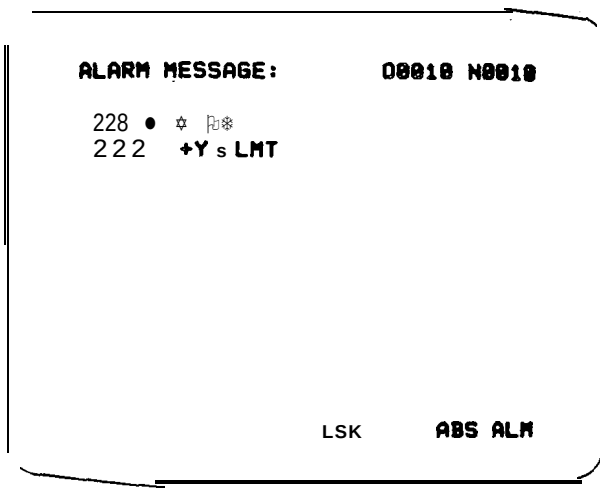
NC TURRET PUNCH PRESS
OPERATOR'S MANUAL

ALARM MESSAGES

When an error occurs, machine operation stops and ALARM MESSAGE is automatically displayed on the CRT and the ALM blinks. To restart the machine operation, see OPERATION INTERRUPTS on page 4-8.



ALARM MESSAGE CLASSIFICATION

Alarm No.	Category,
000- 198..	Program and operation errors
210 — 241	Over-travel
400 — 446..	Errors in servo system
600 — 607	Faulty PC boards, cables, etc.
700 — 703..	Control system and motor overheat
900 — 999	Memory errors
1000 — 1999..	Other errors

No.	Meaning
000	A parameter requires that the power to the NC unit be turned off once. Turn off the power to the NC unit, then turn it on again.
001	TH error. Number of holes is not proper. Correct the program tape.
002	TV error. The number of characters in one block is an odd number. This error occurs only when the TV check is ON. Set the TV CHECK bit of the SETTING DATA to 0, using the same method as that for switching between INCH and METRIC.
003	Data consisting of more than the allowable number of digits is entered.
004	The block begins with a number, a minus sign, or a decimal point before the address character.
005	The address is not followed by a number. It is followed directly by the next address, or ";" (EOB).
006	The minus sign is entered incorrectly. It is used in the address which prohibits it, or two minus signs are used.
007	The decimal point is entered incorrectly. The decimal point is used in the address which prohibits it, or two or more decimal points are used.
008	The TAPE READER switch is not in AUTO (without reel), or not in REEL, ON, or OFF (with reel).
009	Prohibited address characters are input.
010	A prohibited G code is used.
011	The feedrate is not entered, or it is entered improperly.
017	Movement of the C-axis is attempted on the machine not equipped with the AUTO-INDEX device.
022	In the command for arc cutting, the radius R is- specified without the. radius_ R specifying option.
023	In the command for arc cutting, zero is specified as the value of radius R.

No;	Meaning
029	An offset value consisting of more than six digits is input.
030	The offset value instructed by the D code for tool compensation is too large.
031	In the program input for offset value, the value of P specifying the offset value is too large, or P is not entered.
032	In the program input for offset value, the offset value instructed by R is too large.
033	The point of intersection is unobtainable in the intersection point calculation for tool diameter compensation.
034	In tool diameter compensation, start-up or cancellation is attempted during the G02/G03 mode.
038	In tool diameter compensation, excessive cut may occur at the beginning or the end of an arc because the compensated radius is zero.
041	In tool diameter compensation, excessive cutting may occur.
048	After turning on the power or after emergency stop, axis 'movement is instructed without returning the axes to their origins.
059	In the work number search function, the specified program number is not found. (External Work Number Selecting "A" function)
060	In the sequence number search function, the specified sequence number is not found.
070	The data input exceeds the memory capacity.
071	The address data to be searched is not found.
072	The number of registered programs exceeds the maximum value.
073	The program number to be registered already exists in memory.
074	The program number is not within the range.of 1 to 8999.
075	Neither program number nor sequence number is contained in the block at the beginning of program.

No.	Meaning
077	The subprogram is called in threefold.
079	The stored program does not coincide with the contents of the tape. (Program collation)
085	In inputting data with the RS232C interface, the number of bits in the input data or the baud rate is incorrect.
086	In inputting or outputting data with the RS232C interface, transmission failure or I/O unit failure occurred.
087	In inputting data with the RS232C interface, data consisting of more than 10 characters is entered after sending DC3 (tape reader stop code).
0 9 0	In returning to the reference point, the single rotation signal from the position coder is not detected, so return to the reference point cannot be performed correctly;
081	In returning to the reference point, the speed is too low, and no synchronization is attained between the single rotation signal from the position coder and the reference counter. Therefore, return to the reference point cannot be performed correctly.
100	The parameter write switch is turned to ENABLE. Turn the switch to DISENABLE and push the RESET button.
101	The power is turned off while rewriting the memory in the EDIT mode. The memory area must be cleared by turning on the power with the DE LET and RESET buttons pushed.
110	The absolute value of the data in the fixed-point representation system exceeds the allowable range.
111	The exponent of the data in the floating-point representation system exceeds the allowable range.
112	The divisor is 0.
113	Prohibited function is used in the User Macro ,A.
114	The format outside the < expression > contains an error.

