
Title:

RC 36-00269.02

MAG. TAPE RELIABILITY
OPERATING INSTRUCTION

 **REGNECENTRALEN**

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RCSL No: 44-RT 1691
Edition: 78 04 18
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Keywords:

Musil, Device Reliability, Magnetic Tape, Test

Abstract:

The following pages present the first, general pages of the reliability program listing.

These pages form an operating guide to the program

LOAD After autoloading of

RC 3600 SYSTEM MAINTENANCE

Tape/Disc, or while running RC 3600 MUS/DOMUS software (only for RC 3600 systems), this device reliability program can be loaded and executed the following way:

After contact with operative system = S
(refer to previous chapters or the system
operating guide) type:

LOAD TIME < 1 > < 2 > < 3 > P269 **RETURN**

1: MT0 = Magnetic Tape
MT1 = Magnetic Tape, second
MT2 = Magnetic Tape, third
MT3 = Magnetic Tape, fourth
MT4 = Magnetic Tape, fifth
MT5 = Magnetic Tape, sixth

EVENTUAL Log Device, - if not TTY:

2: LPT	= Line Printer	3: Empty	= ASCII
CPT	= Charaband Printer	TAB1	= ASCII
SP	= Serial Printer	TAB2	= RC Standard
		TAB3	= PL 1
		TAB4	= Hungarian
		TAB5	= Cyrillic

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TITLE: MAG.TAPE RELIABILITY PROGRAM

ABSTRACT: THIS PROGRAM TESTS MAGNETIC TAPE UNITS BY WRITING
AND CHECK-READING DATA.

SIZE: 11232 BYTES

DATE: 78.02.22

SPECIAL REQUIREMENTS:
(AT COMPILE-TIME)

CODEPROCEDURE P0001 (TIME)	RCSL: 43-GL182
CODEPROCEDURE P0023 (DELAY)	RCSL: 43-GL1409
CODEPROCEDURE P0061 (RANDOM)	RCSL: 43-GL2763
CODEPROCEDURE CHANGETABLE	RCSL: 43-GL1519

GENERAL INFORMATION:

THIS PROGRAM ACTS IN THE FOLLOWING WAY:
AFTER ALL PARAMETERS HAS BEEN INITIALIZED AND A START
COMMAND HAS BEEN GIVEN THE PROGRAM STARTS WRITING
AND READING FROM THE MAGNETIC TAPE UNIT (FOR MORE
DETAILED DESCRIPTION SEE SPECIFICATION PAGE 05).
IF STATUS ERRORS OCCURS THEY ARE ACCUMULATED. IF ERRORS
IN THE DATA OCCURS THEY ARE LOGGED IMMEDIATELY. WHEN THE
PROGRAM HAS BEEN RUNNING FOR SPECIFIED TIME OR A HARD
ERROR OCCURS, THE PROGRAM IS STOPPED, AND A STATISTIC
IS LOGGED ON THE SELECTED LOG-DEVICE.

DRIVERS FOR THE PROGRAM:

INTERPRETER, DRIVER FOR THE SELECTED LOG-DEVICE,
(CONVERSION TABLE IF LOG DEVICE IS PRINTER),
THE PROGRAM TIME AND LATEST VERSION OF MAG.TAPE DRIVER
(FOR UNIT 0 MT006).

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RUNTIME PARAMETERS:

UNITNO

TYPE THE UNIT-NUMBER THAT IS GOING TO BE TESTED.

7/9 TRACK TAPE

TYPE 7 OR 9 . IF 7 TRACK TAPE SPECIFIED
TYPE THE DENSITY (HIGH OR LOW) AND THE
PARITY (ODD OR EVEN).

OUTPUT LOGDEVICE, (TTY), (LPT), (CPT), (SP)

TYPE THE DEVICE WHERE STATISTICS ARE GOING
TO BE LOGGED.

