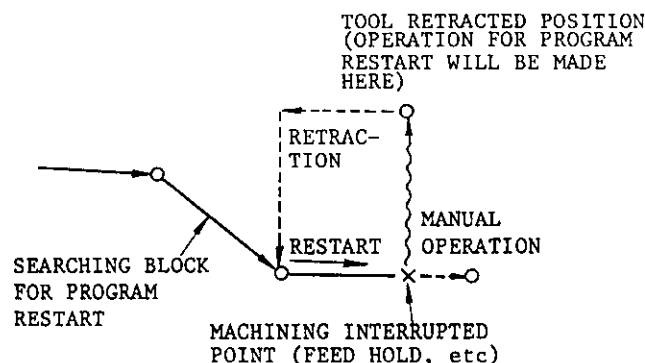## 6.2.4 PROGRAM RESTART[†]

Machining may be restarted from the block that follows the one for which the sequence number was specified. This restart is useful when re-placing the broken tool or taking over the ma-chining operation from the last work shift.

Program restart is of either type P or type Q, depending on whether the change of the coor-dinate system before or after the restart is per-mitted.

6.2.4.1 PROGRAM RESTART OF TYPE P

In type P, the program is restarted assuming that the change of coordinate system before and after the restart will not occur. Therefore, this type is used after the replacement of the tool broken during operation, for example.

Operation Procedure

When the tool is broken during machining operation, the automatic operation may be re-started in the following procedure:

(1) Press FEED HOLD button to stop the oper-ation and make the tool escape.

(2) Replace the broken tool and perform the associated chores. Change the tool offset, if required.

(3) Turn on PROGRAM RESTART switch on the machine control station.

(4) Press PROG function key to display the part program being executed. Take note of the sequence number of the block immediately before the block on which the feed-hold operation was performed.

(5) Set the head of the part program as follows:

a. In memory mode

Set memory mode, key-in the program number (Oxxxx) to be restarted, and press

$\boxed{\text{CURSOR} \atop \downarrow}$ key.

b. In tape mode

Set tape mode and set the head of the tape to the tape reader.

(6) Key-in P, sequence number, and $\boxed{\text{CURSOR} \atop \downarrow}$

in this order. The sequence number is the one that was taken note of in step (4).
While making the setups for program restart, the control searches for the block of the specified sequence number. If the same sequence number appears repeatedly, the nth sequence number may be specified.
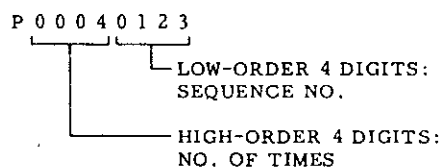
For example, the nth sequence number may be called in a subprogram for which L times of ex-ecution is specified. For the sequence number that appears first, the high-order 4 digits may be omitted. In this case, the leading zero of the sequence number may also be omitted.

(7) When the search is completed, the CRT screen automatically displays the program restart information.

```
PROGRAM RETURN        O0001 N0125

(UNIVERSAL)  M  03  33  10  06  45
X    100.000       63  **  **  **  **
Y-   200.000
Z    300.000
A     45.000

(INCREMENT)  M COUNT (0006)
X-   258.774
Y    483.123    T 0015  0025
Z-   182.347    S 0500
A     73.442    B 0000

                        PRN       RDY
```

Fig. 6.28 Display of Program Restart Information

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