

List of error codes for EPL-2 *

* This is only an extract from the complete listing

PC Error listing from NEF

The following messages (M), faults (F) and warnings (W) are defined:

No.	(MFW)	Decoded text	0427	F	Input: T-Function not acceptable
0400	F	Hydraulic: No system pressure	0430	F	Chuck: Incorrect chucking path control
0401	F	Lubrication: Permanent pressure	0431	M	Chuck: Not clamped
0402	F	Lubrication: No pressure	0437	F	Chuck: Command not acceptable
0403	F	Gearing: Position not defined	0451	M	Tailstock: Not clamped and not in end position
0404	F	Gearing: Selected stage not reached	0457	F	Tailstock: Command not acceptable
0405	F	Feed drives: Not operational	0480	F	Combined control element: Faulty fuses
0410	F	Parameter "Tool support combination": Value inadmissible	0481	F	Hydraulic: Pump or filter fault
0411	F	Parameter „Chuck/Chucking mode“: Value inadmissible	0482	F	Lubrication: Pump fault
0412	F	Parameter „Chuck stroke limitation“: Value inadmissible	0483	F	Coolant: Pump fault
0413	F	Input: M-Function inadmissible due to machine status	0484	F	Turret: Drive fault
0414	M	Turret: No release	0485	F	Chip transporter: Drive fault
0415	M	Tool setting operation: Operating mode automatic not acceptable	0486	F	Protection hood: Safety circuit fault
0416	M	Tool setting operation: Selection only in manual control + open hood	0487	F	Main drive: Rotational speed monitoring
0417	F	Input: M-Function not defined	0490	F	Machine: Fault
0420	F	Turret: Not locked in position	0492	W	Hydraulic: Warning filter blocked
0421	F	Turret: Incorrect preindexing	0493	W	Chip transporter: Warning drive fault
0426	F	Turret: Selected position not reached	0495	W	Machine: Warning
			0497	F	Main drive: Not operational
			0501	M	Chuck: In jaw change position
			0650		Machine matching texts ident. no.: xxxxxx
					Date: xx.xx.xx

Operator fault editor

1401	Too many programs active User list fully occupied	1414	No memory capacity available Entry not possible
1402	Program does not exist User does not exist	1415	No block No. free All possible block nos. occupied
1403	No memory capacity available NC part program store fully utilised	1416	Non valid sign in program memory Check total fault
1404	Access to program blocked Read access on written program	1417	Commentary block deleted
1405	Program access blocked Duplication not possible	1424	Program with same no.
1406	Program index full	1425	Search word not found
1407	Program not opened	1427	Block No. too large
1408	Program not available Program No. not found in memory	1451	Block No. already available
1409	Block not available Block No. not found	1452	Block No. not available
1410	Program access blocked Write access on read program	1453	No programm operation mode selected
1413	Non valid sign in program memory Block structure faulty	1454	No NC word selected for word operation
		1455	Non valid program No. format
		1456	Non valid block operation
		1457	Non compatible measuring system
		1459	Edit blocked

Operator fault editor 2

1700	Project date not available	1705	Parameter of function already available
1701	Length of block exceeded	1706	Same function found in function list
1702	Project date not available Project date faulty	1707	Function with same parameter list
1703	Same function found in list of letters	1708	Function with same parameter
1704	Same function found without parameter	1709	Too many NC functions

Parameter errors

3159	Parameters checksum error	3220	Parameter input blocked
3160	Parameter value invalid	3236	Entered value too large
3161	Serial interface currently occupied	3237	Entered value too small
3201	No value selected	3250	Key not allowed here
3210	Unknown parameter line		

Memory extension errors

3301	Too many programs active	3311	Software error
3302	User does not exist	3312	Unauthorized access
3303	No memory available	3313	Line structure error
3304	Reading access to write-only program	3314	Insert not possible
3305	Multiple writing not possible	3315	No more line numbers available
3306	Program index full	3316	Checksum error in program memory
3307	Program not opened	3318	NC line too long
3308	Program does not exist	3319	Too many lines
3309	Line does not exist	3322	Control character missing in program memory
3310	Writing access not possible	3323	False control character in program memory