TTY = TELETYPE
LPT = LINEPRINTER
CPT = CHARABAND PRINTER
SP = SERIAL PRINTER

TESTPERIOD, (HOURS,MINUTES)

EFFECTIVE TIME THE TEST SHOULD RUN.

STOP ON ERROR (YES) OR WAIT UNTIL STATISTIC (NO)

IF ANSWER = YES THEN TEST WILL STOP ON THE
FIRST OCCURRED ERROR

IF ANSWER = NO THEN TEST WILL STOP WHEN RUNTIME
IS REACHED OR HARD ERROR OCCURS.

NUMBER OF BLOCKS/FILES (MAX 20)

TYPE THE NUMBER OF DATA BLOCKS TO BE WRITTEN
IN EACH FILE.

BLOCKLENGTH (MAX 2000)

TYPE THE NUMBER OF CHARACTERS TO BE WRITTEN
IN EACH DATA BLOCK.

AUTOMATIC DATAGENERATING (AUTO) OR SPECIAL DATA (SPEC).

IF ANSWER = AUTO THEN RANDOM AND SKEWPATTERN
DATA IS AUTOMATICLY GENERATED BY THE PROGRAM.

IF ANSWER = SPEC THEN DATA IS SELECTED BY
THE OPERATOR.

DATA BYTE NN

ONLY WHEN SPECIAL DATA. GIVE THE DECIMAL
VALUE (0-255) FOR BYTE NN. IT IS POSSIBLE
TO SPECIFY MAX 25 BYTES. IF BLOCKLENGTH IS
SPECIFIED TO 200 BYTES, AND 20 DATA BYTES IS
SPECIFIED, THEN EACH BLOCK WILL CONTAIN THE
20 DATA-BYTES 10 TIMES.

TO SEE THE COMMANDS TYPE HELP ELSE NL

IF ANSWER = HELP THEN ALL POSSIBLE COMMANDS
AND THE MEANING OF THEM WILL BE DISPLAYED.

INPUT MESSAGES:

START : STARTS EXECUTION WRITING:
EXECUTION STARTED HH.MM.SS
AFTER LOG DEVICE ERROR START MEANS
REPEAT THE LOG-OUTPUT.

STOP : STOPS EXECUTION WRITING:
EXECUTION STOPPED HH.MM.SS
AFTER LOG DEVICE ERROR STOP MEANS
SKIP THE LOG-OUTPUT, AND RESTART THE
PROGRAM AT INIT-PHASE.

CONT : EXECUTION IS CONTINUED WITHOUT CHANGING
STATUS, WRITING:
EXECUTION CONTINUED HH.MM.SS

INIT : DISPLAY RUNTIME PARAMETERS.

RELEASE: ONLY WHEN EXECUTION IS STOPPED.
FORCES THE PROGRAM IN END JOB AND
RELEASES DRIVERS AS IF HOURS.MINUTES
HAS GONE.

OUTPUT MESSAGES:

EXECUTION STARTED HH.MM.SS
WRITTEN AS ACCEPT OF COMMAND START

EXECUTION STOPPED HH.MM.SS
WRITTEN AS ACCEPT OF COMMAND STOP

EXECUTION CONTINUED HH.MM.SS
WRITTEN AS ACCEPT OF COMMAND CONT

LOG DEVICE ERROR NNNNN
CONSULT THE RC3600 OPERATING GUIDE

TEST STATISTIC AND ERROR STATISTIC
USER INFORMATION TO SEE THE RESULT OF
THE TEST (SEE NEXT PAGE).

WHEN AN ERROR OCCURS THE FOLLOWING IS OUTPUT:

UNIT: N T=TRACK PARITY: AAAA FILE: XXXXX BLOCK: YYYYY <STATE>

WHERE N = UNIT NUMBER

XXXXX = FILE NUMBER IN WHICH THE ERROR OCCURRED.

YYYYY = BLOCK NUMBER IN WHICH THE ERROR OCCURRED.

