion of analysis.	None
TESTING INTERRUPTED BY ANALYSIS:	The time scheduled for analysis to begin has arrived and routine testing is still in progress.	Testing is stopped and analysis is started. Trunks that were scheduled for retest(s) at this point of interruption are listed in the routine test results under TRUNKS NOT TESTED heading.	None
SCHEDULE ADJUSTMENT: RC = XYZ	There is an inconsistency in ROTL control office XYZ (Common Language Identification) scheduling for the current night.	Test program attempts to correct the inconsistency, if possible, and to continue testing to the ROTL control office.	Report the occurrence to the local Western Electric CAROT coordinator.
NO DISC UTILITY SPACE: ROUTINE TESTING TERM-INATED	Disc utility space, used for trunks to be retested or printed and for equipment problems that are printed on the operational summary, is full. This message should occur only under adverse circumstances or during a very extended routine test run.	Routine testing is terminated. Analysis will take place at the time normally scheduled.	This message may be caused by an excess number of troubles during routine testing. Check the routine testing parameters such as RETPCT for possible modification.

See footnote at end of table.

REAL-TIME DIAGNOSTIC MESSAGES

MESSAGE	MEANING	TEST PROGRAM DISPOSITION*	FOLLOW-UP CORRECTIVE ACTION
ROTL WITH NO CONTROL OFFICE: ROTL TERMINATED	There are no trunks in the data base for a particular ROTL.	No action is taken.	None
RETEST FILE OVERFLOW: RC = XYZ	During routine test pass 1, the percentage of trunks requiring a retest for ROTL control office XYZ (Common Language Identification) exceeds the percentage of trunks designated by the settable parameter RETPCT.	No further trunk access attempts are made on test pass number 1 for ROTL control office XYZ, but the trunks that have already been scheduled for retest are retested.	If this message occurs for more than one office, investigate the possibility of resetting the RETPCT parameter.
PRINT FILE OVERFLOW: RC = XYZ	During routine testing, the percentage of trunks accumulated in the daily office printout file by ROTL control office XYZ (Common Language Identification) exceeds the percentage of trunks designated by the settable parameter — PRIPCT.	Routine testing is terminated for ROTL control office XYZ. Analysis will take place at the time normally scheduled.	Investigate the possibility of resetting the PRIPCT parameter.

* A single routine test run consists of up to four (4) test passes. Note that some troubles listed cause CC2 to abort testing for a ROTL or a trunk group for only one test pass; while others cause testing of the offending trunks to be bypassed until the next test run.

