6.2.1 MANUAL RETURN TO REFERENCE POINT (CONT'D)

c. Once the tool is returned to the reference point, it can not be further moved in the same direction unless the REFERENCE POINT RETURN switch is turned off.

d. While the MACHINE LOCK switch is on, the reference point return function is ineffective.

e. Do not return the tool to the reference point by the manual reference point return function, while the buffer is loaded with blocks read in advance of execution, because the stored motion data will be erased by the reference point return motion.

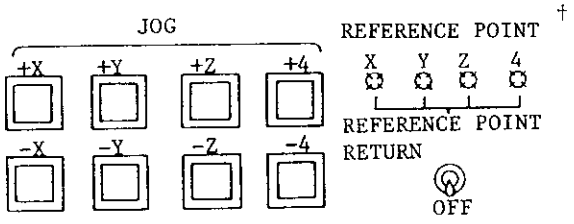

Fig. 6.2.1.2

6.2.2 AUTOMATIC COORDINATE SYSTEM SETTING†

With this function, a new coordinate system is set up automatically upon the return of the tool to the reference point by the manual reference point return function. The coordinates of the new origin are preset with the following parameters. The coordinate system set up by this function is equivalent to the ones set up by G92.

1. Parameters for metric system

Parameter	Meaning
#6636	X coordinate
#6637	Y coordinate
#6638	Z coordinate
#6639	4th coordinate

2. Parameters for inch system

Parameter	Meaning
#6630	X coordinate
#6631	Y coordinate
#6632	Z coordinate
#6633	4th coordinate

3. Axis can be selected by parameter #6015 for both metric and inch systems.

4. Upon the return of the tool to the reference point by the manual reference point return function (G28), when the controlled axis is the 4th or 5th axis of the rotary axis (A, B, or C), a new coordinate system is set up automatically in the same way as mentioned above.

Upon Tool Return to Reference Point	Basic Axis X, Y, Z	4th, 5th Axis U, V, W	4th, 5th Axis A, B, C
Manual	○	○	○
Automatic	×	×	○

○: When parameter #6015 Dn = 1, the automatic coordinate system setting is effective.

×: Even if #6015 setting is 0 or 1 the automatic coordinate system setting will not be performed.

5. Restrictions for automatic coordinate system setting by G28

When automatic coordinate system setting G28 is executed on rotary axis, the tool is returned to the nearest reference point [360° × n(n: integer), if first reference point is 0°]. At this time, the display shows the current value of 360° × n. Operation should not be continued at this value. For operation, current value display should be set up automatically to the desired value.

NOTE:

If G28 command (automatic coordinate system setting) is used during operation on the work coordinate system (G54 to G59 commands), basic coordinate system shifts. As a result, work coordinate system, which is commanded by G54 to G59 and set on the basic coordinate system, α, shifts also. Refer to 2.9.25, Work Coordinate System Setting (G52 to G59).