Interpreter errors

5300	No line number digits available	5315	Subroutines nested too deep
5301	No line start character or jump destination	5316	Thread programmed with minutes feed
5302	Unknown NC word	5317	No T word programmed
5303	Compensation number > 99	5318	Access to tool file with T00
5304	Impermissible tool position number	5319	Unknown G function
5305	G number > 99	5320	Q value greater than 32768
5306	M number > 99	5321	Impermissible tool file number
5307	Too many G words in line	5322	Impermissible tool number
5308	Too many M words in line	5323	Variables programming option not available
5309	Too many subroutine calls in line	5324	End of text character missing
5310	No subroutine number given	5325	Contour cycle function missing
5311	Subroutine number too long	5326	Tool service life expired
5312	No valid NC word contents	5327	Tool file number impermissible for service life
5313	Not 1 or 3 jump destinations given	5328	Synchronous function in subroutine
5314	Unknown NC word in line	5329	NC line number is too long

Interpreter errors

5501	No memory available; User list full	5513	Invalid characters in program memory; Line structure error
5502	Program not available; User does not exist	5515	No line number available; all line numbers occupied
5503	No memory available; NC program memory full	5516	Invalid characters in program memory; checksum error
5504	Program access blocked; Read access to write-only program	5527	Line number too large
5505	Program access blocked; Multiple writing not possible	5555	No memory available Insert not possible
5506	No memory available; Program index full	5559	Subroutine cannot be terminated (NASATZ)
5507	No memory available; Program not opened	5560	Main program cannot be terminated (NASATZ)
5508	Program not available; Program number not found in program memory	5561	Geo FIFO full or error in INNABE (INVOHI)
5509	Line not available; Line number not found	5562	Contents of first line faulty (INNABE)
5510	Program access blocked; Writing access to read-only program	5563	NC line has more than 255 characters
5511	Invalid characters in program memory; Software error	5564	False response from interpreter
5512	Program access blocked; Unauthorized access	5599	Option variable programming not available

Geometric and Cycle

- | | | | |
|------|--|------|---|
| 5601 | Transition same straight line/same circle | 5684 | Circle: Distance from starting point to centre point not equal to distance from centre point to end point |
| 5602 | Transition straight line — straight line: no intersection point | 5685 | Straight line: angle does not fit; proceeding from start point at given angle will not reach end point |
| 5603 | Transition straight line — circle: no intersection point | 5686 | Element has length zero; paths of length zero not allowed within geometry calculation or CRC |
| 5604 | Transition circle — straight line: no intersection point | 5687 | False position of calculated point; geometry was able to calculate point, but point is far away from previous and subsequent points |
| 5605 | transition circle — circle: no intersection point | 5697 | Invalid tool data |
| 5606 | Curve cannot be determined | 5724 | Drill too short |
| 5607 | Bevel only allowed between straight lines | 5725 | Safety clearance missing or too small |
| 5608 | End of main program within contour or CRC. Insert G40 before end of program | 5726 | Speed too low |
| 5609 | Cutting edge radius equal to circle radius | 5727 | Speed or feed faulty |
| 5610 | Radius is zero or negative; the radius of a circle must be positive | 5728 | Value for Q is too small |
| 5611 | Bevel or curve in simple paths only | 5729 | Value for I missing; } curve radius or bevel width |
| 5612 | No difference in X | 5730 | Value for K missing } unknown |
| 5613 | No difference in Z | 5731 | Diameter not in table |
| 5620 | Unknown G function | 5732 | Tool cutting edge in I or K equal to zero; Control system requires I and K of tool to recognize direction or cutting edge radius |
| 5625 | Circles too far apart, no intersection | 5733 | False tool type |
| 5626 | Small circle within large circle, no intersection | 5734 | False tool change point position |
| 5627 | Three-circle problem unsolvable | 5735 | No free M function |
| 5628 | Bevel/curve longer than paths involved | 5736 | Recess width too small for recess depth |
| 5629 | Tangential transition not possible | 5737 | No thread depth or too small |
| 5630 | Contour undetermined; enter further values | 5738 | Recess width too small |
| 5631 | Contour undetermined; enter further values | 5739 | Bevel depth greater than recess depth |
| 5635 | Geometry could not calculate radius | 5740 | False starting point position |
| 5641 | Contour has too many elements; only a certain No. of lines allowed between call and end of cycle | 5741 | No feed amount or too small |
| 5642 | Contour has less than 2 points; no traverse path between call and end of cycle | 5742 | Unknown cycle starting point |
| 5644 | Thread depth missing or too small; increase value for P | 5743 | G function not allowed when CRC is active |
| 5645 | Too many lines without traverse path within contour | 5744 | Option not available |
| 5647 | Recess width smaller than cutting edge width + overmeasure; tool is wider than recess minus overmeasure | 5745 | Position in X or Z unclear |
| 5650 | False starting point position | 5847 | No CRC possible for this tool type |
| 5652 | No feed amount or too small; this amount of feed would require over 30 000 approaches | 5848 | Reverse in direction with CRC activated |
| 5654 | Cut does not touch contour | 5849 | No paths of length zero may be programmed for CRC |
| 5655 | Starting point for incremental data unknown; control system cannot convert incremental to absolute data here | 5885 | Approach dimension missing |
| 5656 | Cycle starting point unknown | 5886 | Start point too close to contour |
| 5657 | Unexpected cycle end | 5887 | False position of start point |
| 5664 | Bevel depth greater than recess depth | 5888 | Cycle contour contains impermissible G function |
| 5665 | Geometry card not ready | 5889 | Cycle requires contour with CRC |
| 5674 | Equidistant calculation error | 5890 | Recess width too small |
| 5675 | e.g. false CRC function, false position of | 5891 | Tool cutting edge in I and K equal to zero |
| 5676 | X-axis, false sign I, K tool | 5892 | Contour has several valleys |
| 5679 | G function not allowed when CRC is active | 5893 | Remaining material not machined due to tool geometry |
| 5680 | Overmeasure (G58) too large | 5894 | Circle: end point not reached |
| 5681 | Element before CRC is not a straight line | 5895 | Approach movement hits contour unexpectedly |
| 5682 | Element after CRC is not a straight line | 5896 | Remaining material not machined due to tool geometry |
| 5683 | Cutting edge radius greater than circle radius; could be caused by G41/42 rather than G41 | 5897 | Cutting edge does not fit start point and contour start |
| | | 5898 | False tool type |
| | | 5899 | False plan approach angle |