TABLE C

CAROT OPERATIONAL SUMMARY — TROUBLE MESSAGES

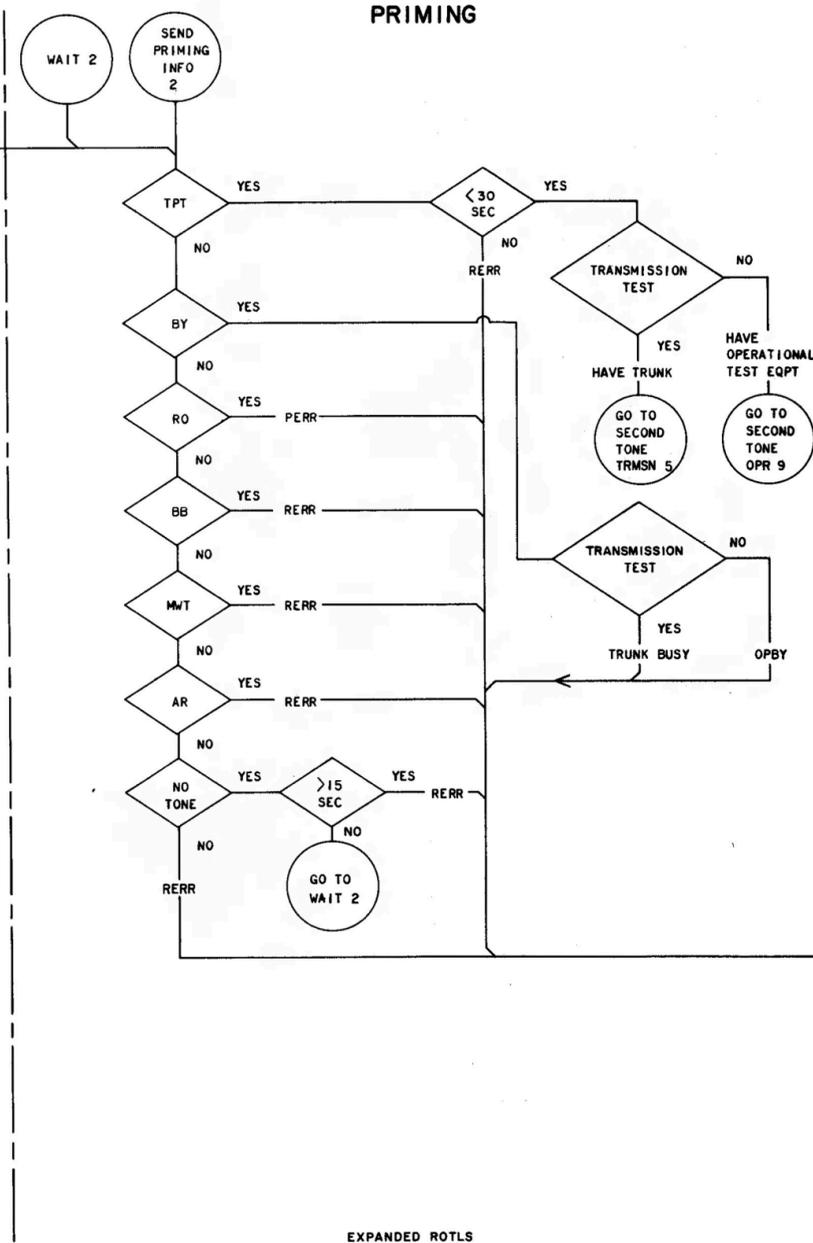| TROUBLE MESSAGES	MEANING	TEST PROGRAM DISPOSITION*	FOLLOW-UP CORRECTIVE ACTION
ROTL COULD NOT BE ACCESSED	A ROTL cannot be accessed (after three attempts) during a routine test run.	The remainder of the trunks scheduled for the ROTL are bypassed until the next test pass.	Investigate the ROTL problem.
EIGHT RECYCLE FAILURES	A ROTL has failed to recycle eight times during a single test pass.		
CALLBACK INITIALIZATION ERROR	A security callback could not be initiated by a ROTL equipped to make trunks busy.	The trunk is not made busy.	Investigate the ROTL or CAROT security callback circuitry problem.
CALLBACK COMPLETION ERROR	A security callback could not be completed by a ROTL equipped to make trunks busy.		
TRUNK COULD NOT BE MADE BUSY	A security callback has been completed to a ROTL, but the ROTL refused to make the trunk busy.		
2 AR/VAs ON TRUNK GROUP	A combination of two audible rings or voice announcements are detected during a routine test run on one trunk group.	The trunk group is bypassed until the next routine test run.	Investigate the trunk group problem, which may be caused by an error in the trunk group; for example, the wrong FETL number.
4 CONSECUTIVE H&Ds ON TRUNK GROUP	A trunk group has experienced four consecutive high and dries on trunks within the group.	The remainder of the trunks in the group are bypassed until the next test pass.	
2 CONSECUTIVE PKTOs ON TRUNK GROUP	Two consecutive 105 parking circuit timeouts are detected on a trunk group during a test pass.		Investigate the trunk group problem. This problem may be caused by excessive

* A single routine test run consists of up to four (4) passes. Note that some troubles listed cause CC2 to abort testing for a ROTL or a trunk group for only one test pass, while others cause testing of the offending trunks to be bypassed until the next test run.

