# SECTION 6   DISPLAY ON NC OPERATION PANEL

This section describes the contents of NC STATUS lamps on the NC operation panel, contents of the information displayed on the operation mode screen, and the information displayed on the special screen such as NC HOUR METER screen.

1.   Status Indicating Lamps

On the NC operation panel, the following six NC status indicating lamps are arranged, and the current NC operating status can be confirmed from the lamp which is lit.

| RUN | S. T. M | SLIDE HOLD | PROGRAM STOP | LIMIT | ALARM |

Lamp Name	Function
RUN	This lamp lights when NC is computing the axis position.
S.T.M	This lamp lights while the NC is executing the processing for the S (spindle function), T (tool function), and/or M (miscellaneous function) command.
SLIDE HOLD	This lamp lights when the SLIDE HOLD switch on the machine operation panel is pressed.
PROGRAM STOP	This lamp lights when the NC is in the program stop or the optional stop status. It flickers while the dwell command is being executed.
LIMIT	This lamp lights if the calculated axis position is on or beyond the soft-limit position.
ALARM	This lamp lights when an alarm comes on. This lamp does not light when a warning message comes from an operation mistake.

2.   Actual Position Display

When function key [F2] (ACTUAL POSIT.) is pressed in the operation mode, the actual position data screen is displayed.

The actual position data is displayed in the following three absolute position data display modes and also in the relative position data display mode. The display screens can be changed by using the page keys.

2-1.   Actual Position Display

For page [1] of actual position data display, two display modes are provided, double extension mode and four-fold extension mode. Which of the display mode should be used can be set using NC optional parameter (bit) No. 4, bit 6.

(1)   Page [1] (Double Extension)
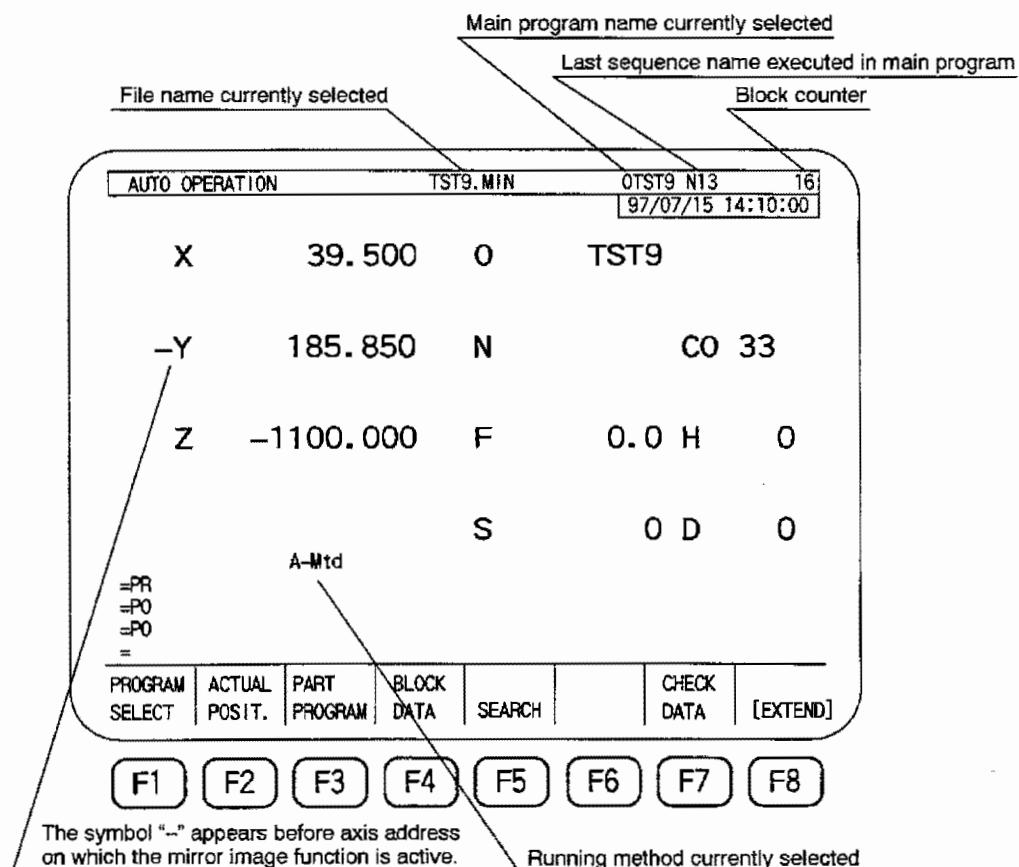
Fig. 6-1 Actual Position Display – Page [1] (Double Extension)

The following display data items are in common to the two actual position data display screens [1] (double extension and four-fold extension) and also to actual position display screen [2].

X   :   X-axis actual position on active block

Y   :   Y-axis actual position on active block

Z   :   Z-axis actual position on active block

CO   :   Work coordinate system number

O   :   Currently active program name

N   :   Currently active sequence name

F   :   Actual feedrate (overridden programmed F value)

S   :   Actual spindle speed (overridden programmed S value)

H   :   Tool length offset number

D   :   Cutter radius compensation number

[Supplement]   Actual position display of additional axes

In the double extension display mode:

1st additional axis data is displayed below "Z-axis".

2nd and 3rd additional axis data are displayed in the next page, which is accessible by pressing function key [F8] (EXTEND) and [F6] (AXIS CHANGE).

In the four-fold extension display mode:

1st to 3rd addition axis data are displayed in the next page, which is accessible by pressing function key [F8] (EXTEND) and [F6] (AXIS CHANGE).

(2)   Page [1] (Four-fold Extension)

AUTO OPERATION				TST9.MIN		OTST9 N13	16
						97/07/15 14:10:00	

$$X \qquad 39.500$$
$$Y \qquad 185.850$$
$$Z \qquad -1100.000$$

CO 33   0 TST9   F   0.0
                   N   S   0

=PR
=PO
=PO
=

PROGRAM SELECT	ACTUAL POSIT.	PART PROGRAM	BLOCK DATA	SEARCH		CHECK DATA	[EXTEND]

F1 F2 F3 F4 F5 F6 F7 F8
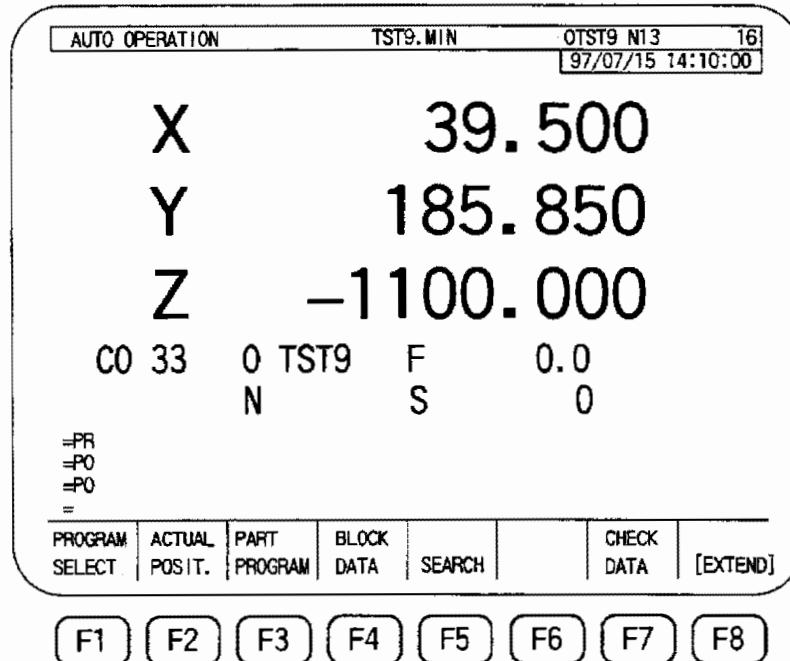
Fig. 6-2 Actual Position Display – Page [1] (Four-fold Extension)

(3) Page [2]
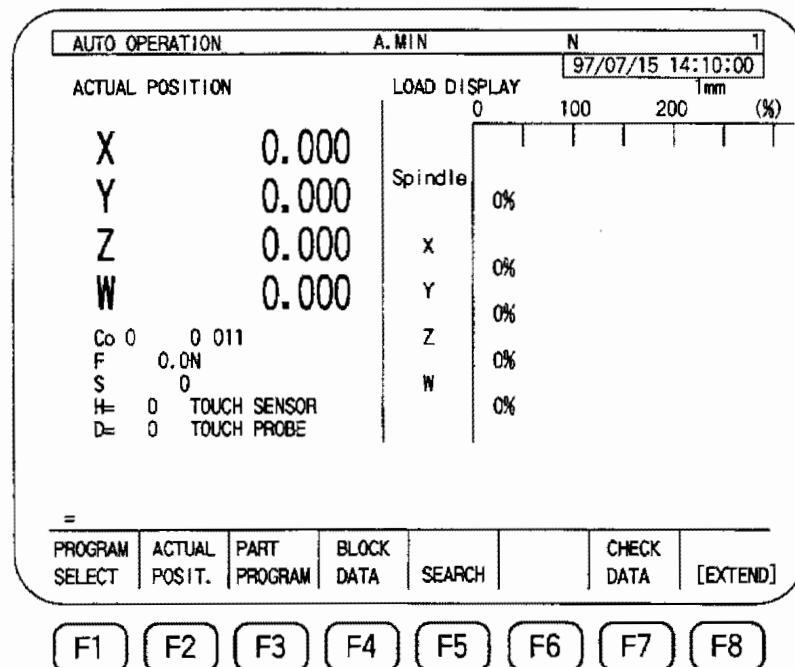
Fig. 6-3 Actual Position Display [2]

TOUCH SENSOR   :   Touch sensor status; Reverse display with touch sensor ON

TOUCH PROBE   :   Touch probe status; Reverse display with touch probe ON

LOAD DISPLAY   :   Loaded condition of the spindle and axes
                           (indicated by graph and percent values)

[Supplement]   For the spindle overload monitor specification, the symbol " ▽ " (max. load value) and the message "LOAD MONITOR (∗∗∗%)" are displayed on the screen. The message "TORQUE MONITOR (∗∗∗%)" is displayed instead of "LOAD MONITOR (∗∗∗%)" during torque monitoring for synchronized tapping operation.