No.	Meaning
115	A value that is not defined as a variable number is used.
116	An assignment-inhibited variable is used on the left side of the assignment statement.
118	The degree of nesting of brackets exceeds the limit (5).
119	The argument of SQRT is a negative value. Or, the argument of BCD is a negative value, or a value of other than 0 to 9 is cbntained.in each digit.
122	The macro call multiplicity exceeds the allowable range (1 to 4).
123	The macro control command is used in the TAPE mode.
124	The DO and END statements are not used correctly.
125	The format of < expression > contains an error.
126	In the DO n, the value of n is not within the range $1 \leqq n \leqq 3$.
127	The NC command and macro command are intermixed.
128	In the GOT0 n, the value of n is not within the range $0 \leqq n \leqq 9999$.
129	A prohibited address is used in < argument definition >.
130	In the External Data Input, the data in the Large Section contains an error.
131	In the External Alarm Message, more than five errors occurred.
132	In clearing the External Alarm Message, the corresponding alarm number is unavailable.
133	In the External Alarm Message and External Operator Message, the data in the Small Section contains an error.
142	In the G94 command (OFS-II), the value of P, K, or Q is not specified.
143	A T code or C code is instructed during linear interpolation (G01) or circular interpolation (G02, G03).
144	A T code or M code is instructed in the nibbling command (between Ml2 and M13).
146	An illegal T code is instructed.

No.	Meaning
147	The incremental value of X-axis and Y-axis movement in the nibbling operation is greater than the specification.
148	The incremental value of C-axis movement in the nibbling operation is greater than the specification.
150	In the G26 command (BHC), no value is specified for I, J, or K. In the G26 command, the value of I is zero or negative, or the value of K is zero.
151	In the G28 command (LAA), no value is specified for I, J, or K. In the G28 command, the value of K is zero or negative.
152	In the G29 command (ARC), no value is specified for I, J, P, or K. In the G29 command, the value of I is zeor or negative, or the value of K is zero or negative.
153	In the G36 command (GRD-X) or G37 command (GRD-Y), no value is specified for I, J, P, or K. In the G36 command or G37 command, the value of P or K is zero or negative.
154	In the G66 command (SHP), no value is specified for I, J, or P. In the G66 command, the value of P or Q is zero, or the value of I is less than 1.5 times as large as that of P.
155	In the G67 command (SQR), no value is specified for I, J, or P. In the G67 command, the value of P is zero or negative, or the value. of I or J is less than 3 times as large as that of P.
156	In the G68 command (NBL-A), no value is specified for I, J, K, P, or Q. In the G68 command, the value of Q is zero or negative, or the value of Q exceeds the specified range. In the G68 command, the value of I is zero or negative.
157	In the G69 command (NBL-L), no value is specified for I, J, P, or Q. In the G69 command, the value of Q is zero or negative, or the value of Q exceeds the specified range.
158	In the G78 command (PNC-A), no value is specified for I, J, K, P, Q or D. In the G78 command, the value of Q is zero or negative, or the value of Q is less than the value of D. In the G78 command, the value of I is zero or negative.

No.	Meaning.
159	In the G79 command (PNC-L), no value is specified for I, J, P, Q, or D. In the G79 command, the value of Q is zero or negative, or the value of Q is less than the value of D. In the G79 command, the value of D is zero or negative.
160	X-axis movement instruction exceeds its travel end [positive (+) direction].
161	X-axis movement instruction exceeds its travel end [negative (—) direction] .
162	Y-axis movement instruction exceeds its travel end [positive (+) direction].
163	Y-axis movement instruction exceeds its travel end [negative (—) direction] .
164	In the G10 command (Unloading), no value is specified for X.
165	In the G59 command (Milling-Line), no value is specified-for I, J, P, or F.
166	In the G58 command (Milling-Arc), no value is specified for I, J, K, P, or F.
170	Programs.with numbers 09000 to 09899 are to be edited.
184	The Pattern Memory/Recall number is other than 1 to 5.
185	An attempt is made to input another macro where one macro is already stored. Although a macro is not being input, the V code is instructed. There is no correlation between macro numbers U and V.
186	Illegal macro number is used.
187	An attempt is made to store macros exceeding the memory capacity.
188	A macro not stored in the memory is called.
189	Macros are called more than three-fold. In storing the 90-series macros, an attempt is made to store more than 15 macros.
190	In the G75 command (Multiple Punching Execution-X) or G76 command (Multiple Punching Execution-Y), no value is specified for W or Q.
191	In the G75 or G76 block, the value of Q is wrong.