G-Functions *

Function	Explanation
G0	Rapid traverse (1)
G1	Linear (1)
G2	Circle CW (2), clockwise
G3	Circle CCW (2), counter-clockwise
G4	Dwell time (2, 4)
G9	Precision stop (2, 4)
G12	Circle CW (2) clockwise, centre point absolute
G13	Circle CCW (2), Counter-clockwise, Centre point absolute
G14	Approach, tool change, point TCP
G26	Programmable speed limit
G31	Longitudinal and taper threads (2, 3)
G32	Thread on the face and taper
G33	Special thread (1)
G35	Metric ISO thread
G40	NCR off (1, 3, 5)
G41	NCR left (1, 3)
G42	NCR right (1, 3)
G51	Programmable overmeasure (1, 3)
G53	Datum offset 1 (1, 3)
G54	Datum offset 2 (1, 3)
G55	Datum offset 3 (1, 3)
G56	Datum offset 4 (1, 3)
G57	Overmeasure G81/82/83 (1, 3)
G58	General overmeasure
G59	Programmed (1, 3) datum offset protective zone ineffective
G60	Drilling cycle
G74	Hole circle, Head face (for driven tools)
G77	Hole circle, Cylindrical face (for driven tools)
G78	Keyway cutting (for driven tools)
G79	Cycle end
G80	Longitudinal cycle (2, 3)
G81	Cutting cycle longitudinal
G818	Contour cycle longitudinal (for falling contour)
G82	Face cycle (2, 3)
G828	Cutting cycle
G829	Contour cycle cross (for falling contour)

Function	Explanation
G83	Contour cycle (1, 3)
G836	Cutting cycle contour
G85	Undercut cycle (2, 3) Form E/F, thread
G86	Recess cycle (2, 3)
G861	Recess cycle longitudinal
G862	Recess cycle cross
G87	Radius cycle 90° (2, 3)
G88	Chamfer cycle 45° (2, 3)
G90	Absolute (1, 3, 5)
G91	Incremental (1, 3)
G92	Tool data (1, 3)
G94	Feed mm/min (inches/min)
G95	Feed mm/rev (1, 3) (inches/rev)
G96	Surface speed V-constant (1, 2) m/min
G97	Constant speed (1, 3) rev/min

* This is an extract from all G-functions in the programming manual EPL-2

** numbers in brackets symbolise effectiveness

- 1 effective when stored
- 2 effective for individual line
- 3 effective immediately
- 4 effective later
- 5 effective upon switching on

M-Functions *

Function	Explanation
M0	Program stop
M1	Optional stop
M3	Spindle CW, clockwise (viewed from operating area towards spindle)
M4	Spindle CCW, counter-clockwise (viewed from operation area towards spindle)
M5	Spindle off
M7	Cooling agent on in front of turning centre
M8	Cooling agent on behind turning centre
M9	Cooling agent off
M19	Spindle halt in defined end position Point standstill degrees
M20	Tailstock forward (Quill)
M21	Tailstock return (Quill)
M22	Unclamp chuck
M23	Clamp chuck
M25	Open steady 1
M26	Close steady 1
M27	Open steady 2
M28	Close steady 2
M30	End of program/End of sub-program/ return to N0
M41	Gear range 1
M42	Gear range 2
M43	Gear range 3
M44	Gear range 4
M74	Part catcher home position (off)
M75	Part catcher out ON
M91	End of program without M05
M99	End of program with auto re start