(4) Page [3]

```
AUTO OPERATION            TST9.MIN        OTST9 N13        16
                                          97/07/15 14:10:00
    ACTUAL POSITION                              1mm

                          X          Y           Z
    LOCAL COORDINATES     39.500     185.850    -1100.000
    WORK COORDS (APA)     39.500     185.850    -1100.000
    WORK COORDS           39.500     185.850    -1100.000
    MACHINE COORDS        39.500     185.850    -1100.000
    FEEDBACK COORDS       2539.500   2685.650    1400.000
    TARGET VALUE          39.500     185.850    -1100.000
    DISTANCE REMAINING    0.000      0.000        0.000

    MANUAL SHIFT ACTUL    0.000      0.000        0.000
    MANUAL SHIFT TOTAL    0.000      0.000        0.000
    PITCH ERROR COMP      0.000      0.000        0.000

            A-Mtd
  =PO
  =PO
  =PO
  =

PROGRAM  ACTUAL  PART      BLOCK                CHECK
SELECT   POSIT.  PROGRAM   DATA    SEARCH       DATA    [EXTEND]
```

F1   F2   F3   F4   F5   F6   F7   F8

Fig. 6-4 Actual Position Display [3]

LOCAL COORDINATES	:	Distance referenced to the origin of the local coordinate system
WORK COORDS (APA)	:	Distance referenced to the origin of the work coordinate system
WORK COORDS	:	Distance referenced to the origin of the work coordinate system
MACHINE COORDS	:	Distance referenced to the machine origin
FEEDBACK COORDS	:	Output (numerical value) from the position encoder
TARGET VALUE	:	Target value
DISTANCE REMAINING	:	Distance remaining to the target point (commanded point)
MANUAL SHIFT ACTUL	:	Axis manual shift amount (current operation) in manual or pulse handle intervention operation
MANUAL SHIFT TOTAL	:	Axis manual shift amount (total) in manual or pulse handle intervention operation
PITCH ERROR COMP	:	Thread pitch error compensation amount

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SECTION 6 DISPLAY ON NC OPERATION PANEL

2-2. RELATIVE ACT POSIT Screen

The RELATIVE ACT POSIT screen looks like as follows.
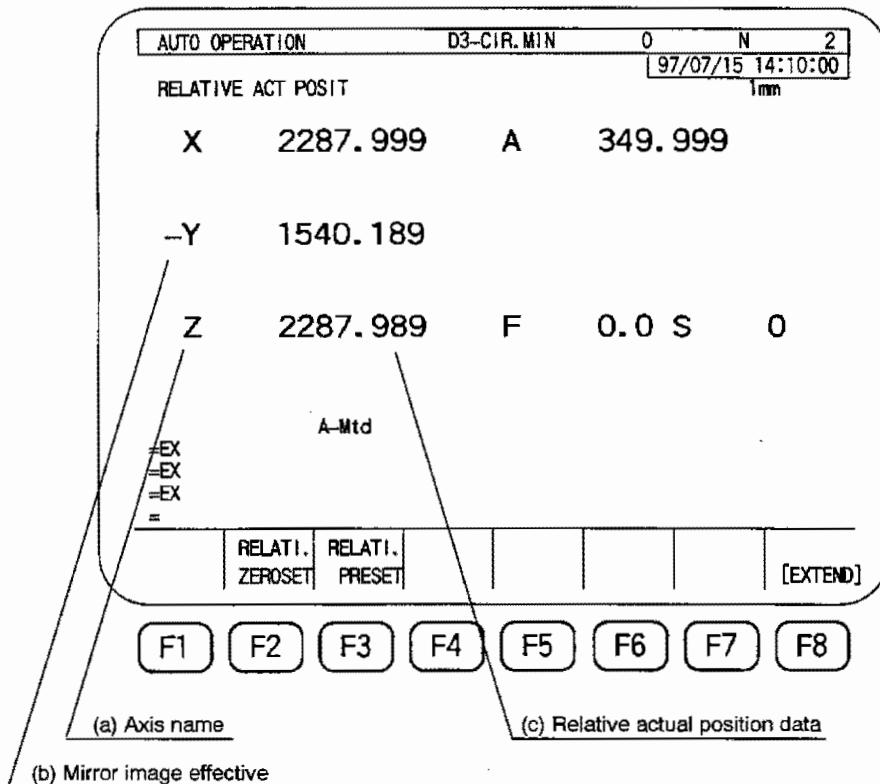
Fig. 6-5 Relative Act Posit Screen

(a) Axis name

Indicates a basic axis name (X, Y, or Z) or an additional axis name (A, B, C, etc.).

An additional axis name is displayed only when an additional axis has been selected.

(b) Mirror image effective

When mirror image is effective, a minus sign "–" is placed preceding the axis name.

When mirror image is not effective, no sign is placed.

(c) Relative actual position data

Relative actual position data calculated using the following equation is displayed in the selected unit system.

Relative actual position data = (Coordinate value output from the encoder [*1])
    – (Reference position [*2]) – (Tool length offset value)
    – (Machine zero point)

[*1] . . . . Whether or not the manual shift amount is added can be set at NC optional parameter (bit) No. 5, bit 7.

[*2] . . . . The reference position is the zero point (in the machine coordinate system) for the relative actual position. For the procedure to set the reference position, refer to (1) "Reference Position Setting".

(d) Reference position

The reference position is the zero point in the machine coordinate system and is used to display the relative actual position, or, in their words, the zero point in the relative coordinate system. The reference position is calculated form the equation below and displayed for each axis in the selected unit system.

Reference position = (output from position encoder [*1]) − (actual position value [*2])

− (tool length offset value) − (machine zero point)

[*1] .... Like the actual position display, it is possible to select whether or not the manual shift amount is included in the output form the position encoder by setting data at NC optional parameter (bit) No. 5, bit 7.

[*2] .... Where the actual position is set in the coordinate system is input.
Refer to (1) "Reference Position Setting".
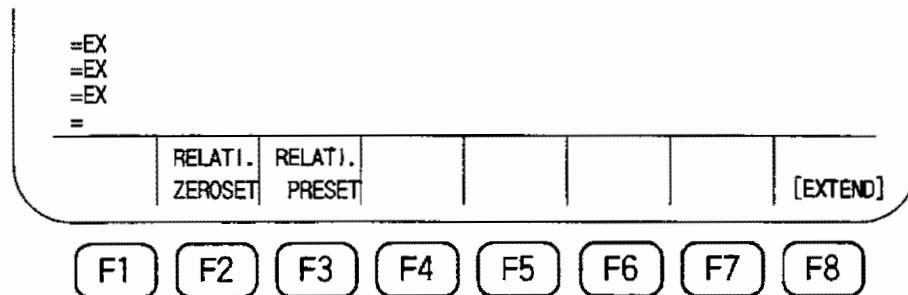
(1) Reference Position Setting

The reference position is the zero point (in the machine coordinate system) which is used to display the relative actual position, or, in other words, the zero point in the relative coordinate system. The reference position can be obtained by setting the coordinate value of the actual position.

The reference position can be set in two different manners: by setting the actual position at "0" and by setting the actual position at a desired position.

To set the reference position, press function key [F8] (EXTEND) in the automatic, MDI, or manual operation mode repeatedly until functions "RELATI. ZEROSET" and "RELATI. PRESET" are assigned to function keys [F2] and [F3], respectively.

```
=EX
=EX
=EX
=
        | RELATI. | RELATI. |       |       |       |       |          |
        | ZEROSET | PRESET  |       |       |       | [EXTEND] |
```
[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]
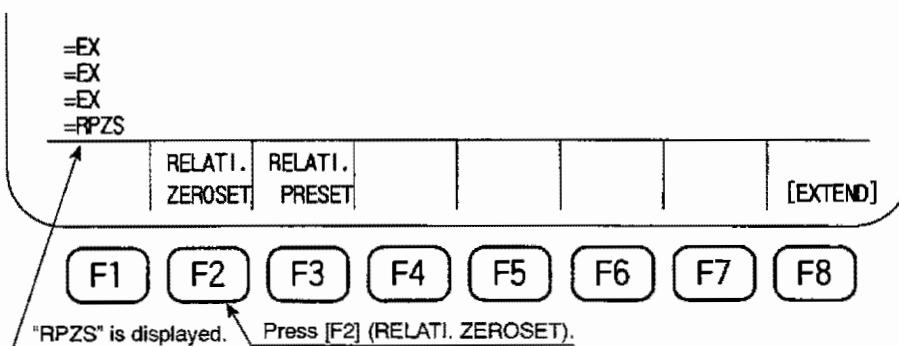
(a) Setting the actual position at "0"

Follow the procedure below when setting the actual position at "0" in the relative coordinate system.

1) Press function key [F2] (RELATI. ZEROSET) in the automatic, MDI, or manual operation mode.

The prompt "= RPZS" will be displayed on the console line of the display screen.

```
=EX
=EX
=EX
=RPZS
        | RELATI. | RELATI. |       |       |       |       |          |
        | ZEROSET | PRESET  |       |       |       | [EXTEND] |
```
[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

"RPZS" is displayed.   Press [F2] (RELATI. ZEROSET).

2) Key in axis address(es) for which "0" is set through the keyboard. When no axis address has been keyed in, "0" is set for all axes.

Example: To set "0" for X and Z axes

= RPZS XZ

Key in axis addresses

```
                        A-Mtd
=EX
=EX
=EX
=RPZS XZ
```

| RELATI. | RELATI. | | | | | [EXTEND] |
| ZEROSET | PRESET | | | | | |
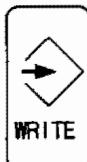
F1   F2   F3   F4   F5   F6   F7   F8

3) Press the WRITE key.

WRITE

```
AUTO OPERATION          D3-CIR.MIN      0       N      2
                                          97/07/15 14:10:00
RELATIVE ACT POSIT                              1mm

   X        0.000      A    349.999


   Y     1540.189


   Z        0.000


                     A-Mtd
=EX
=EX
=RPZS XZ
=
```

| RELATI. | RELATI. | | | | | [EXTEND] |
| ZEROSET | PRESET | | | | | |

F1   F2   F3   F4   F5   F6   F7   F8
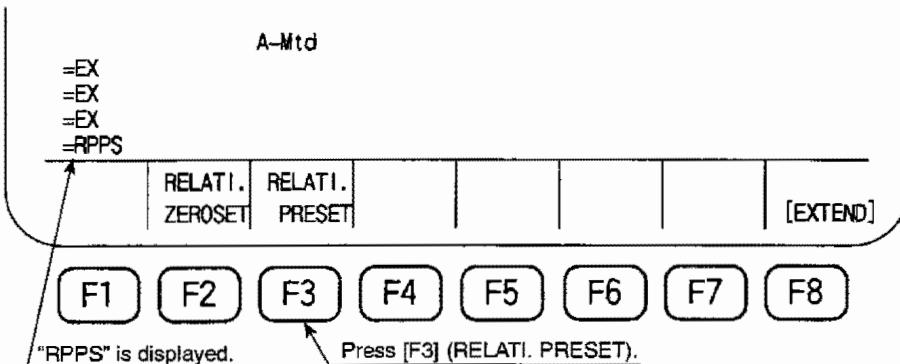
The reference position with which the actual position of the designated axis is "0" is obtained and relative actual position data of the designated axis will change to "0".

(b) Setting the actual position at a desired position

Follow the procedure below when setting the actual position at a desired position in the relative coordinate system.

1) Press function key [F3] (RELATI. PRESET) in the automatic, MDI, or manual operation mode.

The prompt "= RPPS" will be displayed on the console line of the display screen.