TABLE C (Contd)

CAROT OPERATIONAL SUMMARY — TROUBLE MESSAGES

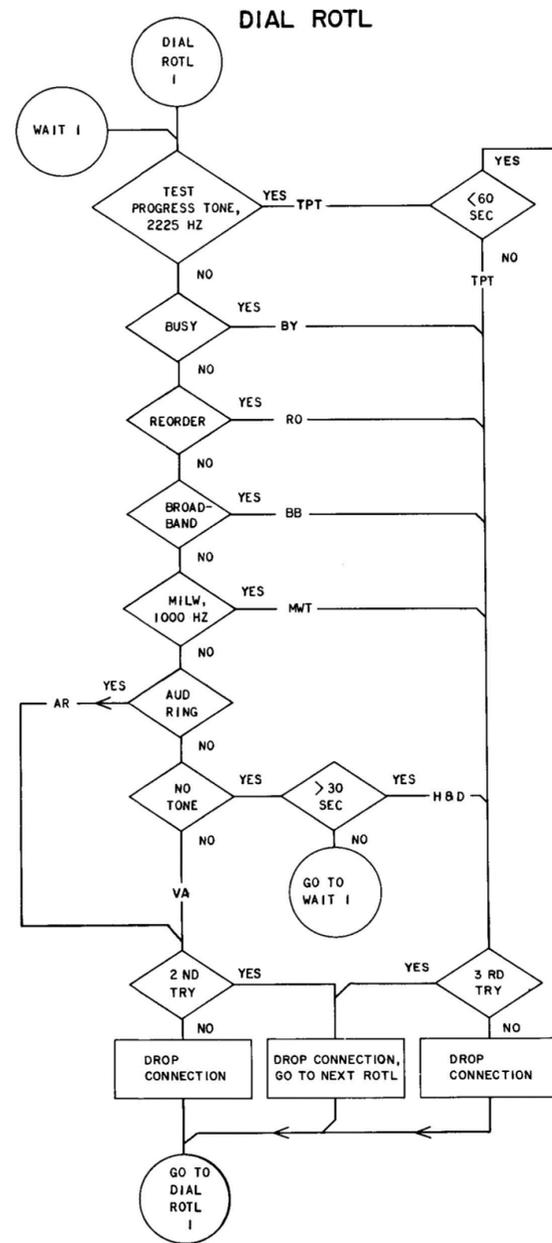| TROUBLE MESSAGES	MEANING	TEST PROGRAM DISPOSITION*	FOLLOW-UP CORRECTIVE ACTION
2 CONSECUTIVE PKTOs ON TRUNK GROUP (Contd)			competition for the far-end test line at a particular time. If this message occurs on every test pass, investigate a malfunction in the 105 test line.
IMPROPER TRUNK DISPOSITIONS	Trunks have call dispositions (PERR and RERR) warranting CAROT attention. The PERR disposition is detected by expanded ROTLs only. The RERR disposition is detected by CAROT only when testing to expanded ROTLs.	When PERR (printing error) occurs, the trunk is not tested again on any subsequent test pass. When RERR (ROTL error—unallowed response in one of the three ROTL test progress tones) occurs, the trunk is tested again on the next test pass.	Investigate trunk priming problem in the data base. If RERR indications continue, check for ROTL problem.
RESPONDER SELF CHECK FAILURE	A responder failure (near end or far end) has occurred during routine testing.	The remaining trunks in the current trunk group are bypassed until the next test pass.	Investigate the responder problem.
NO FAR END TEST LINE EXISTS	No far-end test line exists (according to the data base) for a particular trunk group.	The entire trunk group is bypassed until the next routine test run.	Investigate the data base problem.

* A single routine test run consists of up to four (4) test passes. Note that some troubles listed cause CC2 to abort testing for a ROTL or a trunk group for only one test pass, while others cause testing of the offending trunks to be bypassed until the next test run.