T = 7 OR 9

AAAA = ODD OR EVEN

<STATE> IS ONE OF THE FOLLOWING SEVEN TEXTS

WRITE RANDOM : THE UNIT WAS WRITING RANDOM DATA
WHEN THE ERROR OCCURRED.

WRITE SKEW : THE UNIT WAS WRITING SKEW DATA
WHEN THE ERROR OCCURRED.

WRITE SPECIAL: THE UNIT WAS WRITING OPERATOR-
SPECIFIED DATA WHEN THE ERROR OCCURRED.

READ RANDOM : THE UNIT WAS READING AND CHECKING
RANDOM DATA WHEN THE ERROR OCCURRED.

READ SKEW : THE UNIT WAS READING AND CHECKING
SKEW DATA WHEN THE ERROR OCCURRED.

READ SPECIAL : THE UNIT WAS READING AND CHECKING
OPERATOR-SPECIFIED DATA WHEN THE
ERROR OCCURRED.

POSITIONING : THE UNIT WAS POSITIONING TO FILE
AND XXXXX BLOCK YYYYY WHEN THE ERROR
BACKSPACE TM OCCURED.

DEPENDING ON THE ERROR THE NEXT LINE WILL BE:

PARITY ERROR

POSITION ERROR

EOF STATUS MISSING

LENGTH ERROR GOOD: XXXXX BAD: YYYYY

DATA ERROR GOOD: 8'NNN BAD: 8'MMM CHARACTERNO: VVVVV

BACKSPACE OVER TAPEMARK ERROR: READ BLOCK: ZZZZZ

PARITY AND POSITION ERROR NEED NO EXPLANATION.

EOF STATUS MISSING MEANS THAT FILE XXXXX BLOCK YYYYY SHOULD
HAVE BEEN A TAPE-MARK, BUT WHEN IT WAS
READ NO EOF-STATUS WAS RETURNED.
NOTE: AFTER THIS THE RELIABILITY WILL REWIND
THE TAPE AND START AT FILE 1 BLOCK 1.

LENGTH ERROR MEANS THAT THE BLOCKSIZE WHEN READING IS
NOT EQUAL TO THE EXPECTED ONE.
XXXXX = CORRECT BLOCKSIZE, YYYYY = READ
BLOCKSIZE.

DATA ERROR MEANS THAT THE READING AND CHECKING DATA,
FILE XXXXX BLOCK YYYYY BYTE VVVVV DOES
NOT CORRESPOND TO WHAT IT SHOULD BE
WRITTEN IN IT. NNN IS THE CORRECT VALUE
IN OCTAL, AND MMM IS THE READ VALUE IN OCTAL.
IF 5 DATA ERRORS HAVE OCCURRED IN 1 BLOCK,
IT IS REGARDED AS A BAD BLOCK, AND THE
REST OF IT IS NOT CHECKED.

BACKSPACE TM MEANS THAT BLOCK POSITIONING ERROR OCCURED
WHEN BACKSPACING OVER A TAPEMARK. THE READ
BLOCK WAS ZZZZZ.

TEST STATISTIC AND ERROR STATISTIC:

THE TEST STATISTIC AND ERROR STATISTIC IS LOGGED ON THE SELECTED LOG-DEVICE WHEN THE TEST HAS BEEN RUNNING FOR THE SPECIFIED TIME OR WHEN THE COMMAND STOP IS GIVEN.

THE TEST STATISTIC SHOWS THE TIME FOR START, STOP AND THE EFFECTIVE RUN-TIME. FURTHERMORE IT SHOWS THE UNIT-NUMBER, HOW MANY FILES THAT HAS BEEN WRITTEN AND READ (EXCL. THE FILES WRITTEN AND READ TO TEST BACKSPACE TM) AND HOW MANY ERRORS THAT HAVE OCCURRED.

THE ERROR STATISTIC SHOWS THE STATUS-ERRORS THAT HAVE OCCURRED.