2) Key in axis address(es) and numerical value for which the actual position is set at a desired position through the keyboard. When no axis address has been keyed in, the actual position is set at a desired position for each axis.

Example 1: To set the actual position of X and Z axes at 200 and 300, respectively

= RPPS X200Z300
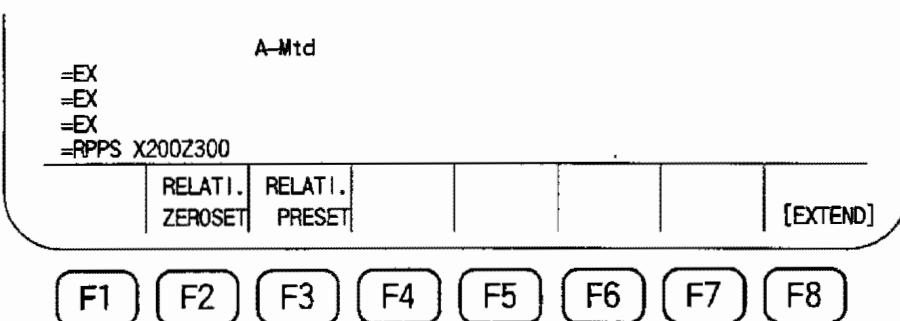
Key in axis addresses and numerical values.

Example 2: To set the actual position of all axes at 100

= RPPS 100
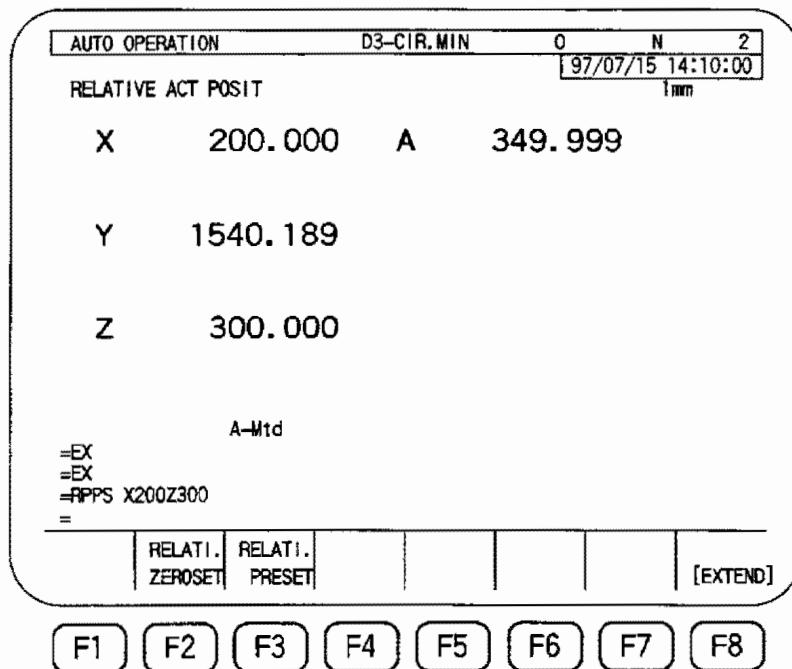
Key in a numerical value without specifying axis addresses.

3) Press the WRITE key.

```
┌─────────────────────────────────────────────────────────┐
│ │ AUTO OPERATION          D3-CIR.MIN    O      N     2 │ │
│                                         │97/07/15 14:10:00│
│   RELATIVE ACT POSIT                            1mm       │
│                                                           │
│      X        200.000    A     349.999                    │
│                                                           │
│                                                           │
│      Y       1540.189                                     │
│                                                           │
│                                                           │
│      Z        300.000                                     │
│                                                           │
│                                                           │
│                    A-Mtd                                  │
│   =EX                                                     │
│   =EX                                                     │
│   =RPPS X200Z300                                          │
│   =                                                       │
│  ─────────────────────────────────────────────────────   │
│         │RELATI.│RELATI.│     │     │     │    │          │
│         │ZEROSET│PRESET │     │     │     │    │[EXTEND]  │
└─────────────────────────────────────────────────────────┘
     ( F1 ) ( F2 ) ( F3 ) ( F4 ) ( F5 ) ( F6 ) ( F7 ) ( F8 )
```

The reference position with which the actual position of the designated axis is a desired position is obtained and relative actual position data of the designated axis will change to a desired position.

[Supplement]   Pressing the WRITE key without keying in address(es) and numerical value(s) does not set anything.

(c) Data setting range and restrictions

1) Data is input in the unit system (metric or inch) employed for machine operation and the decimal point position is fixed. For example, when "1" has been input while the 0.001 mm unit system is selected, it is recognized as 1 mm. The same rule also applies to the inch system.

2) Data can be set within the following range.

For linear axes: −99999.999 mm to +99999.999 mm

(When the inch system is selected, the entered value is converted into a metric value and checked if it is within the above range.)

For rotary axes: −99999.999° to +99999.999° (for the 0.001° unit system)

−9999.9999° to +9999.9999° (for the 0.0001° unit system)

(2) Precautions

(a) Data is input in the unit system (metric or inch) employed for machine operation and the decimal point position is fixed. (For example, when "1" has been input while the 0.001 mm unit system is selected, it is recognized as 1 mm.)

(b) When changing the reference position of all axes including rotary axes, the entered value is interpreted as length and degree.

(c) The reference position cannot be set for an indexable axis. In this case, the actual position data is displayed on the RELATIVE ACT POSIT screen.

However, when axis designation was not made with reference position setting, "0" is set at the indexable axis, causing no error.

(d) When the power is turned off, reference position data becomes "0" since it is not backed up by turning off of the power. (The machine zero point is employed as the reference position.)

However, when actual position data in the work coordinate system is rounded (parameter (bit) No. 2 bit 1 is ON) with the multi-turn rotary table specification, reference position data is calculated in reverse order. Therefore, when the work zero point is other than "0", a value other than "0" is set as reference position data.

(e) Work coordinate values do not change when the reference position has been changed.

(f) When the relative actual position value is smaller than –99999.999 mm (–9999.9999 inch for the inch system), "– OVERFLOW" will be displayed on the display screen.

When the relative actual position value is larger than +99999.999 mm (+9999.9999 inch for the inch system), "+ OVERFLOW" will be displayed on the display screen.

(g) The display of the relative actual position of a rotary axis (rotary table) varies depending on the rotary axis specification.

1) Rotary table and indexable axis specification

The relative actual position is displayed within 0° and 360°. The reference position is also displayed within 0° and 360°.

2) Rotary axis with limits and multi-turn rotary table

The relative actual position obtained using the equation on page 23 is displayed as it is. With the multi-turn rotary table, whether or not relative actual position data is expressed within 0° and 360° when the NC is reset can be set at NC optional parameter No. 2, bit 1.

When the additional axis is removed with the removable axis specification, "– OVERFLOW" will be displayed as relative actual position data.

3. Program Display

In the operation mode, press function key [F3] (PART PROGRAM) and, the program information screens are accessed. There are three types of program information display screens such as schedule program, main program and MDI program. The display screen can be changed by pressing the PAGE key.

(1) Schedule Program
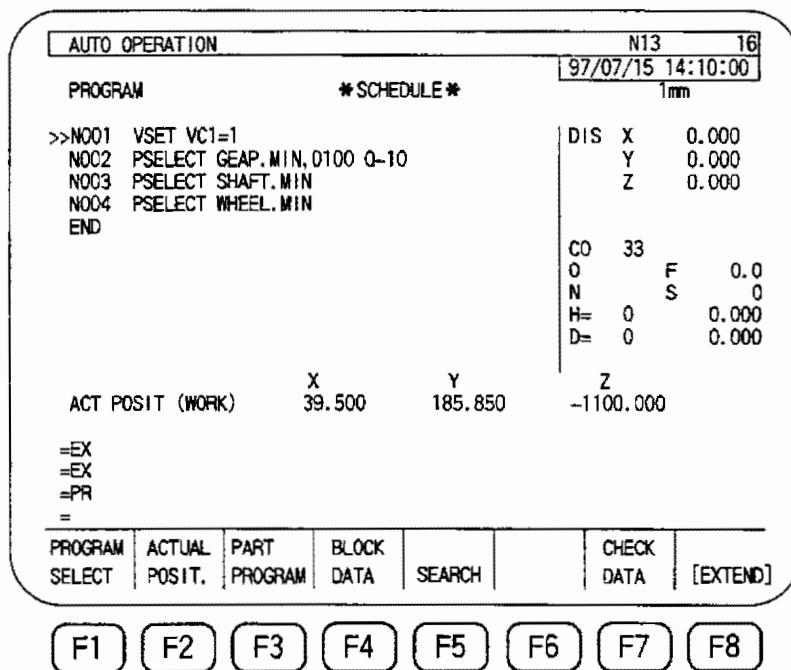
Fig. 6-6 Schedule Program Screen
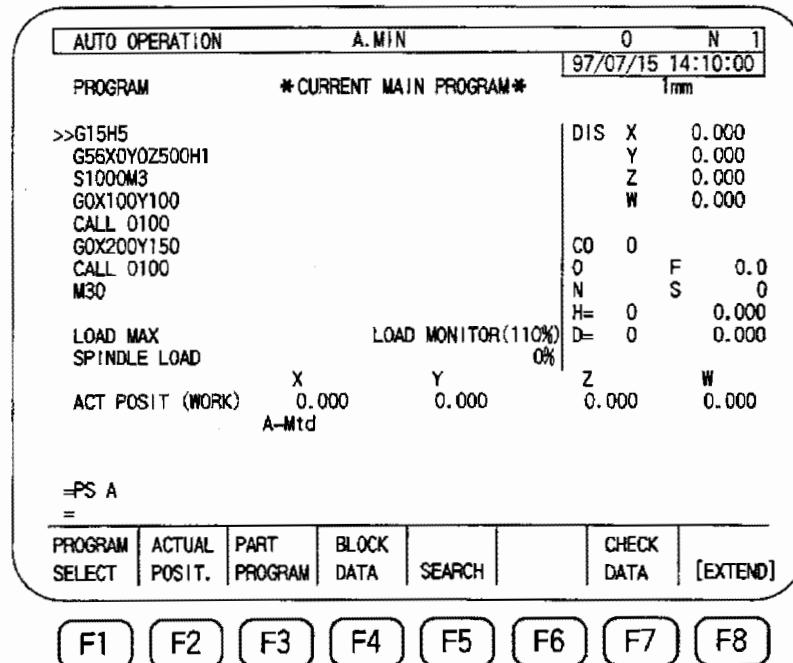
The following display data items are in common to the CURRENT MAIN PROGRAM, READ MAIN PROGRAM, and MDI PROGRAM display screens.