DIAL ROTL

PRIMING

RECYCLE ONE

RECYCLE TWO

LEGEND

NOTES:
1. SOME DISPOSITIONS MAY BE OVERRIDEN BY THE RESULTS OBTAINED FROM RECYCLE ONE.
2. FOR 4-WIRE SWITCHING OFFICES, TWO LOSS MEASUREMENTS ARE MADE (ONE EACH ON THE TRANSMIT AND RECEIVE PAIRS). FOR ALL NO. 4 ESS TRUNKS AND FOR NO. 4XB CARRIER OR V-REPEATERED TRUNKS, THE SECOND MEASUREMENT (ON THE TRANSMIT SIDE) IS MEANINGLESS AND IS NOT RECORDED.
3. ALL SIX BURSTS OF TPT MUST OCCUR WITHIN A 10-SECOND INTERVAL.
4. ALL FOUR BURSTS OF TPT MUST OCCUR WITHIN A 6-SECOND INTERVAL.

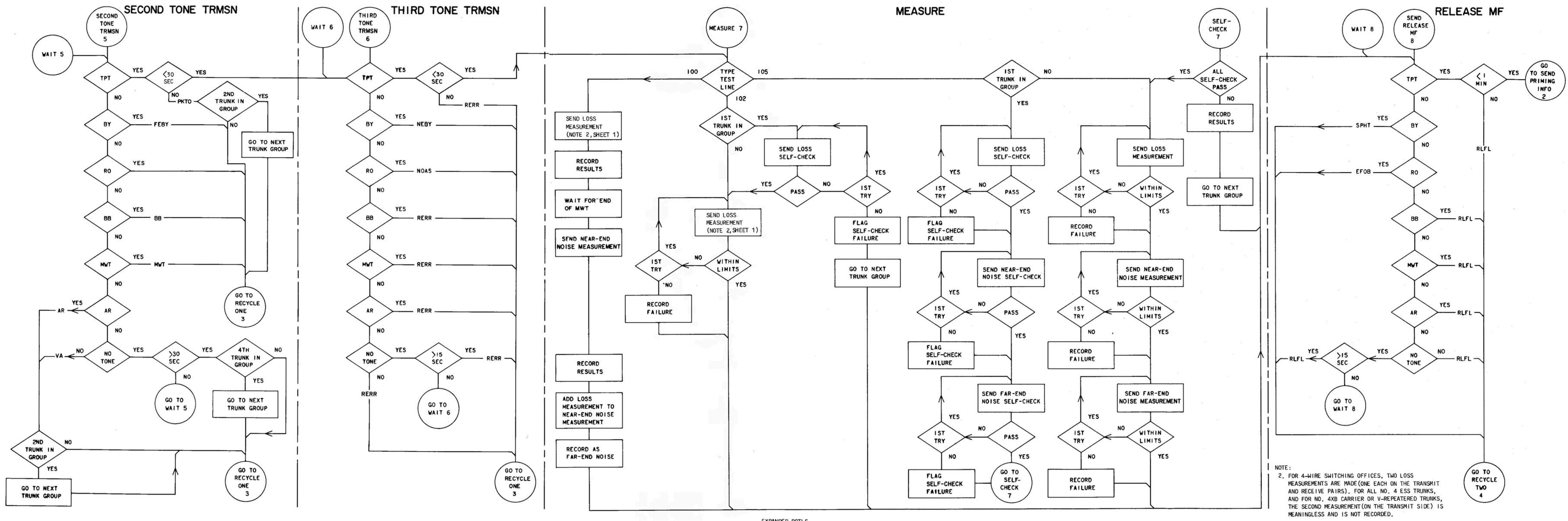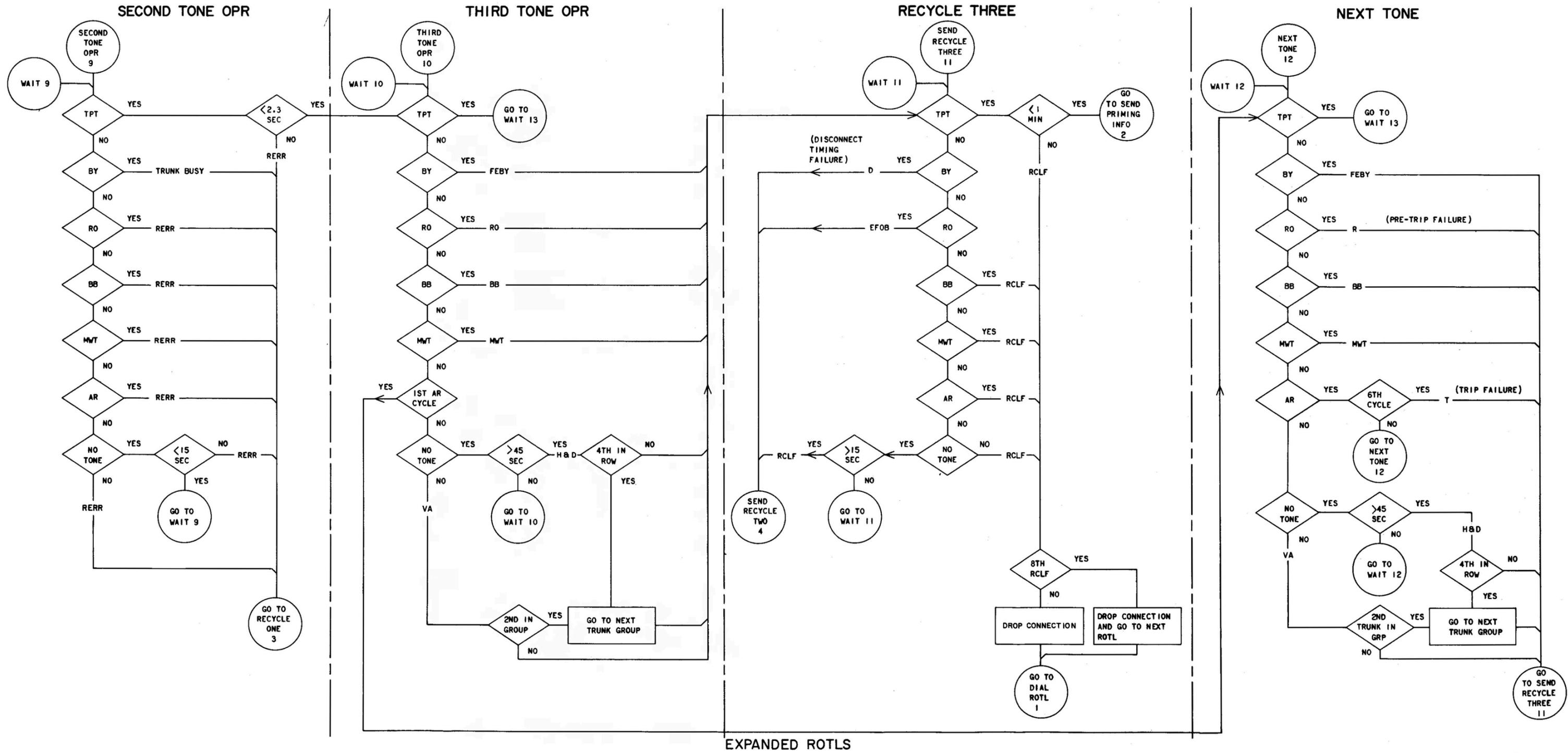| ABBREVIATION	EXPLANATION
AR	AUDIBLE RING
BB	BROADBAND (3 SEC OF STEADY TONE OTHER THAN TPT OR MWT)
BY	BUSY
D	DISCONNECT TIMING FAILURE
DRO	DELAYED REORDER – H AND D FOR 15 SECONDS; THEN REORDER