No.	Meaning
192	Macro data called by the G75 or G76 block is not in memory.
193	G75 or G76 is instructed when the Multiple Part Punching Program Setting is 0 (See page 4–27).
194	G75 or G76 is instructed between the Uo and Vo commands.
196	G75 is instructed although PO is specified in the G98 block. G76 is instructed although KO is specified in the G98 block.
197	The value of Q in the G76 block is neither 1 nor 3, although PO is specified in the G98 block. The value of Q in the G75 block is neither 1 nor 2, although KO is specified in the G98 block.
198	The value of Q or W is not specified in the G73 block.
199	In the G73 command, a macro number riot in memory is called.

OVERTRAVEL

No.	Meaning
210	The positive (+) X-axis limit switch is actuated. See the OT RELEASE BUTTON in Section 3.
211	The negative (—) X-axis limit switch is actuated. See the OT RELEASE BUTTON in Section 3.
212	In the MANUAL mode, the X-axis exceeds its travel-end [positive (+) direction] . To resume the machine operation, move the X-axis away from its travel end, then push RESET button.
213	In the MANUAL mode, the X-axis exceeds its travel end [negative (-) direction] . To resume the machine operation, move the X-axis away from its travel end, then push RESET button.
214	The X-axis movement in the positive (+) direction violated the inhibited area of the stored stroke limit 2.
215	The X-axis movement in the negative (—) direction violated the inhibited area of the stored stroke limit 2.
220	The positive (+) Y-axis limit switch is actuated. See the OT RELASE BUTTON in Section 3.
221	The negative (—) Y-axis limit switch is actuated. See the OT RELEASE BUTTON in Section 3.
222	In the MANUAL mode, the Y-axis exceeds its travel end [positive (+) directionl . To resume the machine operation, move the Y-axis away from its travel end, then push RESET button.
223	In the MANUAL mode, the Y-axis exceeds its travel end [negative (-) directionl . To resume the machine operation, move the Y-axis away from its travel end, then push RESET button.
224	The Y-axis movement in the positive (+) direction violated the inhibited area of the stored stroke limit 2.
225	The Y-axis movement in the negative (—) direction violated the inhibited area of the stored stroke limit 2.

No.	Meaning
240	The stroke limit switch on the positive (+) side of the additional axis is actuated.
241	The stroke limit switch on the negative (–) side of the additional axis is actuated.

ERRORS IN SERVO SYSTEM

No.	Meaning
400	Overload in X-, Y-, or T-axis.
401	The-READY signal (VRDY) for velocity control of X-, Y-, or T-axis is off.
402	Overload in the additional axis.
403	The READY signal (VRDY) for velocity control of the additional axis is off.
404	Although the READY signal (PRDY) for positional control is off, the READY signal (VRDY) for velocity control is not off. When turning on the power, the READY signal (PRDY) is not yet on, but the READY signal (VRDY) for velocity control is on.
405	Correct return to the origin failed due to an error in the NC system or in the servo system.
410	In the X-axis, the positional deviation after stopping is greater than the preset limit.
411	In the X-axis, the positional deviation during movement is greater than the preset limit.
412	The X-axis drift exceeds 500VEL0.
413	The positional deviation of the X-axis is in excess of ±32767, or the speed command from the DA converter is out of the range of +8191 to -8192. This error is generally caused by a parameter setting error.
414	The X-axis position detecting system of the resolver or inductosyn is faulty.
4 3 5	In the X-axis, a speed greater than 511875 units/sec is instructed. This error is caused by a mistake in CM R parameter setting.
416	The X-axis pulse coder position detecting system is faulty. (Disconnect error)
420	In the Y-axis, the positional deviation after stopping is greater than the preset limit.

