6.1   Home Position Calibration

6.1.1   Home Position Calibration

> NOTE
>
> Teaching and playback are not possible before home position calibration is complete.
>
> In a system using two or more manipulators, the home position of all the manipulators must be calibrated before starting teaching or playback.
>
> Set the security mode to the management mode to perform home position calibration.

Home position calibration is an operation in which the home position and absolute encoder position coincide. Although this operation is performed prior to shipment at the factory, it must be performed again when the following cases occur.

- Change in the combination of the manipulator and YRC1000micro
- Replacement of the motor or absolute encoder
- Stored memory is cleared. (due to weak battery, etc.)
- Home position deviation is caused by hitting the manipulator against a workpiece, etc.

To calibrate the home position, use the axis keys to calibrate the mark for the home position on each axis so that the manipulator can take its posture for the home position. There are two operations for home position calibration:

- All the axes can be moved at the same time
- Axes can be moved individually

If the absolute data of the home position is already known, set the absolute data again after completing home position registration.

> SUPPLE -MENT
>
> **Home Position**
>
> The home position is the position with the pulse value "0" for each axis. See *chapter 6.1.3   "Home Position Posture of Manipulator"* .
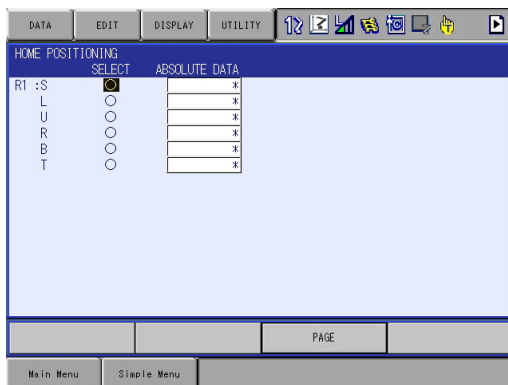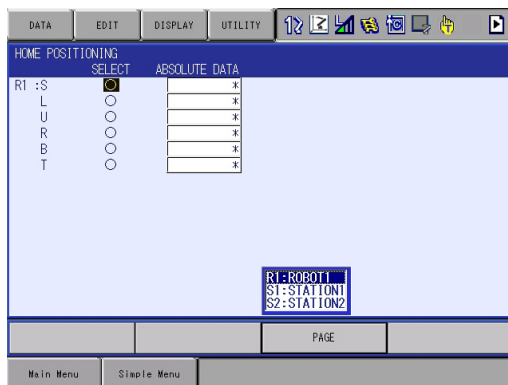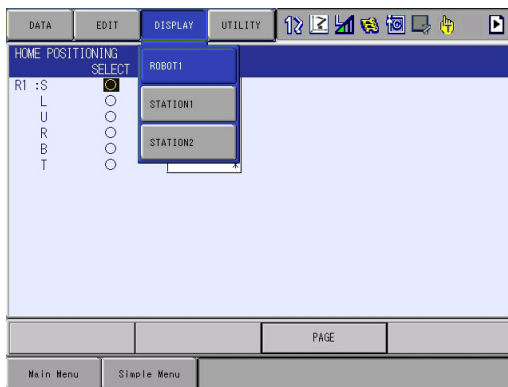
6.1.2   Calibrating Operation

6.1.2.1   Registering All Axes at One Time

1. Select {ROBOT} under the main menu.

2. Select {HOME POSITION}.

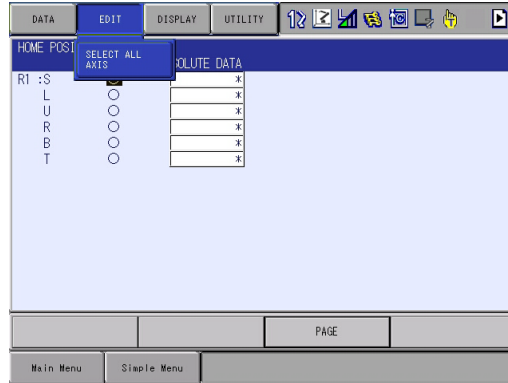   – The HOME POSITIONING window appears.

3. Select {DISPLAY} under the menu,

    or select "PAGE" to display the selection window for the control group,
    or press [PAGE].
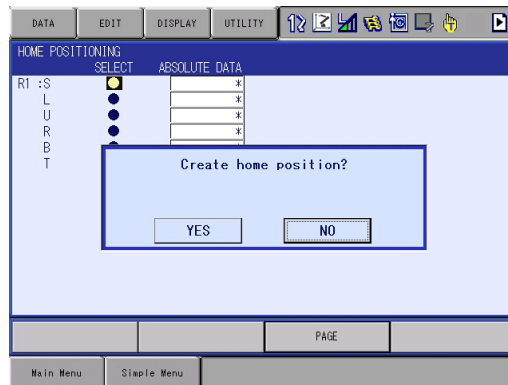
    – The pull-down menu appears.

4. Select the desired control group.

5. Select {EDIT} under the menu.

  – The pull-down menu appears.

6. Select {SELECT ALL AXES}.

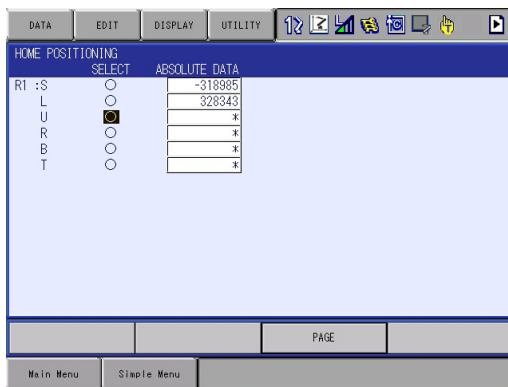 – The confirmation dialog box appears.