DIS X : Remaining X-axis movement distance to the target position

DIS Y : Remaining Y-axis movement distance to the target position

DIS Z : Remaining Z-axis movement distance to the target position

Co : Work coordinate system number

O : Currently active program number

N : Currently active sequence number

F : Actual feedrate (overridden programmed F value)

S : Actual spindle speed (overridden programmed S value)

H : Tool length offset number and offset data

D : Cutter radius compensation number and compensation data

ACT POSIT (WORK) X : Actual X-axis position in the currently active block (work coordinate system)

ACT POSIT (WORK) Y : Actual Y-axis position in the currently active block (work coordinate system)

ACT POSIT (WORK) Z : Actual Z-axis position in the currently active block (work coordinate system)

[Supplement]   The DIS data and ACT POSIT (WORK) data of additional axes are displayed in the following manner.

For the first additional axis, the data is displayed below the "Z-axis" data of DIS and right to the "Z-axis" data of (ACT POSIT) on the screen indicated above. For the second and third additional axes, the data is displayed on the page accessible by pressing function key [F8] (EXTEND) and [F6] (AXIS CHANGE).

(2)   Current Main Program

```
  AUTO OPERATION              A.MIN              0      N    1
                                           97/07/15 14:10:00
   PROGRAM              *CURRENT MAIN PROGRAM*        1mm

  >>G15H5                                    DIS  X      0.000
    G56X0Y0Z500H1                                 Y      0.000
    S1000M3                                       Z      0.000
    G0X100Y100                                    W      0.000
    CALL 0100
    G0X200Y150                                CO   0
    CALL 0100                                 0        F     0.0
    M30                                       N        S       0
                                              H=   0        0.000
    LOAD MAX              LOAD MONITOR(110%)  D=   0        0.000
    SPINDLE LOAD                       0%
                     X          Y           Z          W
    ACT POSIT (WORK)   0.000      0.000       0.000      0.000
                     A-Mtd

    =PS A
    =
  ┌─────────┬────────┬────────┬───────┬────────┬───┬────────┬─────────┐
  │ PROGRAM │ ACTUAL │ PART   │ BLOCK │        │   │ CHECK  │         │
  │ SELECT  │ POSIT. │PROGRAM │ DATA  │ SEARCH │   │ DATA   │ [EXTEND]│
  └─────────┴────────┴────────┴───────┴────────┴───┴────────┴─────────┘

      F1    F2    F3    F4    F5    F6    F7    F8
```

>> : Block just read into the buffer

↑ : Block being executed.

Fig. 6-7 Current Main Program Screen

[Supplement]   For the spindle overload monitor specification, the symbol " ∇ " (max. load value) and the message "LOAD MONITOR (✳✳✳ %)" are displayed on the screen. The message "TORQUE MONITOR (✳✳✳ %)" is displayed instead of "LOAD MONITOR (✳✳✳ %)" during torque monitoring for synchronized tapping operation.

(3) Read Main Program

```
┌──────────────────────────────────────────────────────────┐
│ │AUTO OPERATION│        A.MIN          0     N   1│        │
│                                      ┌─────────────────┐   │
│  PROGRAM          *READ MAIN PROGRAM* │97/07/15 14:10:00│  │
│                                      │             1mm │   │
│ >>G15H5                              DIS  X      0.000     │
│   G56X0Y0Z500H1                            Y      0.000    │
│   S1000M3                                  Z      0.000    │
│   G0X100Y100                               W      0.000    │
│   CALL 0100                                                │
│   G0X200Y150                         CO   0                │
│   CALL 0100                          0         F     0.0   │
│   M30                                N         S       0   │
│                                      H=   0          0.000 │
│   LOAD MAX            LOAD MONITOR(110%) D=  0       0.000 │
│   SPINDLE LOAD                    0%                       │
│                      X          Y          Z         W    │
│   ACT POSIT (WORK)   0.000      0.000      0.000     0.000 │
│                      A-Mtd                                 │
│                                                           │
│  =PS A                                                    │
│  =                                                        │
│ ┌──────┬──────┬───────┬──────┬──────┬──┬──────┬────────┐ │
│ │PROGRAM│ACTUAL│PART  │BLOCK │      │  │CHECK │        │ │
│ │SELECT │POSIT.│PROGRAM│DATA │SEARCH│  │DATA  │[EXTEND]│ │
│ └──────┴──────┴───────┴──────┴──────┴──┴──────┴────────┘ │
└──────────────────────────────────────────────────────────┘
    F1    F2    F3    F4    F5    F6    F7    F8
```

Fig. 6-8 Read Main Program Screen

(4) MDI Program

```
┌──────────────────────────────────────────────────────────┐
│ │AUTO OPERATION│       TST9.MIN       OTST9 N   1│        │
│                                      ┌─────────────────┐   │
│  PROGRAM           *MDI PROGRAM*      │97/07/15 14:10:00│  │
│                                      │             1mm │   │
│                    *CURRENT*         DIS  X      0.000     │
│   G90G0X0Y0Z0                              Y      0.000    │
│   RTMDI                                    Z      0.000    │
│                                                           │
│                                      CO   1               │
│                    *BUFFER*          0 TST9    F     0.0   │
│                                      N         S       0  │
│                                      H=   0         0.000 │
│                                      D=   0         0.000 │
│                      X          Y          Z              │
│   ACT POSIT (WORK)   0.000      0.000      100.000        │
│                      A-Mtd                 -1             │
│                                                           │
│  =IN                                                      │
│ ┌──────┬──────┬───────┬──────┬──────┬──┬──────┬────────┐ │
│ │PROGRAM│ACTUAL│PART  │BLOCK │      │  │CHECK │        │ │
│ │SELECT │POSIT.│PROGRAM│DATA │SEARCH│  │DATA  │[EXTEND]│ │
│ └──────┴──────┴───────┴──────┴──────┴──┴──────┴────────┘ │
└──────────────────────────────────────────────────────────┘
    F1    F2    F3    F4    F5    F6    F7    F8
```
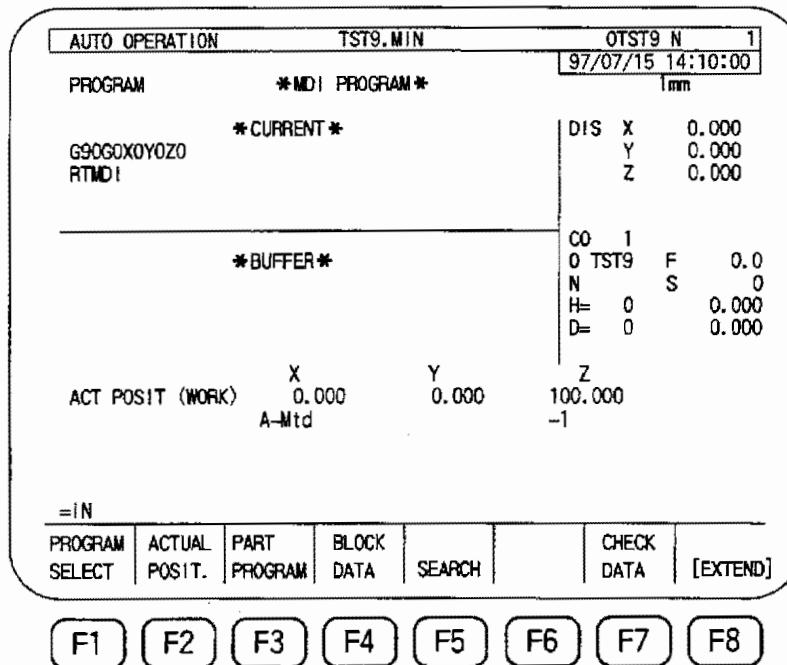
Fig. 6-9 MDI Program Screen

4. Block Display

In operation mode, function key [F4] (BLOCK DATA) accesses the block data screens.

Under the heading of BLOCK DATA, four screens of block data display are available: CURRENT, BUFFER, SECOND BUFFER, and THIRD BUFFER.

These display screens are selectable by pressing the PAGE key.

(1) Display of One Block Data Currently Executed

```
 AUTO OPERATION          TST9.MIN              OTST9 N3      3
                                             97/07/15 14:10:00
  BLOCK DATA            CURRENT                           1mm

    G00      M15      X   2000.000   S    0    Sr        0
    G17      M115     Y   2000.000   Tc   0    So        0
    G23      M131     Z  -1100.000   Tn   0
    G53      M135                    M    0    Fm    0.000
    G90      M137                    H    0    Fr    0.000
    G94      M139                    D    0
             M133     I      0.000              Pr        0
                      J      0.000              Pe        0
                      K      0.000   Np   0     Nr        0
                      F      0.000              Ns
                      Fd     0.000   Hc         Cr        0
                      Ft        0               Ce        0
                      F1                        BC        3
             A-Mtd                              EMPTY
  =BL
  =PR
  =BL
  =

  PROGRAM  ACTUAL  PART     BLOCK                CHECK
  SELECT   POSIT.  PROGRAM  DATA    SEARCH       DATA   [EXTEND]
```

| F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 |

Fig. 6-10 Display of One Block Date Currently Executed

The following display data items are in common to the BUFFER, SECOND BUFFER, and THIRD BUFFER display screens.

X   :   X-axis command value

Y   :   Y-axis command value

Z   :   Z-axis command value

I   :   I command value

J   :   J command value

K   :   K command value

F   :   Feedrate command value

Fd   :   Feedrate command value (0.001 mm/6.4 ms)

Ft   :   F command value for dwell

F1   :   Feedrate (F1-digit command)

S   :   Spindle speed command value

Sr   :   Actual spindle speed

So   :   Actual spindle speed (overridden programmed S value)

Tc : Active tool number

Tn : Next tool number

M : M command value

H : Tool length offset number

D : Cutter radius compensation number

Fm : Actual feedrate (mm/min)

Fr : Actual feedrate (mm/rev)

Pr : Main program repeat count by schedule operation

Pe : Main program execution count by schedule operation

Np : Hole number in coordinate calculation

Nr : Hole number for restart

Ns : Sequence specified by the sequence stop

Hc : Work coordinate system number

Cr : Number of subprogram to be repeated

Ce : Number of subprogram actually repeated

BC : Block counter

EMPTY : No data in buffer

(EXIST : Data existing in buffer)

[Supplement] For the additional axis specification, the data of the additional axes (first, second, third) is displayed below the "Z-axis" data.