ERROR NN: NNNNN EXPLANATION.
 NN IS THE ERRORNUMBER
 NNNNN IS THE NUMBER OF TIMES THE ERROR OCCURRED.
 EXPLANATION IS AN EXPLANATION OF THE STATUS-ERROR.

SPECIFICATION:

IN THE FOLLOWING

X = RUNTIME PARAMETER BLOCKS/FILE.
L = RUNTIME PARAMETER BLOCKSIZE.

THE FUNCTION OF THE MAG. TAPE UNIT RELIABILITY IS:

1. POSITION TO FILE 1 BLOCK 1.
- 1A. WRITE A FILE OF X BLOCKS OF THE LENGTH L.
(1.BYTE IN EACH BLOCK=CURRENT BLOCKNUMBER).
- 1B. SET POSITION TO BLOCKNUMBER 25 (MAX IS 20).
SET POSITION TO MT.ZBLOCK-1 , READ THIS BLOCK
AND CHECK THE BLOCKNUMBER.
2. IF SPECIAL DATA IS SELECTED THEN GOTO 10.
3. WRITE A FILE OF X BLOCKS OF THE LENGTH L
WITH RANDOM DATA.
4. WRITE A FILE OF X BLOCKS OF THE LENGTH 162
WITH SKEW-PATTERN DATA:
8'200 - 8'200 - 8'200 - 8'100
8'200 - 8'040 - 8'200 - 8'020
8'200 - 8'010 - 8'200 - 8'004
8'200 - 8'002 - 8'200 - 8'001
8'200 - 8'000 - 8'100 - 8'200
8'100 - 8'100 - 8'100 - 8'040
ETC.
5. EACH 5. TIME POSITION TO FILE 1 BLOCK 1 (REWIND)
ELSE POSITION LAST RANDOM FILE BLOCK X (BACKSPACE FILE).
6. POSITION TO LAST RANDOM FILE BLOCK 1
(EACH 5. TIME WILL IT BE FORWARD POSITIONING
ELSE WILL IT BACKSPACE BLOCK).
7. READ AND CHECK X+1 BLOCKS FROM RANDOM
FILE (THE LAST BLOCK SHOULD GIVE EOF-STATUS).
8. READ AND CHECK X+1 BLOCKS FROM SKEW-DATA FILE
(THE LAST BLOCK SHOULD GIVE EOF-STATUS).
9. IF EOT IS REACHED THEN GOTO 1.
ELSE GOTO 1A.
10. WRITE A FILE OF X BLOCKS OF THE LENGTH L
WITH THE SPECIFIED DATA.
11. READ AND CHECK X+1 BLOCKS FROM THE FILE
WITH THE SPECIFIED DATA (THE LAST BLOCK
SHOULD GIVE EOF-STATUS).
12. GOTO 9.

THIS WILL CONTINUE UNTIL IT HAS RUN HOURS.MINUTES
UNLESS IT IS INTERRUPTED BY OPERATOR OR HARD ERROR.

P.S. IF 7 TRACK TAPE AND EVEN PARITY THEN
<0> IN INPUT IS CONVERTED TO <1>.

