2.9.15 RETURN FROM REFERENCE ZERO (G29)† (CONT'D)

- An input error "058" occurs if G29 is given during mirror image (M95).
- The following command or operation must not be taken because interim positioning point B of G28 does not meet with that of G29.

  (1) The following operations are made between G28 and G29 commands.
  - Setup of absolute zero (G92, ORG key)
  - Machine lock
  - Manual operation at Manual Absolute Off

  (2) G28 and G29 are commanded in the blocks following the block containing M94 which cancels mirror image at the different point from the starting point of mirror image.

  (3) G28 and G29 are commanded after manual operation at Manual Absolute Off.

2.9.16 2ND, 3RD AND 4TH REFERENCE POINT RETURN (G30)†

G30 Pn X··· Y··· Z··· (α†···) ;

(where Pn = P2, P3, P4)

With this command, the tool first moves to an interim positioning point, and then, moves to the 2nd, 3rd or 4th reference point.

P2:	2nd reference point	When P is omitted, the tool moves to the 2nd reference point.
P3:	3rd reference point	
P4:	4th reference point	

If any axis of the coordinate instruction is omitted in the command, the tool remains motionless in the direction of that axis.

Each reference point is specified by the parameters (#6612 to #6629) before hand.

EXAMPLE

```
G30 P3 X30 Y50 ; ···  The tool returns to the
                      3rd reference point
                      moving in the X and Y
                      directions.
```

NOTES:

- Three items except the last one in NOTES of 2.9.14 AUTOMATIC RETURN TO REFERENCE POINT (G28)† apply to G30 in the same manner.
- When G29 is commanded after G30, the tool moves to the designated point by G29 by way of interim positioning point designated by G30. However the interim positioning point is renewed on the axis designated by G30.

2.9.17 SKIP FUNCTION (G31)†

G31 X··· Y··· Z··· F··· ;

With this command, a special linear interpolation is commanded. During the interpolation movement under the command of this program, whenever a skip signal is inputted, the interpolation is interrupted immediately, and the program advances to the next block. From the moment that a skip signal is inputted to the time the control start to process the signal, delay time is less than 0.5 m sec. G31 is non-modal.

EXAMPLE

```
N100 G90 G31 X100.0 Y50.0 ;
N200 G01 X80.0 Y15.0 ;
      .
      .
      .
```

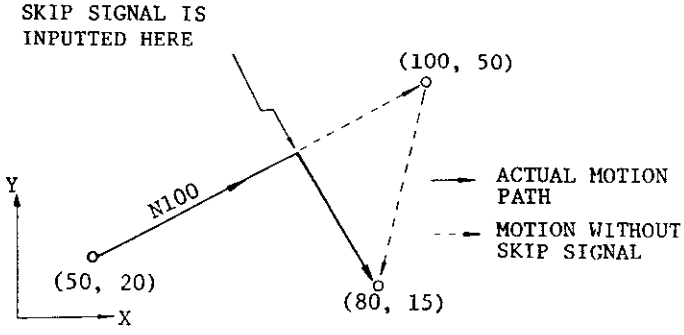

Fig. 2.32

When G31 block is executed without a skip signal being inputted, the machine stops at the end of the block, and the alarm code "087" is displayed.

Feedrate of the tool is set for G31 blocks selectively by one of the following two methods as specified by parameter #6019D4.

- To be specified by F similar to ordinary programs.
- To be set in advance by parameter #6232.

When a skip signal is inputted, the coordinate values at the moment are automatically stored as parameter data.