(2) Display of One Block Data in Buffer (to be Executed Next)

Fig. 6-11 Display of One Block Data in Buffer (to be Executed Next)

(3) Display of One Block Data in Second Buffer

```
┌─────────────────────────────────────────────────────────┐
│ │AUTO OPERATION│        TST9.MIN         │OTST9 N3    3│ │
│                                         │97/07/15 14:10:00│
│   BLOCK DATA          SECOND BUFFER              1mm      │
│                                                          │
│   G00        M15      X   2000.000   S   0   Sr       0  │
│   G17        M115     Y   2000.000   Tc  0   So       0  │
│   G23        M131     Z  -1100.000   Tn  0              │
│   G53        M135                    M   0   Fm   0.000  │
│   G90        M137                    H   0   Fr   0.000  │
│   G94        M139                    D   0              │
│              M133     I      0.000           Pr       0  │
│                       J      0.000           Pe       0  │
│                       K      0.000   Np  0   Nr       0  │
│                       F      0.000           Ns        │
│                       Fd     0.000   Hc      Cr       0  │
│                       Ft     0               Ce       0  │
│                       F1                     BC       3  │
│              A-Mtd                           EMPTY     │
│   =BL                                                    │
│   =PR                                                    │
│   =BL                                                    │
│   =                                                      │
├─────────┬────────┬────────┬───────┬──────┬──┬──────┬────┤
│ PROGRAM │ ACTUAL │ PART   │ BLOCK │      │  │CHECK │     │
│ SELECT  │ POSIT. │PROGRAM │ DATA  │SEARCH│  │DATA  │[EXTEND]│
└─────────┴────────┴────────┴───────┴──────┴──┴──────┴────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Fig. 6-12 Display of One Block Data in Second Buffer

(4) Display of One Block Data in Third Buffer

```
┌─────────────────────────────────────────────────────────┐
│ │AUTO OPERATION│         A.MIN           │ 0      N    │ │
│                                         │97/07/15 14:10:00│
│   BLOCK DATA          THIRD BUFFER               1mm      │
│                                                          │
│   G00        M15      X     0.000    S   0   Sr       0  │
│   G17        M115     Y     0.000    Tc  0   So       0  │
│   G23        M131     Z     0.000    Tn  0              │
│   G53        M135     W     0.000    M   0   Fm   0.000  │
│   G90        M137                    H   0   Fr+OVERFLOW │
│   G94        M139                    D   0              │
│              M133     I     0.000            Pr       0  │
│              M326     J     0.000            Pe       0  │
│                       K     0.000    Np  0   Nr       0  │
│                       F                      Ns        │
│                       Fd    0.000    Hc  5   Cr       0  │
│                       Ft    0                Ce       0  │
│                       F1                     BC       1  │
│              A-Mtd                           EMPTY     │
│                                                          │
│   =                                                      │
├─────────┬────────┬────────┬───────┬──────┬──┬──────┬────┤
│ PROGRAM │ ACTUAL │ PART   │ BLOCK │      │  │CHECK │     │
│ SELECT  │ POSIT. │PROGRAM │ DATA  │SEARCH│  │DATA  │[EXTEND]│
└─────────┴────────┴────────┴───────┴──────┴──┴──────┴────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Fig. 6-13 Display of One Block Data in Third Buffer

5. ATC Tool Setting Data Display (Memory-Random ATC Specification)

Pressing function key [F8] (EXTEND) changes the key guidance display. Function key [F3] (TOOL DISPLAY) allows the ATC tool setting page to be accessed.
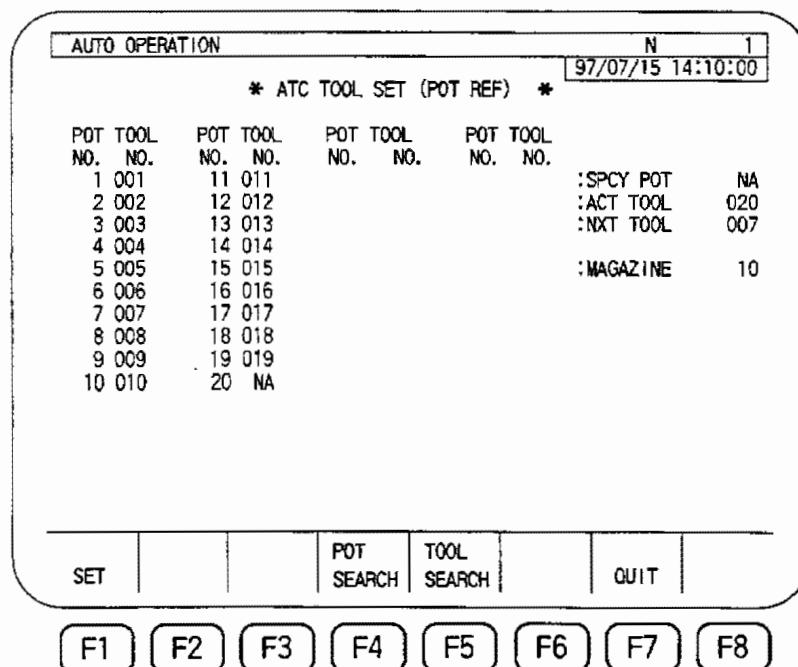
Fig. 6-14 ATC Tool Set (Pot Reference) Screen

6. Message Display (Option)

In the operation mode, display the function guide and press function key [F7] (MESSAGE) and the messages in a program can be displayed.

While the display screen is in the message display mode, display page may be switched to the actual position display, program display, block display, and check display using a proper function key. The NMSG command in a program automatically returns the display mode from the message display mode to the original display mode. The message displayed on the display screen is the one specified in the program last.

Example:

N100   :

N101   :

N102 M00 MSG (CHECK TOOL!) . . . . . This automatically changes the display mode to the message mode and "CHECK TOOL!" appears on the display screen.

N103 NMSG . . . . This restores the display mode to the original mode.

N104   :

N110 X100 Y100 (WORK FINISH) . . . . . Switching the display mode into the message by pressing function key allows the display screen to display the comment "WORK FINISH".
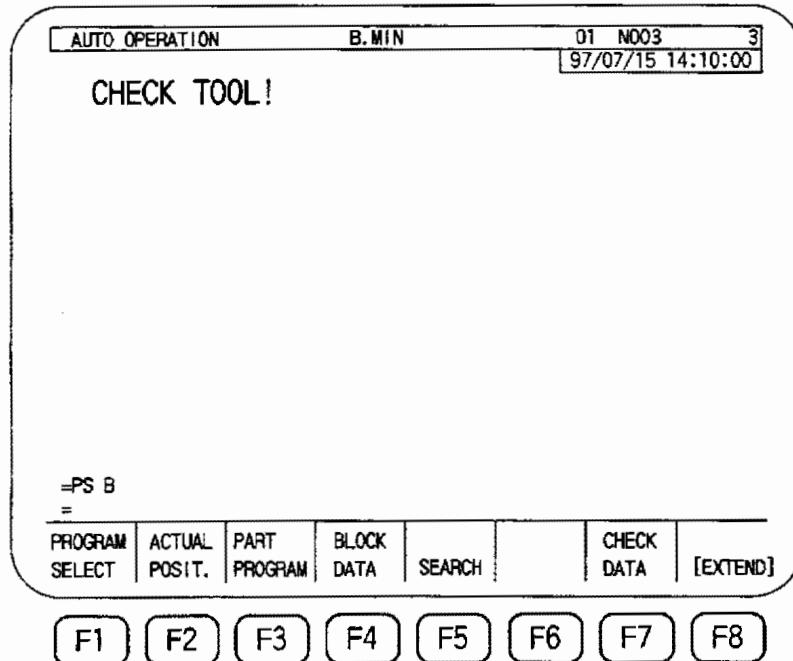
Fig. 6-15 Message Display Screen

7.   Check Display

During operation in automatic, MDI, or manual mode, it is possible to check the NC axis data and the contents of the system variables by displaying them on the screen.

The following check items can be displayed.

Note that the actual display screens and check items will vary according the selected specifications.

1.   NC specification codes

2.   NC axis data

3.   NC axis data enlarge display

4.   Diagnostics

5.   System variables – axis data

6.   System variables – zero offset

7.   System variables – tool offset

8.   System variables – system parameter

9.   System variables – home position

10.   System variables – NC communication

11.   System variables – other data

Select the data to be displayed by an NC optional parameter (bit) No. 5, bit 0 to bit 4.

Description of operating procedure:

(1) Press either the MANUAL, MDI or AUTO key.

(2) Press function key [F7] (CHECK DATA).

(3) Press the page key to change the screen display one screen at a time.
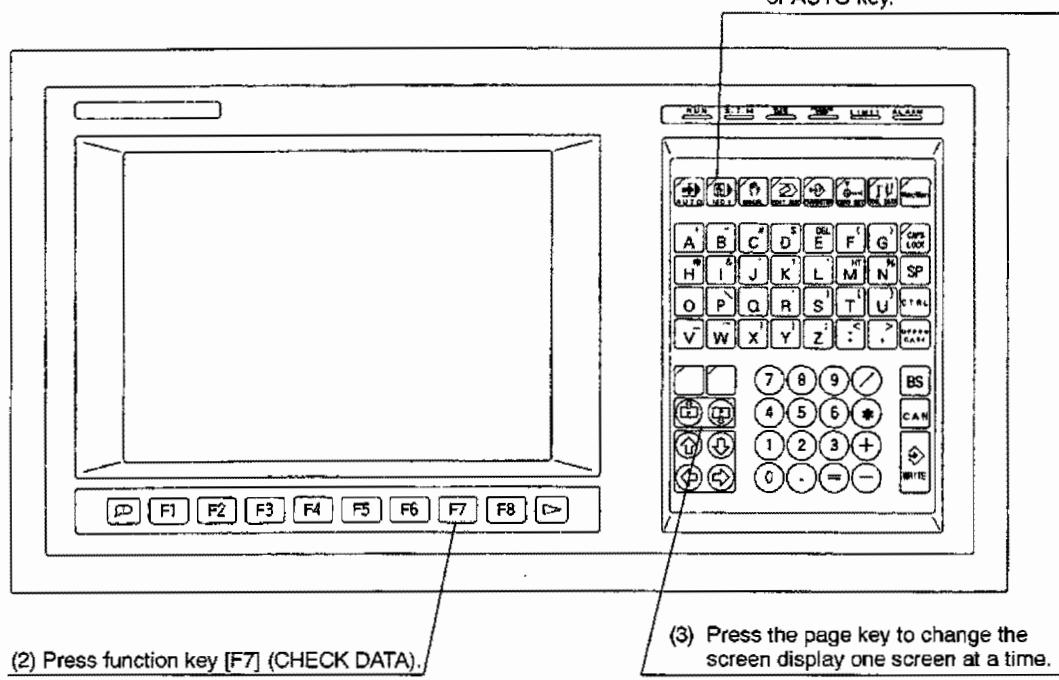
Fig. 6-16 Displaying the CHECK DATA INDEX Page

(1) Press either MANUAL, MDI, or AUTO key.

(2) Press function key [F7] (CHECK DATA).

The screen displays a check data indications page.

(3) Press either the ⬛ or ⬛ page key to display the check data desired.

Pressing ⬛ once advances a page.

Pressing ⬛ once returns a page.

The SEARCH command displays the check data by one-touch operation, without repeatedly pressing the page key.

The explanation of operations (1) and (2) given above is omitted here as they both apply in this case.

(4) Press function key [F5] (SEARCH).

"= F" is displayed on the display screen console line.

(5) Enter the desired page number through the keyboard.

The input data is displayed following "= F ⊔ ".

Example: = F ⊔ 10

(6) Press the WRITE key.

This will display the desired check data.