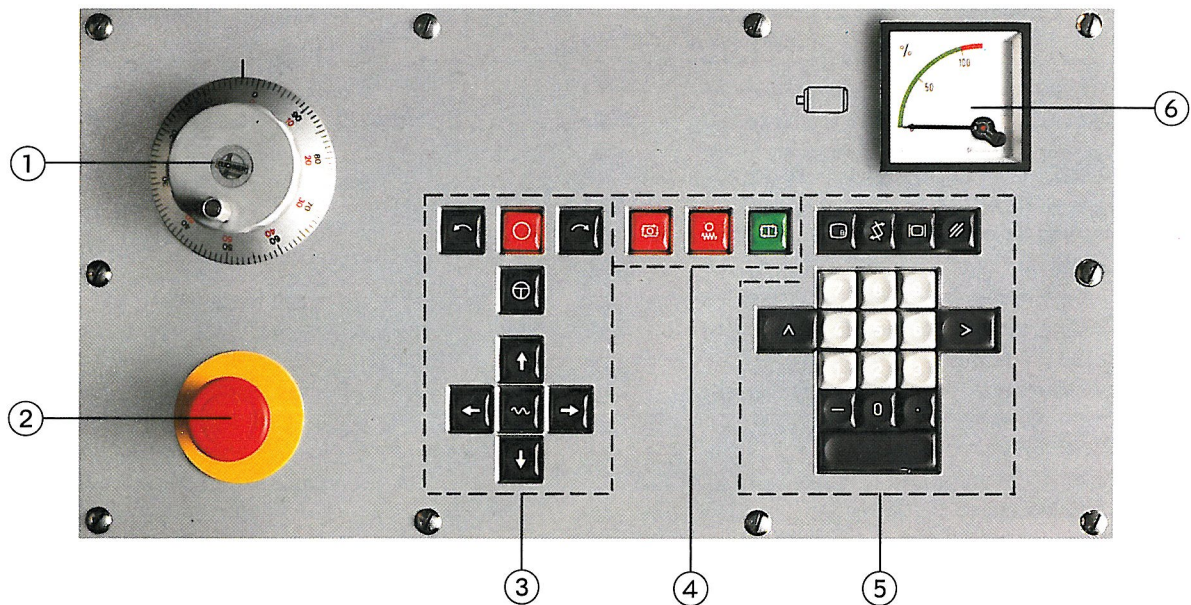
* This is an extract from all M-functions in the programming manual EPL-2

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* This is an extract from all M-functions in the programming manual EPL-2

Operating elements of the control system



① **Handwheel**

② **Emg.-off**

③

Spindle direction clockwise (to DIN)

The symbol on the key indicates the turning direction from the operator's viewpoint.

Spindle stop

Spindle direction counter-clockwise (to DIN)

The symbol on the key indicates the turning direction from the operator's viewpoint.

Spindle jog

The spindle turns at minimum speed as long as this key is pressed.

Manual direction key (cross)

Slide moves in direction X+.

Manual direction key (cross)

Slide moves in direction X-.

Manual direction key (longitudinal)

Slide moves in direction Z+.

Manual direction key (longitudinal)

Slide moves in direction Z-.

Rapid traverse

This key can be actuated simultaneously with either one or two manual direction keys. While the given key combination is being pressed, the slides move at the maximum speed determined by the stored parameters.

Both slides will run (45°) when one cross and one longitudinal manual direction key are both pressed simultaneously.

④



Cycle start



Cycle stop



Feed stop

Operating elements of the control system

⑤



Operating modes key

This key is used to return directly to the operating modes menu from any other menu level.



No significance at present

Switch over slide (4 axle machines only): all inputs refer automatically to slide I when the control system is switched on.



Graphics simulation



Delete key

To delete inputs and error messages in the error line.



Return to next higher menu level

If you are in the main menu level, this key will have no effect. The basic menu cannot be accessed using this key. For basic menu: operating modes key.



Switch to subsequent menu on same level

The existence of a subsequent menu is indicated by > on the screen, the end of the menu range by <.



10-number keypad

For entering digits and softkey functions depending on display (see also section 2).



Confirmation key

This key must be pressed after every input.

⑥

Main drive load

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