Creating and Editing MoveToPosture Activities

A MoveToPosture activity allows you to store a target posture for a specific worker at a specific time in the process.

All the Walk and Climb commands automatically create a series of MoveToPostures between designated start and stop points.

When a MoveToPosture activity is created, the current posture of the worker is stored just like any other constraints associated with the posture. These constraints also store the active offset (if any) of their end-effector segment.

The MoveToPosture captures the posture of the line of sight of a manikin. In a production process, the worker encounters situations/scenarios wherein the worker changes its gaze without moving the head. There arises the need to simulate the change in gaze of the worker, which involves no movement of head. See Line of Sight, field of view (visual cone) for more information.

To represent the time of human motion as accurately as possible in a HumanTask such that you can estimate the overall time without using a real worker and real products in the process planning and detailing phase, the synchronization between Time and Speed basis during the definition of MoveToPosture activity can be achieved. See Synchronization between Time and Speed in MoveToPosture

NOTE: 3D state is displayed in the MTP node under the PPR tree. The icon for MTP changes to indicate that a 3D state has been assigned to the MTP. Upon removing the 3D state assignment, the icon is restored to normal.

MoveToPostures may need to be edited when changes occur in the process or anthropometry.

1. Select **MoveToPosture** in the **Worker Activities** toolbar.

2. Select a manikin or a preceding activity/task from a specific worker's **TaskList** in the PPR tree.
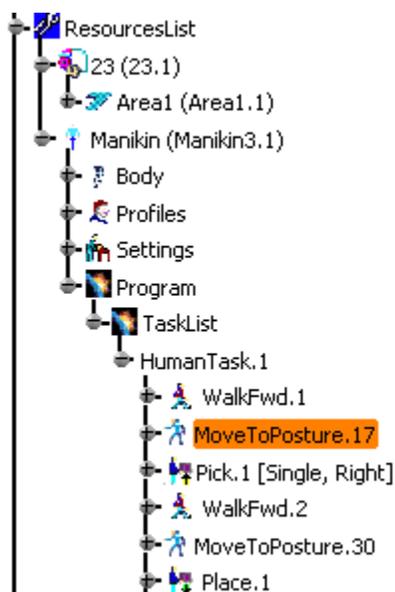
(i) If you select a worker after selecting this command, a new task will automatically be created for the worker and the new MoveToPosture activity will be the first one under the new task.

If you select an activity of an existing task, the new MoveToPosture activity will be a successor to that selected activity.

3. The **MoveToPosture Activity** dialog box appears.
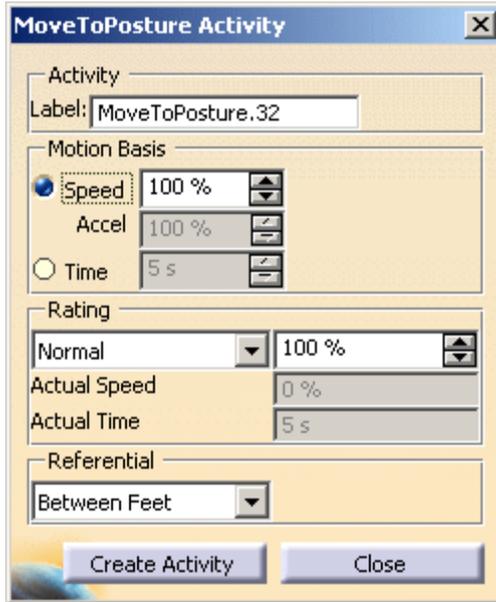
4. Under **Motion Basis**, the **Speed** option is selected by default and the values for speed and acceleration are both 100%. The spinner for Time is disabled showing the default time of 5 s.

- Change the speed using the spinners. The corresponding cycle time is calculated during simulation. The acceleration field in posture dialog is intended to provide information and is not an editable field.

- Select the Time option. The Time spinners are enabled and the Speed and Acceleration spinners are disabled.
  Assign a cycle time. Based on the specified cycle time, the corresponding speed and acceleration are calculated during simulation.