When the WRITE key is pressed without inputting data following "= F ⊔ ", the menu display shown below will be displayed.

```
┌─────────────────────────────────────────────────────────┐
│  AUTO OPERATION                              N        1  │
│                                       97/07/15 14:10:00  │
│                    CHECK DATA INDEX        PAGE1         │
│                                                          │
│   NO.    ITEM                NO.    ITEM                 │
│  * 1 NC SPEX TABLE           13 SYS. VAR. SYSTEM PARAMETER│
│    2 NC AXIS DATA            14 SYS. VAR. HOME POSITION  │
│    3 NC AXIS DATA MAG. DISP. 15 SYS. VAR. NC COMMUNICATION│
│    4 PLC AXIS DATA           16 SYS. VAR. VARIOUS DATA   │
│    5 PLC AXIS DATA MAG. DISP                             │
│    6 MEMORY DATA                                         │
│    7 MCS DIAGNOSIS                                       │
│    8 SYS. VAR. AXIS DATA                                 │
│    9 SYS. VAR. ZERO OFFSET                               │
│   10 SYS. VAR. ZERO OFFSET MSB                           │
│   11 SYS. VAR. TOOL OFFSET                               │
│   12 SYS. VAR. TOOL OFFSET MSB                           │
│                                                          │
│  =F                                                      │
│  Input a number of screen.   !1                          │
│  =F                                                      │
│  Input a number of screen.   !                           │
├──────┬──────┬───────┬──────┬──────┬──────┬──────┬───────┤
│PROGRAM│ACTUAL│ PART  │BLOCK │      │      │CHECK │       │
│SELECT │POSIT.│PROGRAM│ DATA │SEARCH│ATC/APC│DATA │[EXTEND]│
└──────┴──────┴───────┴──────┴──────┴──────┴──────┴───────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Fig. 6-17 Check Display Screen

Input the number for required item and press the WRITE key to display the first page of the required item screen.

7-1. Display Screen

7-1-1. NC Specification Codes

The NC SPEC TABLE screen has three pages and page selection is possible using the page keys.

```
AUTO OPERATION                                      N      1
                                            97/07/15 14:10:00
CHECK DATA          NC SPEC TABLE           PAGE1       1mm

NO.   data       bit7 bit6 bit5 bit4 bit3 bit2 bit1 bit0
 1 11111011=FB   SDRP SBPR ECAL SYV  01DG 01MC REVF INML
 2 10001010=8A   T100 T300 T200 Z050 Z020 3DCR MVOL LSTR
 3 00110000=30   BFUN EPHD PHD3 PHD2 PH1N S6AX S5AX S4AX
 4 11111111=FF   G50S G62S G61S G43S G92S G31S G60S HELI
 5 00000000=00   EPSN OKUM 232C F1PR F1D4      F1DG RAMC
 6 01000100=44   MADS FRPD      BLSM EC-T AX-T EC-P AX-P
 7 10000000=80   GRTB SYC5 RLT1 RLT0 SYC4 SYCZ SYCY SYCX
 8 10100011=A3   EXP4 EXP2 GRP  PPC  IGF  FDFI FDFO COLR
 9 00000000=00   AXCH EXPB EXPA MIR6 MIR5 MIR4 BSP3 BSP2
10 00110111=37   EIGF EPBK MSG  G22S G28S MAP5 MAP4 MAP2
11 10101000=A8   SSTP RET  AXSC MEED PHID AXSL JGNF SFTH
12 00000000=00   EIML EGCA DNC3 DNC2 DNC1 DNCB DNCA NPPC


=

PROGRAM  ACTUAL  PART    BLOCK                    CHECK
SELECT   POSIT.  PROGRAM DATA   SEARCH  ATC/APC   DATA    [EXTEND]
```

| F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 |

Fig. 6-18 NC Specification Codes Screen

7-1-2. NC Axis Data

The NC axis data is displayed in decimal numbers on the display screen, as shown below.
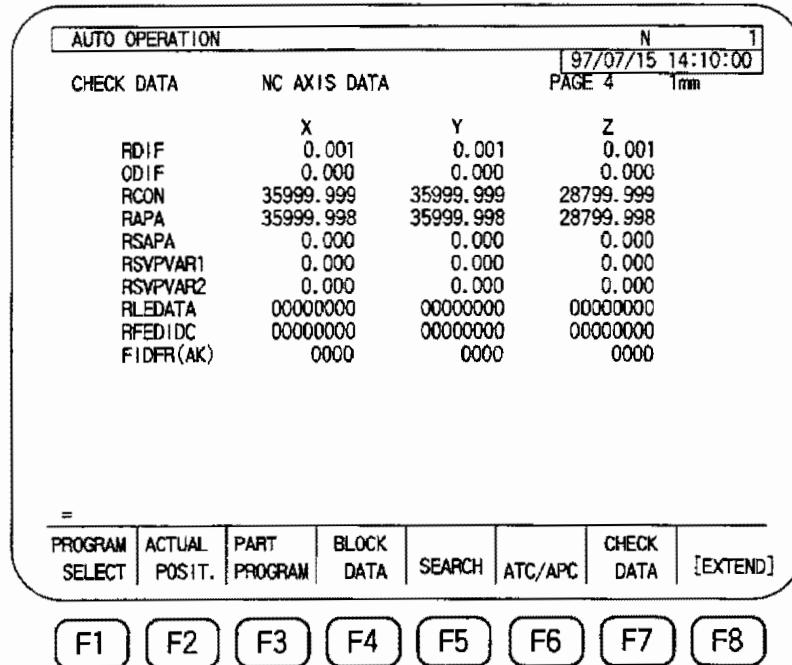
Fig. 6-19 NC Axis Data Screen

RDIF : Difference between calculated value and position encoder output

ODIF : Difference between calculated value and position encoder output with acceleration/ deceleration activated

RCON : Calculated value

RAPA : Position encoder output

RSAPA : Position encoder output when contact with the touch setter is detected

RSVPVAR1 : Servo data (Designate the content of display with NC optional parameter (word) No. 10.)

RSVPVAR2 : Servo data (Designate the content of display with NC optional parameter (word) No. 10.)

RLEDATA : Absolute scale data

RFEDIDC : Position encoder data

FIDFR(AK) : Indicates the inductosyn ON/OFF state.

0000 .... Inductosyn effective. For the axis for which inductosyn on/off is ineffective, "0000" is always displayed.

8080 .... Inductosyn ineffective.

8000 .... Inductosyn effective/ineffective status is changing from ineffective to effective.

0080 .... Inductosyn effective/ineffective status is changing from effective to ineffective.

The NC axis data screens also include the following page where ODIF, RAPA, and LOAD values are displayed in enlarged characters. This page is displayed by pressing the page key from the screen indicated above.

```
┌─────────────────────────────────────────────────────┐
│ ┌──────────────────────────────────┐    N        ┌┐ │
│ │ AUTO  OPERATION                │ 97/07/15 14:10:00│ │
│ │                                └──────────────┘1mm│ │
│  CHECK DATA   NC AXIS DATA                           │
│                ODIF          RAPA       LOAD    %    │
│        X       0.000    35999.998        0           │
│        Y       0.000    35999.998        0           │
│        Z       0.000    28799.998        0           │
│                                                      │
│                                                      │
│    =                                                 │
│ ┌────────┬──────┬───────┬──────┬──────┬──────┬──────┬──────┐ │
│ │PROGRAM │ACTUAL│ PART  │BLOCK │      │      │CHECK │      │ │
│ │ SELECT │POSIT.│PROGRAM│ DATA │SEARCH│ATC/APC│ DATA │[EXTEND]│ │
│ └────────┴──────┴───────┴──────┴──────┴──────┴──────┴──────┘ │
└─────────────────────────────────────────────────────┘

      ( F1 ) ( F2 ) ( F3 ) ( F4 ) ( F5 ) ( F6 ) ( F7 ) ( F8 )
```

LOAD   : Axis loaded status is displayed in %.

7-1-3.   Diagnostics

Any memory content in the memory can be displayed in a designated format on the screen.

The diagnostics function si provided to be used by the machine tool manufacturer.
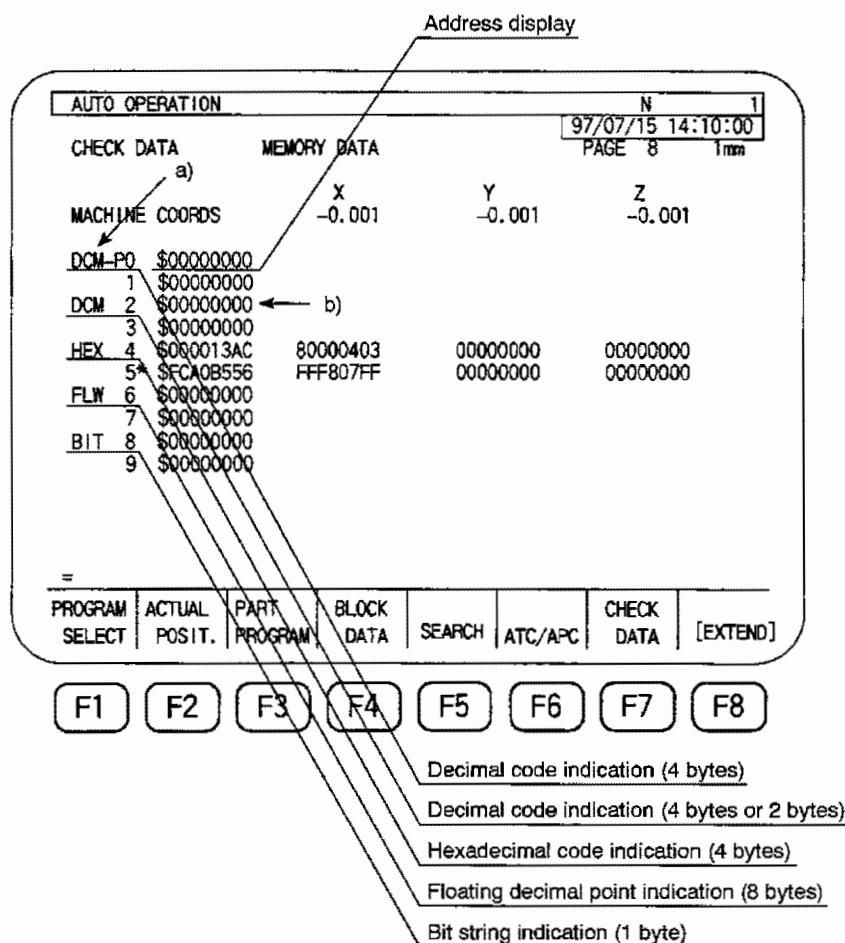
Address display

Fig. 6-20 Diagnostics Screen

a) ✳ : Displayed to the right of the diagnosis data: indicates the cursor key operation enabling position.

       (Once a check address is set in the conventional manner, check address is increased or decreased in units of the data type being checked by pressing the cursor keys ⬆ , ⬇ , ⬅ , ➡ .)

b) W : 2-byte indication of DCM data

    L : 4-byte indication of DCM data

7-1-4. System Variables

The contents of the system variables are displayed on the screen.

Some of system variables (tool offset, etc.) cannot be displayed in one page. For such variables, the next page can be displayed by pressing the page key.

For details of the system variable names, refer to "System Variables" in the Programming Manual.

[Supplement] On the display screens where axis related system variables are displayed, those for the first additional axis are displayed to the right of the "Z-axis" data. For the second and third additional axes, the data is displayed on the page accessible by pressing function key [F8] (EXTEND) and [F6] (AXIS CHANGE).

(1) Axis Data

Fig. 6-21 System Variables Screen – Axis Data

(2) Zero Offset