EFOB	EQUIPMENT FAILURE OR BLOCKAGE – FAILURE TO SEIZE TEST EQUIPMENT
FEBY	FAR END BUSY
H&D	HIGH AND DRY
MILW	MILLIWATT
MWT	MILLIWATT TONE
NEBY	NEAR END BUSY
NOAS	NO ANSWER SUPERVISION
OPBY	OPERATIONAL BUSY – TEST GEAR BUSY
PERR	PRIMING INFORMATION ERROR
PKTO	PARKING TONE TIMEOUT – GREATER THAN 30 SECONDS OF TEST TONE
RCLF	ROTL RECYCLE FAILURE – ROTL FAILED TO RECYCLE IN RESPONSE TO RECYCLE COMMAND
RERR	ROTL ERROR-UNALLOWED RESPONSE FROM ROTL
RLFL	RELEASE FAILURE – ROTL FAILED TO RESPOND TO RELEASE COMMAND
RO	REORDER
SC	SELF-CHECK
SPHT	SUPERVISORY HIT – TRUNK FAILURE
TPT	TEST PROGRESS TONE
VA	VOICE ANNOUNCEMENT – ANY TONE NOT FITTING PATTERN OF OTHER DESIGNATED TONES
<	"LESS THAN" SYMBOL
>	"GREATER THAN" SYMBOL
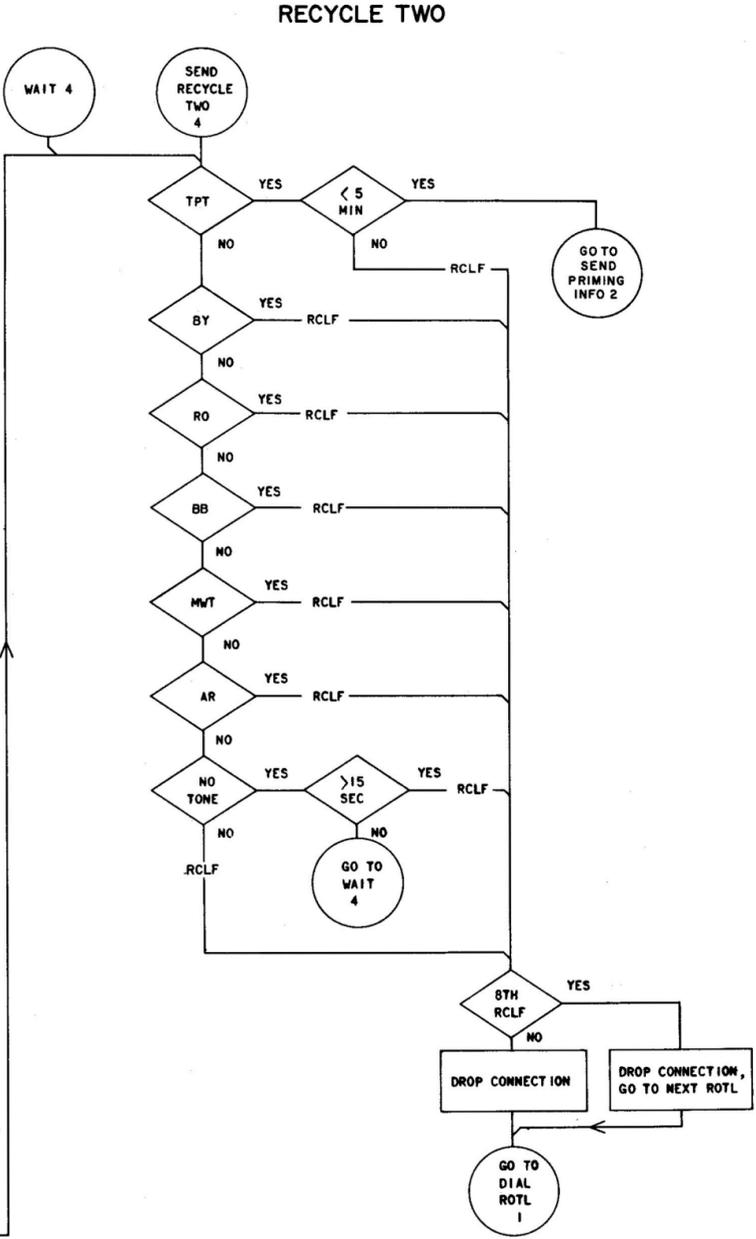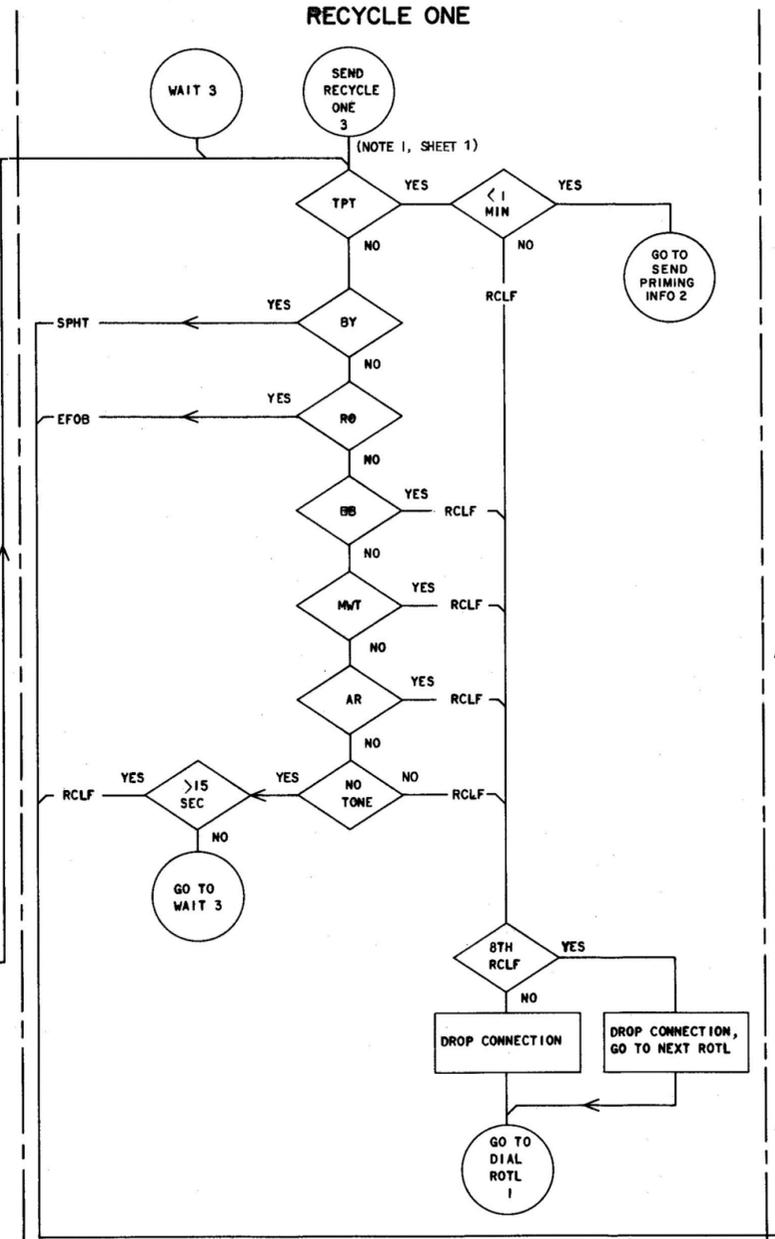
EXPANDED ROTLS

