

## 7-2 Basic Coordinates System Unit (WPC)

This unit serves to specify the distance from the machine zero-point to the workpiece zero-point. When data setting for the common unit has been finished, the following menu is displayed for the next unit setting. If this menu is not displayed, press the menu selector key (key located at the right of the menu keys) in creating mode.

POINT	LINE	FACE	TURNING	MANUAL	WPC	OFFSET	END	SHAPE	>>>
MACH-ING	MACH-ING	MACH-ING		PROGRAM				CHECK	

Press the [WPC] menu key.

### 1. Data setting in basic coordinates system unit

UNo.	UNIT	ADD. WPC	X	Y	th	Z	4	5
1	WPC-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Instead of "4" or "5", the axis name is indicated on the NC display.

Cursor position	Entering
UNIT	Several basic coordinates systems (WPC) can be specified in one program. They are differentiated each other by their numbers. Enter the unit number with alphanumeric data keys. Permissible input range: 0 to 99
ADD. WPC (option)	Set data in this item only if you are to use additional basic coordinate data (coordinates A to J) and workpiece offset data (G54 to G59), instead of using the normal WPC data. If data is set, the modal status display of the POSITION display will remain set to G54.1 P0 and external workpiece offsets will not be displayed exactly.
X	Enter the X coordinate of the workpiece zero-point in the machine coordinates system.
Y	Enter the Y coordinate of the workpiece zero-point in the machine coordinates system.
th	Enter the angle formed by the machine coordinates system and the workpiece coordinates system.
Z	Enter the Z coordinate of the workpiece zero-point in the machine coordinates system.
4	Enter the 4th axis coordinate of the workpiece zero-point in the machine coordinates system. For the rotational axis enter the angle of the 4th axis formed by the machine coordinates system and the workpiece coordinates system.
5	Enter 5th axis coordinate of the workpiece zero-point in the machine coordinates system. For the rotational axis enter the angle of the 5th axis formed by the machine coordinates system and the workpiece coordinates system.

When the cursor is positioned at coordinates, the WPC zero-point can be set to the turning center by pressing the [T.CENTER AUTO] menu key. To perform turning or C-axial point or linear machining, be sure to select T.CENTER as the WPC zero-point.

UNo.	UNIT	ADD. WPC	X	Y	th	Z	C
1	WPC-99		T.CENTER	T.CENTER	0		0

For machines without turning functions, when the cursor is positioned at coordinates, the WPC zero-point can be set to the axis of table rotation by pressing the [TABLE CENTER XY] menu key. To perform C-axial point or linear machining, be sure to select TABLE-CT. as the WPC zero-point.

UNo.	UNIT	ADD. WPC	X	Y	th	Z	C
1	WPC-99		TABLE-CT.	TABLE-CT.	0		0

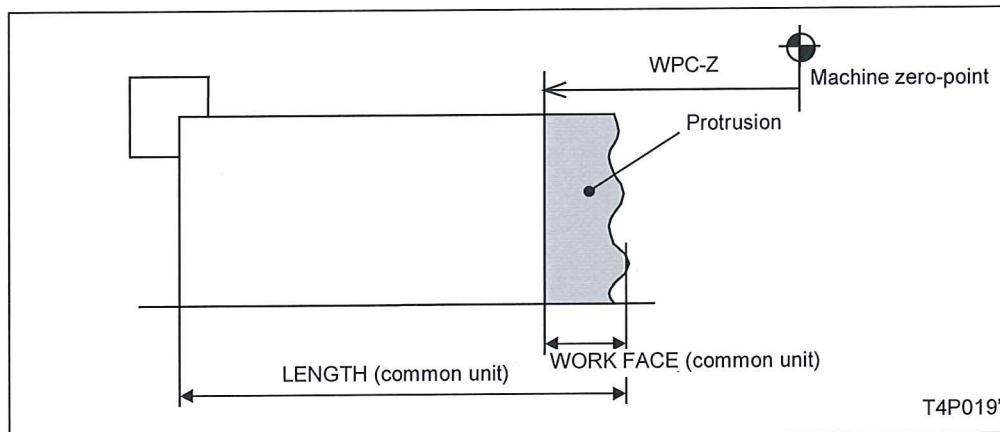
Note 1: The modal display value on the POSITION display during the start of the MAZATROL program is G54.1P0.

Note 2: When the "workpiece scheme (MILL & TRN)" is selected for the program, set WPC-Z (Z position of the zero-point) of the first WPC unit to the edge of the workpiece.

The above setting operation is required for NC to identify the Z-axial position of the workpiece. Thus, the path is created so that the tool does not interfere with the workpiece.

When two or more WPC units are specified, although the machining path will be created with the last WPC unit as its origin, the workpiece interference avoidance path will be created with the first WPC unit as its origin.

To change the position of the workpiece, use the workpiece transfer unit (TRANSFER).



Note 3: When the "workpiece scheme" is selected for the program, the common or material unit must always be immediately followed by WPC unit so as to determine the position of the workpiece. Also, there are the following conditions with respect to that WPC unit:

- If a subprogram is to be called, set the WPC unit in front of the subprogram unit within the main program.
- The WPC unit must have T.CENTER selected for both X and Y. Do not use an ADD. WPC setting (additional coordinate systems or work offsets) since the indispensable selection will then be impossible. The use of ADD. WPC results in alarm 760 NO T.CENTER POINT IN WPC UNIT.
- When an ADD. WPC setting (additional coordinate systems or work offsets) is used, TABLE-CT. cannot be specified for both X and Y of the WPC unit.