```
AUTO OPERATION                                    N        1
                                          97/07/15 14:10:00
CHECK DATA          SYSTEM VARIABLE        PAGE 11      1mm

                      X            Y            Z
        VZOF*[ 1]     0.000        0.000        0.000
             [ 2]     0.000        0.000        0.000
             [ 3]  -490.212     -108.797     -258.854
             [ 4]  -361.042     -108.797     -258.854
             [ 5]    59.645       41.201      -78.854
             [ 6]   -90.355     -108.799     -258.854
             [ 7]   -25.578     -389.835     -250.034
             [ 8]  -820.799     -389.835     -250.034
             [ 9]   -51.000     -108.800     -417.216
             [10]    -1.500     -388.800     -260.545


=
PROGRAM  ACTUAL  PART     BLOCK                  CHECK
SELECT   POSIT.  PROGRAM  DATA   SEARCH  ATC/APC  DATA   [EXTEND]
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

Fig. 6-22 System Variables Screen – Zero Offset

(3) Zero Offset (for system)

```
AUTO OPERATION                                    N        1
                                          97/07/15 14:10:00
CHECK DATA          SYSTEM VARIABLE        PAGE 13      1mm

                      X            Y            Z
        VSZO*[ 1]     0.000        0.000        0.000
             [ 2]     0.000        0.000        0.000
             [ 3]     0.000        0.000        0.000
             [ 4]     0.000        0.000        0.000
             [ 5]     0.000        0.000        0.000
             [ 6]     0.000        0.000        0.000
             [ 7]     0.000        0.000        0.000
             [ 8]     0.000        0.000        0.000
             [ 9]     0.000        0.000        0.000
             [10]     0.000        0.000        0.000


=
PROGRAM  ACTUAL  PART     BLOCK                  CHECK
SELECT   POSIT.  PROGRAM  DATA   SEARCH  ATC/APC  DATA   [拡張]
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)
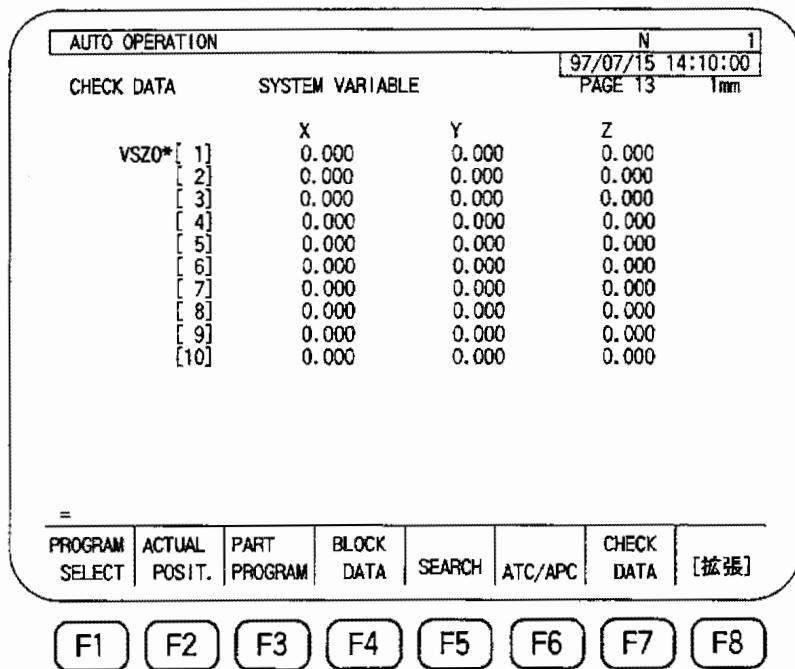
Fig. 6-23 System Variables Screen – Zero Offset (for system)

(4)　Tool Offset

AUTO OPERATION							N	1

97/07/15 14:10:00
CHECK DATA　　　　　SYSTEM VARIABLE　　　　　　　PAGE 18　　1mm

VTOFH[N]　　　　　　　　　　　　VTOFD[N]

NO.		NO.		NO.		NO.	
1	1.000	11	0.000	1	2.000	11	5.000
2	-65.974	12	-92.927	2	30.100	12	30.000
3	-65.629	13	-84.368	3	0.950	13	3.250
4	0.000	14	-85.932	4	0.000	14	3.990
5	0.000	15	-82.647	5	0.000	15	4.730
6	0.000	16	-76.238	6	0.000	16	5.500
7	0.000	17	-72.593	7	0.000	17	6.500
8	-92.110	18	-79.892	8	1.925	18	6.960
9	-71.620	19	-80.586	9	1.500	19	51.500
10	-68.702	20	-80.632	10	2.000	20	5.000

=

PROGRAM SELECT	ACTUAL POSIT.	PART PROGRAM	BLOCK DATA	SEARCH	ATC/APC	CHECK DATA	[EXTEND]

F1　F2　F3　F4　F5　F6　F7　F8

Fig. 6-24　System Variables Screen – Tool Offset

(5)　Tool Offset (for system)

AUTO OPERATION							N	1

97/07/15 14:10:00
CHECK DATA　　　　　SYSTEM VARIABLE　　　　　　　PAGE 23　　1mm

VSTOH[N]　　　　　　　　　　　　VSTOD[N]

NO.		NO.		NO.		NO.	
1	0.000	11	0.000	1	0.000	11	0.000
2	0.000	12	0.000	2	0.000	12	0.000
3	0.000	13	0.000	3	0.000	13	0.000
4	0.000	14	0.000	4	0.000	14	0.000
5	0.000	15	0.000	5	0.000	15	0.000
6	0.000	16	0.000	6	0.000	16	0.000
7	0.000	17	0.000	7	0.000	17	0.000
8	0.000	18	0.000	8	0.000	18	0.000
9	0.000	19	0.000	9	0.000	19	0.000
10	0.000	20	0.000	10	0.000	20	0.000

=

PROGRAM SELECT	ACTUAL POSIT.	PART PROGRAM	BLOCK DATA	SEARCH	ATC/APC	CHECK DATA	[EXTEND]

F1　F2　F3　F4　F5　F6　F7　F8

Fig. 6-25　System Variables Screen – Tool Offset (for system)

(6) System Parameter

```
┌─────────────────────────────────────────────────────────┐
│  AUTO OPERATION                          N        1       │
│                                    97/07/15 14:10:00      │
│  CHECK DATA        SYSTEM VARIABLE       PAGE 26    1mm    │
│                                                           │
│                    X           Y           Z              │
│         VPPL*     5000.000    5000.000    5000.000        │
│         VNPL*    -5000.000   -5000.000   -5000.000        │
│         VPSL*     5000.000    5000.000    5000.000        │
│         VNSL*    -5000.000   -5000.000   -5000.000        │
│         VINP*        0.100       0.100       0.100        │
│         VBLC*        0.000       0.000       0.000        │
│         VMOF*    36000.000   36000.000   28800.000        │
│         VHPI*        0.020       0.020       0.020        │
│                                                           │
│  =                                                        │
├────────┬────────┬────────┬────────┬──────┬──────┬────────┬────────┤
│PROGRAM │ACTUAL  │PART    │BLOCK   │      │      │CHECK   │        │
│SELECT  │POSIT.  │PROGRAM │DATA    │SEARCH│ATC/APC│DATA   │[EXTEND]│
└────────┴────────┴────────┴────────┴──────┴──────┴────────┴────────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Fig. 6-26 System Variables Screen – System Parameter

(7) Home Position

```
┌─────────────────────────────────────────────────────────┐
│  AUTO OPERATION                          N        1       │
│                                    97/07/15 14:10:00      │
│  CHECK DATA        SYSTEM VARIABLE       PAGE 27    1mm    │
│                                                           │
│                    X           Y           Z              │
│         VHPP*[ 1]  200.000     200.000     200.000        │
│              [ 2]  200.000     200.000     200.000        │
│              [ 3]  300.000     300.000     300.000        │
│              [ 4]   40.000       0.000       0.000        │
│              [ 5]    0.000       0.000       0.000        │
│              [ 6]    0.000       0.000       0.000        │
│              [ 7]    0.000       0.000       0.000        │
│              [ 8]    0.000       0.000       0.000        │
│                                                           │
│  =                                                        │
├────────┬────────┬────────┬────────┬──────┬──────┬────────┬────────┤
│PROGRAM │ACTUAL  │PART    │BLOCK   │      │      │CHECK   │        │
│SELECT  │POSIT.  │PROGRAM │DATA    │SEARCH│ATC/APC│DATA   │[EXTEND]│
└────────┴────────┴────────┴────────┴──────┴──────┴────────┴────────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Fig. 6-27 System Variables Screen – Home Position

(8) NC Communication Buffer

```
┌─────────────────────────────────────────────────────┐
│ │AUTO OPERATION│                        N        1  │
│                               ┌97/07/15 14:10:00┐   │
│  CHECK DATA      SYSTEM VARIABLE  PAGE 31    1mm    │
│                                                     │
│        VNCOM[1]   00000000                          │
│            [2]    00000000                          │
│            [3]    00000000                          │
│            [4]    00000000                          │
│                                                     │
│                                                     │
│                                                     │
│                                                     │
│                                                     │
│                                                     │
│  =                                                  │
│ ┌────────┬───────┬───────┬──────┬──────┬───────┬───────┬────────┐
│ │PROGRAM │ACTUAL │PART   │BLOCK │      │       │CHECK  │        │
│ │SELECT  │POSIT. │PROGRAM│ DATA │SEARCH│ATC/APC│ DATA  │[EXTEND]│
│ └────────┴───────┴───────┴──────┴──────┴───────┴───────┴────────┘
```

F1   F2   F3   F4   F5   F6   F7   F8
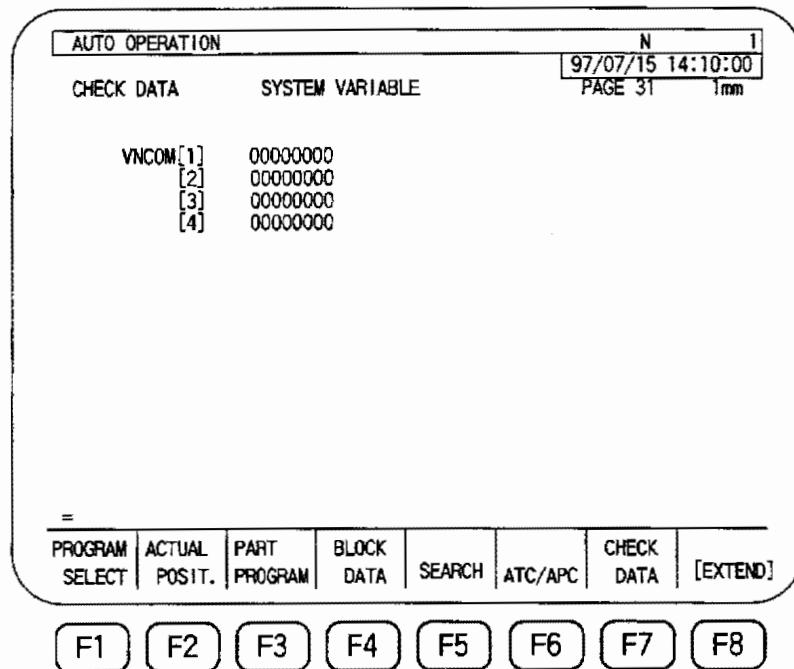
Fig. 6-28 System Variables Screen – NC Communication Buffer

(9) Other Data