7. Select {YES}.

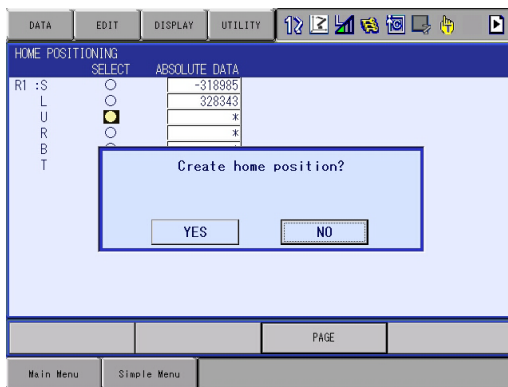 – Displayed position data of all axes are registered as home position. When {NO} is selected, the registration will be canceled.

6-5

6.1.2.2   Registering Individual Axes

1. Select {ROBOT} under the main menu.

2. Select {HOME POSITION}.

3. Select the desired control group.

    – Perform steps 3 and 4 which have been described in "Registering All
      Axes at One Time" to select the desired control group.

4. Select the axis to be registered.

    – The confirmation dialog box appears.

5. Select {YES}.

    – Displayed position data of the axis are registered as home position.
      When {NO} is selected, the registration will be canceled.

6.1.2.3 Changing the Absolute Data

To change the absolute data of the axis when home position calibration is completed, perform the following operations:

1. Select {ROBOT} under the main menu.

2. Select {HOME POSITION}.

3. Select the desired control group.

   – Perform steps 3 and 4 which have been described in "Registering All Axes at One Time" to select the desired control group

4. Select the absolute data to be registered.

   – The number can now be entered.

5. Enter the absolute data using the numeric keys.

6. Press [ENTER].

   – Absolute data are modified.

6.1.2.4   Clearing Absolute Data

1. Select {ROBOT} under the main menu.

2. Select {HOME POSITION}.

    – Perform steps 2, 3, and 4 which have been described in "Registering All Axes at One Time" to display the HOME POSITIONING window and select the desired control group.

3. Select {DATA} under the menu.

    – The pull-down menu appears.
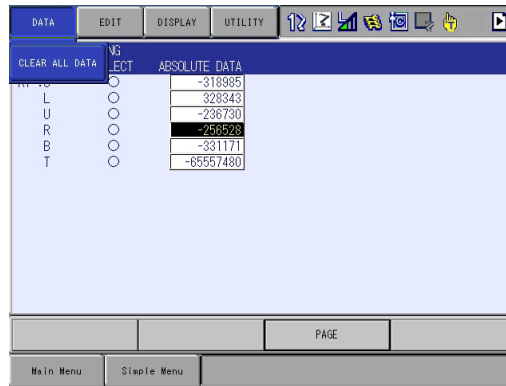
4. Select {CLEAR ALL DATA}.
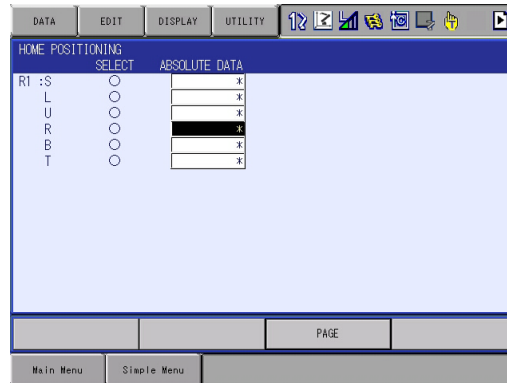
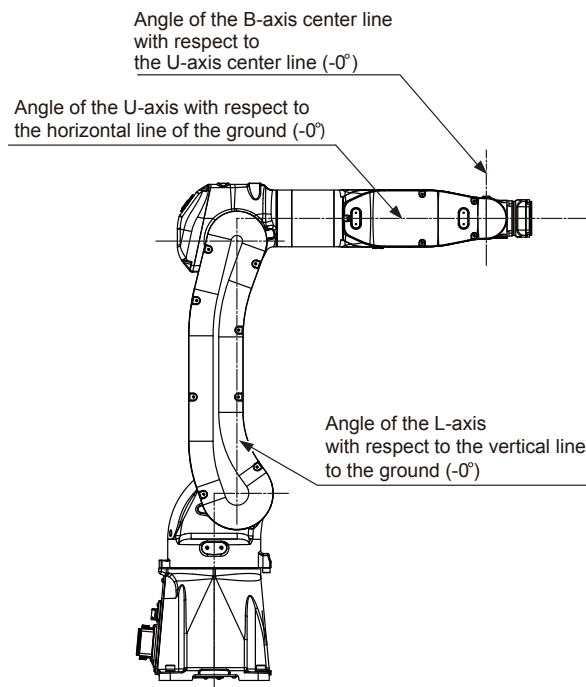   – The confirmation dialog box appears.

5. Select {YES}.

– The all absolute data are cleared. When {NO} is selected,
the operation will be canceled.

6.1.3   Home Position Posture of Manipulator

The home position posture of a commonly used 6-axis vertically-articulated manipulator is shown below.

| NOTE | The home position posture of each manipulator differs depending on its model. Refer to the manipulator's instruction manual corresponding to the model. |