No.	Meaning
421	In the Y-axis, the positional deviation during movement is greater than the preset limit.
422	The Y-axis drift exceeds 500VE LO.-
423	The positional deviation of the Y-axis is greater than ±32627, or the speed command from the DA converter is out of the range of +8191 to -8192: This error is usually caused by a parameter setting error.
424	The Y-axis position detecting system of the resolver-or inductosyn is faulty.
425	In the Y-axis, a speed greater than 511875 units/sec is instructed. This error is caused by a mistake in CMR parameter setting.
426	The Y-axis pulse coder position detecting system is faulty. (Disconnect error)
430	In the T-axis, the positional deviation after stopping is greater than the preset limit;
431	In the T-axis, the positional deviation during movement is greater than the preset limit.
432	The T-axis drift exceeds 500VEL0.
433	The positional deviation of the T-ax/s is in excess of ±32627, or the speed command from the DA converter is out of the range of +8191 to -8192. This error is usually caused by a parameter setting error.
434	The T-axis position detecting system of the resolver or inductosyn in faulty.
435	In the T-axis, a speed greater than 511875 units/sec is instructed. This error is caused by a mistake in CMR parameter setting.
436	The T-axis pulse coder position detecting system is faulty. (Disconnect error)
440	In the additional axis, the positional deviation after stopping is greater than the preset limit.
441	In the additional axis, the positional deviation during movement is greater than the preset limit.

No.	Meaning
442	The drift of the additional axis exceeds 500VEL0.
443	The positional deviation of the additional axis is in excess of ±32627, or the speed command from the DA converter is out of the range of.+8191 to -8192. This error is generally caused by a parameter setting error.
444	The position detecting system of the resolver or inductosyn of the additional axis is faulty.
445	In the additional axis, a speed greater than 51.1875 units/sec is instructed. This error is-caused by a mistake in CMR parameter setting.
446	The additional axis pulse coder position detecting system is faulty. (Disconnect error)

FAULTY PC BOARDS, CABLES, ETC.

No.	Meaning
600	The data is transferred erroneously from the connection unit or-PC model C.
601	Slave ready is off.
602	The PC program is not loaded.
603	Faulty communication between NC and PC.
604	Faulty MPU on PC model B.
605	System error- in MPU on PC model B (Watch Dog, Timer alarm).
606	RAM/ROM parity error in MPU on PC model B.
607	Faulty data transfer on the MDI and CRT unit.

CONTROL SYSTEM AND MOTOR OVERHEAT

No.	Meaning
700	Master PCB overheat.
701	The additional axis PCB overheat.
702	The X-, Y- or T-axis DC motor overheat.
703	The additional axis DC motor overheat.

MEMORY ERRORS

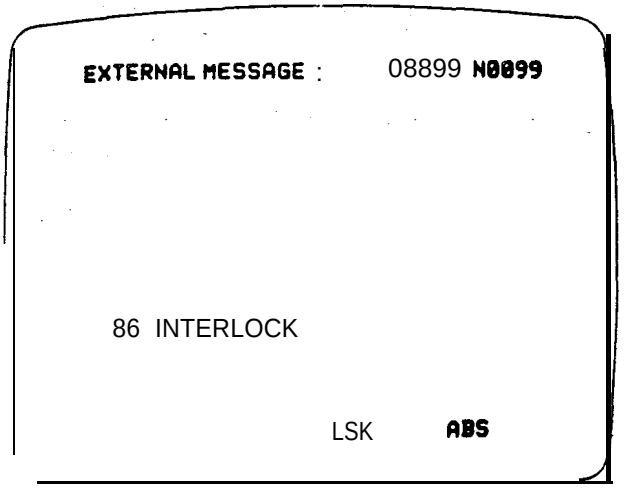
No.	Meaning
900	Bubble memory error (Erroneous input signal)
901	Bubble memory error (No Marker error in initializing bubble memory)
902	Bubble memory error (Page Size Error, Undefind Commands)
903	Bubble memory error (Transfer Missing)
904	Bubble memory error (Parity Error).
905	Bubble memory error (No Marker)
906	Bubble memory error (Many Defect Loops)
910	RAM parity error (Low Byte)
911	RAM parity error (High Byte)
920	System error (Watch Dog Timer alarm)
930	CPU error (0, 3, 4 Type Interrupt)
997	Parity error (PC ROM)
998	Parity error (Basic ROM)
999	ROM pair error (High/Low misalignment)

OTHER ERRORS

No.	Message	Meaning
1000	INDEX TOOL NOT SELECTED	C-axis movement is commanded but auto-index station is not specified.
1001	INDEX ALARM [1]	Auto-index clamp or brake signal is improper for specified turret movement.
1002	INDEX ALARM [2]	Auto-index station has been specified but C-axis is not at its origin.
1003	INDEX ALARM [3]	Turret movement is commanded in MANUAL mode after C-axis. has already been set to zero degrees in MDI mode.
1004	'T AXIS NOT RETRACTED	C-axis has already been returned to its origin before returning turret to its origin.

NC STATUS DISPLAY

The condition of the NC unit can be checked by pushing the ALARM button twice. An image similar to that shown in the figure below will appear.



The NC status number followed by a message is displayed.

The table on the next page lists NC status numbers, their corresponding messages, and their meanings.