```
┌─────────────────────────────────────────────────────┐
│ │AUTO OPERATION│                        N        1  │
│                               ┌97/07/15 14:10:00┐   │
│  CHECK DATA      SYSTEM VARIABLE  PAGE 32    1mm    │
│                                                     │
│      VPCNT    0              VFST    00000000=00    │
│      VOK1     00000000=00    VINCH   01000010=42    │
│      VOK2     00000000=00    VSPC0   10001010=8A    │
│      VNLM            0       VSPSB   00010000=10    │
│      VINTG           0       VMLOK   00000000=00    │
│      VPRT     00000000=00    VACOD   0              │
│      VMPC1    00000000=00    VFDMX      100000      │
│      VMPC2    00000000=00    VFSOV        100       │
│      VMPT     00000000=00    VTLNN          7       │
│      VTLCN          7        VSTM    00000000=00    │
│      VINS     01000010=42                           │
│      VINF     00000000=00                           │
│                                                     │
│  =                                                  │
│ ┌────────┬───────┬───────┬──────┬──────┬───────┬───────┬────────┐
│ │PROGRAM │ACTUAL │PART   │BLOCK │      │       │CHECK  │        │
│ │SELECT  │POSIT. │PROGRAM│ DATA │SEARCH│ATC/APC│ DATA  │[EXTEND]│
│ └────────┴───────┴───────┴──────┴──────┴───────┴───────┴────────┘
```

F1   F2   F3   F4   F5   F6   F7   F8

Fig. 6-29 System Variables Screen – Other Data

7-1-5. PLC Axis Data

The PLC axis data is displayed in decimal numbers on the display screen, as shown below.
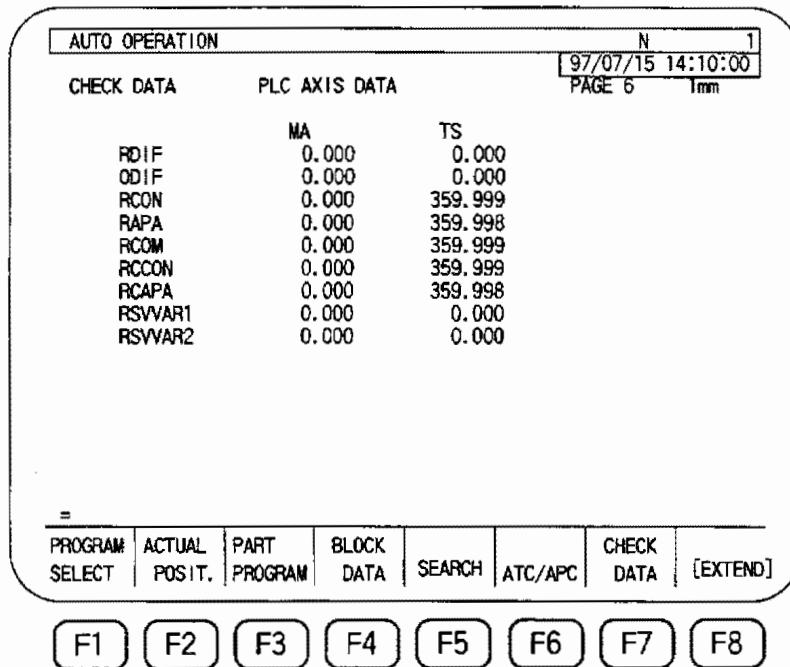
Fig. 6-30 PLC Axis Data Screen

RDIF	:	Difference between calculated value and position encoder output
ODIF	:	Difference between calculated value and position encoder output with acceleration/ deceleration activated
RCON	:	Calculated value
RAPA	:	Position encoder output
RCOM	:	Command value
RCCON	:	This is the RCON with the position encoder offset incorporated (applies to systems with axis switching specifications).
RCAPA	:	This is the RAPA with the position encoder offset incorporated (applies to systems with axis switching specifications).
RAVVAR1	:	Servo data (Designate the content of display with NC optional parameter (word) No. 10.)
RAVVAR2	:	Servo data (Designate the content of display with NC optional parameter (word) No. 10.)
WA	:	Crossrail
MA	:	Magazine
TS	:	Varies depending on the machine being used. Refer to the Maintenance Manual for the machine in question.
TI	:	Varies depending on the machine being used. Refer to the Maintenance Manual for the machine in question.

Additionally, the machine axis data enlarge display screen displaying ODIF, RAPA and load data in enlarged characters is provided.

```
┌─────────────────────────────────────────────────┐
│ AUTO OPERATION                          N      1 │
│                                 97/07/15 14:10:00│
│ CHECK DATA   PLC AXIS DATA              1mm       │
│              ODIF        RAPA     LOAD   %        │
│       MA     0.000       0.000     0             │
│       TS     0.000     359.998     0             │
│                                                  │
│                                                  │
│                                                  │
│ =                                                │
│ PROGRAM ACTUAL PART    BLOCK        │     CHECK   │
│ SELECT  POSIT. PROGRAM DATA  SEARCH ATC/APC DATA [EXTEND]│
└─────────────────────────────────────────────────┘
     F1   F2   F3   F4   F5   F6   F7   F8
```

7-1-6. MCS Diagnostics

```
┌─────────────────────────────────────────────────┐
│ AUTO OPERATION                          N      1 │
│                                 97/07/15 14:10:00│
│ CHECK DATA      MCS DIAGNOSIS      PAGE  9   1mm  │
│                                                  │
│                    X        Y        Z           │
│ MACHINE COORDS  -0.001   -0.001   -0.001         │
│                                                  │
│              AXIS COM.CODE DATA ID  DATA         │
│      * CH 1  ****    **     ****   ************** │
│        CH 2  ****    **     ****   ************** │
│        CH 3  ****    **     ****   ************** │
│        CH 4  ****    **     ****   ************** │
│                                                  │
│ =                                                │
│ PROGRAM ACTUAL PART    BLOCK        │     CHECK   │
│ SELECT  POSIT. PROGRAM DATA  SEARCH ATC/APC DATA [EXTEND]│
└─────────────────────────────────────────────────┘
     F1   F2   F3   F4   F5   F6   F7   F8
```

Fig. 6-31 MCS Diagnostics Screen

8. Run Guide Display

After selecting the EDIT AUX mode, press function key [F7] (RUN GUIDE), and the RUN GUIDE screen is displayed.

(1) RUNNING FILE

The operation status of the file currently selected is displayed at the left half area on the screen.
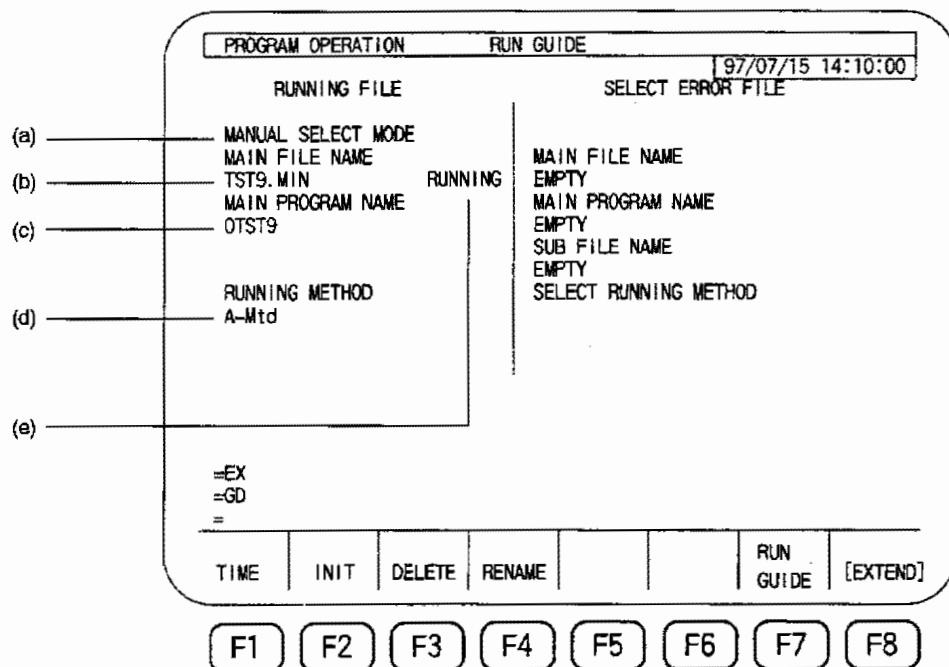
Fig. 6-32 Running File Display

(a) File selection method

This field indicates how the file has been selected and is being operated.

Display	Contents
EXTERNAL SELECT MODE	Operation by external program selection command
SCHEDULE MODE	Scheduled program operation
MANUAL SELECT MODE	Operation by manual program selection

(b) MAIN FILE NAME

This field indicates the main file name currently selected.

(c) MAIN PROGRAM NAME

This field indicates the main file program name currently selected.

(d) RUNNING METHOD

This field indicates the operation method of the program currently selected.

Display	Contents
A-Mtd	Normal operation
B-Mtd	Large volume operation
S-Mtd	Operation without branching and subprogram

(e) Operation status

This field indicates the current operation status of the program selected.

Display	Contents
SELECTED	Program selection complete, but it is not run.
RUNNING	Program is being executed.
END	Program execution has been completed; this display is given until the next program is selected or the next cycle is started.

(2) SELECT ERROR FILE

If an error occurred during automatic program selection, file is displayed at the right half of the screen.

Fig. 6-33 Select Error File Display

(f) MAIN FILE NAME

This field indicates the main file name selected if a program selection error has occurred.

(g) MAIN PROGRAM NAME

This field indicates the main file program name selected if a program selection error has occurred.

(h) SUB FILE NAME

This field indicates the sub file name selected if a program selection error has occurred.

(i) SELECTED RUNNING METHOD

This field indicates the operation method selected when a program selection error has occurred. The operation method is explained in detail in d) in (1), "RUNNING FILE".