CONST

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HEADTAT=      '<10>MAG.TAPE RELIABILITY.<10><0>',
EXSTART=      '<10>EXECUTION STARTED ',
EXCONT=       '<10>EXECUTION CONTINUED ',
EXSTOP=       '<10>EXECUTION STOPPED ',
ENDTXT=       '<10>TEST ENDED.<13><0>',
OUTLOGTXT=    '<10>OUTPUT LOG DEVICE,(TTY),(LPT),(CPT),(SP)? ',
ERSTATTXT=    '<10>STOP ON ERROR (YES), OR WAIT UNTIL STATISTIC (NO)? ',
TIMETXT=      '<10>TESTPERIOD, (HOURS.MINUTES)? ',
DENSXT=       '<10>TYPE THE DENSITY TO BE USED ( HIGH OR LOW )? ',
TRTXT=        '<10>7 OR 9 TRACK TAPE? ',
PARITYTXT=    '<10>TYPE THE PARITY TO BE USED ( EVEN OR ODD )? ',
BLOCKTXT=     '<10>NUMBER OF BLOCKS/FILE (MAX 20)? ',
SIZETXT=      '<10>BLOCKLENGTH (MAX. 2000)? ',
UNITTXT=      '<10>UNIT NO? ',
SELECTTXT=    '<10>AUTOMATIC DATA GENERATING (AUTO) OR SPECIAL DATA (SPEC)? ',
SPECDATATXT=  '<10>TYPE MAX 25 DATA BYTES (0-255 DECIMAL) TO STOP USE CR<13><0>',
DATA9TXT=     '0-255',
DATA7TXT=     '1-63 ',
BYTEDATATXT=  '<10>DATA BYTE NO ? ',
HELPTXT=      '<10>TO SEE THE COMMANDS TYPE HELP ELSE NL <0>',
COMTXT1=      '<10>COMMANDS:<13><0>',
COMTXT2=      '<10>INIT: INITIALIZE PARAMETERS.<13><0>',
COMTXT3=      '<10>START: REINITIALIZE COUNTERS AND STARTS EXECUTION.<13><0>',
COMTXT4=      '<10>STOP: STOPS EXECUTION LOGGING STATUS.<0>',
COMTXT5=      '<10>      THE ONLY COMMAND THAT HAS ANY EFFECT WHILE TEST IS RUNNING.<13><0>',
COMTXT6=      '<10>CONT: EXECUTION IS CONTINUED WHERE IT STOPPED.<13><0>',
COMTXT7=      '<10>RELEASE: TERMINATE AS IF TIME HAD GONE.<13><0>',
COMTXT8=      '<10>READY FOR COMMAND<13><0>',
ILCOM=        '<10>ILLEGAL COMMAND<13><0>',
DRIVTXT=      ' DRIVER MISSING<13><0>',
LOGERRORTXT=  ' LOG DEVICE ERROR: <0>',
NUL=          '<0><0><0><0><0><0>',
ENDLINE=      '<13><0>',
NEWLINE=      '<10><0>',
FF=           '<12><0>',
FFLFNUL=      '<12><10><0>',
PUNKTUM=      '<46>',
TABNAME=      'CLTAB<0>',
START=        'START',
STOP=         'STOP',
CONT=         'CONT',
INIT=         'INIT',
RELEASE=      'RELEASE',
HELPM=        'HELP',
TTY=          'TTY',
SP=           'SP',
LP=           'LP',
CP=           'CP',
AUTO=         'AUTO',
SPEC=         'SPEC',
YES=          'YES',
HIGH=         'HIGH',
LOW=          'LOW',
ODD=          'ODD',
EVEN=         'EVEN',
NINE=         '<57>',
NO=           'NO',

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ZERO= '48',
 SEVEN= '55',
 SKEWLENGTH= 162,
 SKEWSTART= 256,
 FALSE= 0,
 TRUE= 1,
 INITMASK= 8'177777,
 RUNMASK= 8'173777,
 EOF= 8'000400,
 PARITY= 8'000040,
 EOT= 8'000020,
 POSITION= 8'000010,

LOGHEAD= '10>*** MAG.TAPE RELIABILITY ***10><0>',
 STATTEST= '10>TEST STATISTICS:10>',
 STATSTART= '10>TEST STARTED ',
 STATEND= '10>TEST ENDED ',
 STATEFFECT= '10>EFFECTIVE TIME H M S10>',
 STATER= '10>ERROR STATISTICS:10>',
 LOGTRACK= '10>TRACK : ',
 LOGPARITY= '10>PARITY : ',
 LOGUNIT= '10>UNIT :10>',
 LOGDENSITY= '10>DENSITY : ',
 LOGWRITE= '10>WRITTEN : FILES',
 LOGREAD= '10>READ : FILES',
 LOGBLOCKED= '10>BLOCKS/FILE : ',
 LOGLENGTH= '10>BLOCKLENGTH : BYTES10>',
 LOGDAER= '10>DATA ERROR : ',
 LOGLEER= '10>LENGTH ERROR: ',
 LOGBABL= '10>BAD BLOCKS : ',

LOGERTXT= '10>ERROR NO : COUNT ',

STATUS= ! NOTE: EACH LINE IS 27 CHARACTERS !