Fig. 4—Original Version of ROTL Test Sequence (Sheet 1 of 4)

Fig. 4—Original Version of ROTL Test Sequence (Sheet 2 of 4)

NOTE:
2. FOR 4-WIRE SWITCHING OFFICES, TWO LOSS MEASUREMENTS ARE MADE (ONE EACH ON THE TRANSMIT AND RECEIVE PAIRS), FOR ALL NO. 4 ESS TRUNKS, AND FOR NO. 4XB CARRIER OR V-REPEATED TRUNKS, THE SECOND MEASUREMENT (ON THE TRANSMIT SIDE) IS MEANINGLESS AND IS NOT RECORDED.

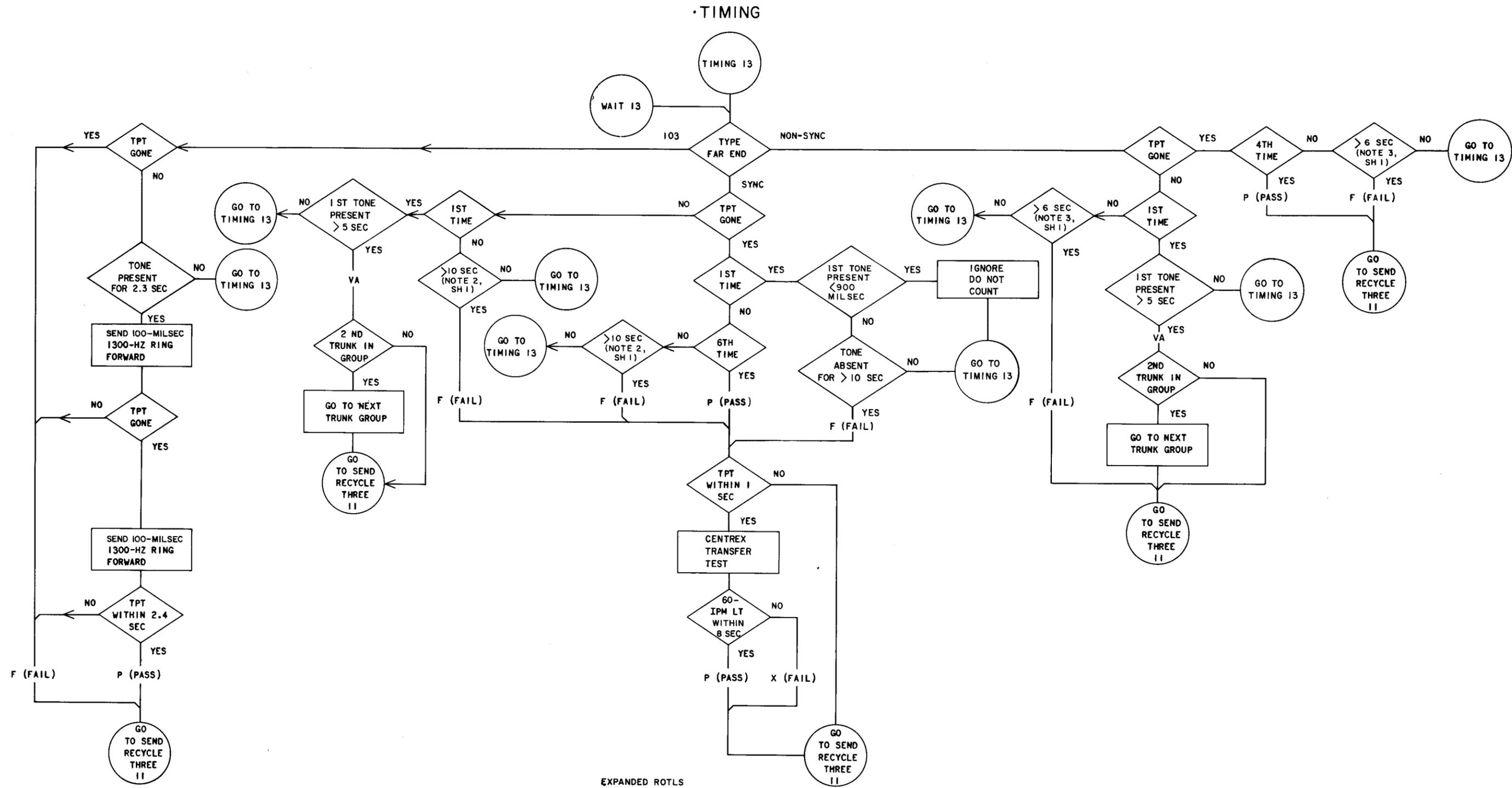Fig. 4—Original Version of ROTL Test Sequence (Sheet 3 of 4)

·TIMING

Fig. 4—Original Version of ROTL Test Sequence (Sheet 4 of 4)