'DISCONNECTED <10><0>
 OFF LINE <10><0>
 BUSY, UNIT IS REWINDING <10><0>
 NOISE RECORD <10><0>
 PE <10><0>
 WRITE LOCK <10><0>
 ILLEGAL, DEVICE RESERVED <10><0>
 EOF <10><0>
 BLOCK LENGTH ERROR <10><0>
 DATA LATE <10><0>
 PARITY ERROR <10><0>
 EOT <10><0>
 POSITION ERROR <10><0>
 BIT 15, SHOULD NOT APPEAR<10><0>
 TIGER <10><0>
 BIT 15, SHOULD NOT APPEAR<10><0>',
 NOERROR= '10>NO STATUS BITS OCCURRED.',

WRITERANDOM= 1,
 WRITESKEW= 2,
 WRITESPEC= 3,
 POSITIONING= 4,
 READRANDOM= 5,
 READSKEW= 6,
 READSPEC= 7,
 BACKSPACETM= 8,

CURSTATUSTXT= ! NOTE EACH LINE IS 13 CHARACTERS !

'WRITE RANDOM
WRITE SKEW
WRITE SPECIAL
POSITIONING
READ RANDOM
READ SKEW
READ SPECIAL
BACKSPACE TM ',

ERRORTXT= ! NOTE EACH LINE IS 19 CHARACTERS !

'<10>LENGTH ERROR
<10>DATA ERROR
<10>EOF STATUS MISSING
<10>POSITION ERROR
<10>PARITY ERROR ',

ERLINE1='<10>UNIT:	-TRACK	PARITY:	FILE:	BLOCK:	'
ERLINE2=	'GOOD: 8<39>	BAD: 8<39>	CHARACTERNO: '		
ERLINE3='<10>BACKSPACE OVER TAPEMARK ERROR:			READ BLOCK:		;

11252 BYTES

78.02.22

REQUIREMENTS:
(LE-TIME)

CODEPROCEDURE P0001 (TIME)	RCSL: 43-GL182
CODEPROCEDURE P0023 (DELAY)	RCSL: 43-GL1409
CODEPROCEDURE P0061 (RANDOM)	RCSL: 43-GL2763
CODEPROCEDURE CHANGETABLE	RCSL: 43-GL1519

FORMATION:

THIS PROGRAM ACTS IN THE FOLLOWING WAY:
AFTER ALL PARAMETERS HAS BEEN INITIALIZED AND A START
COMMAND HAS BEEN GIVEN THE PROGRAM STARTS WRITING
AND READING FROM THE MAGNETIC TAPE UNIT (FOR MORE
DETAILED DESCRIPTION SEE SPECIFICATION PAGE 05).
IF STATUS ERRORS OCCURS THEY ARE ACCUMULATED. IF ERRORS
IN THE DATA OCCURS THEY ARE LOGGED IMMEDIATELY. WHEN THE
PROGRAM HAS BEEN RUNNING FOR SPECIFIED TIME OR A HARD
ERROR OCCURS, THE PROGRAM IS STOPPED, AND A STATISTIC
IS LOGGED ON THE SELECTED LOG-DEVICE.

OR THE PROGRAM:

INTERPRETER, DRIVER FOR THE SELECTED LOG-DEVICE,
(CONVERSION TABLE IF LOG DEVICE IS PRINTER),
THE PROGRAM TIME AND LATEST VERSION OF MAG. TAPE DRIVER
(FOR UNIT D MT006).