- The Referential field stores the referential of the the selected manikin for the current MoveToPosture Activity in case the posture is later re-established for this activity with a manikin of a different anthropometry. For example, if the current manikin size changes from the 97th percentile to the 50th percentile, the position between the feet remains the same when the MoveToPosture activity is edited again.

The specified cycle time for the MoveToPosture **A**ctivity is automatically updated in its **Properties** page and also in the **Gantt** chart.

5. Under **Rating**, three rating values are specified – Fast (120%), Normal (100%)

and Slow (80%). These rating values can be customized. For example:

Example
Case1. Speed 100% Rating 120%
MTP works with Joint Speed 120%

Case2. Time 5s Rating 120%
MTP works with time 4.16..s

Rating, Actual Speed and Actual Time fields in the MTP dialog are **read** only. The rating value can be changed only through Walk, HAG or Human Task.
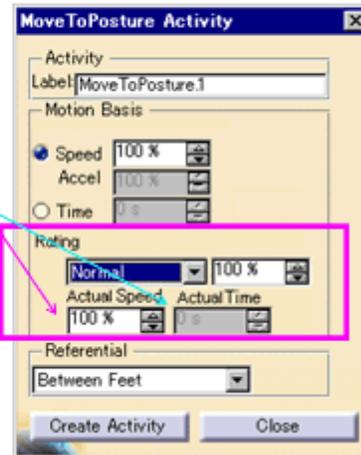
6. Modify the posture of the selected worker using commands from the Manikin Posture toolbar as described in Modifying Postures for a Worker.

> The **Create Activity** option in the **MoveToPosture Activity** dialog will work only if no commands other than the one to create the MoveToPosture Activity is active.

7. When the target posture is satisfactory, click **Create Activity** in the **MoveToPosture Activity** dialog.

8. The **MoveToPosture Activity** dialog remains open for the next MoveToPosture activity to be created.

9. Change the worker's posture and click **Create Activity** again. The **MoveToPosture.2** activity is created. Note that, by default, it is created after **MoveToPosture.1** in the same human task.
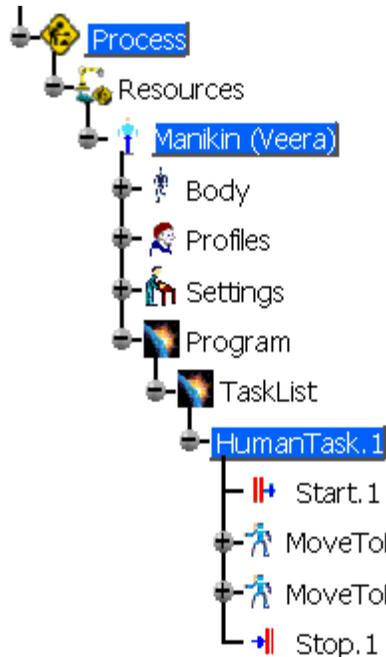
> ⓘ Any MoveToPosture activity can be renamed in the **Properties** dialog box for that activity.

10. Run the simulation to verify that the posture is reset in the second MoveToPosture activity.

Editing MoveToPosture Activities

Several types of editing may be done on MoveToPosture activities.

Use the MoveToPosture Activity Dialog Box

You can modify the posture or add/delete/modify offsets or add/delete/modify constraints for editing MoveToPosture. The created constraints and offsets are left on the Manikin tree when the MoveToPosture activity dialog box is closed.

1. In the PPR tree, double-click on the **MoveToPosture** node to re-access the **MoveToPosture Activity** dialog box, after doing the following:

   ꝺ Constraints on the Manikin are deleted.
   ꝺ The constraints from MTP are replicated on the Manikin (PPR tree of Manikin shows the constraints of MTP)
   ꝺ All active offsets under Manikin settings are deactivated. If non-default offsets for a end-effector segment is found on Constraint of MTP, a new offset is created on the end-effector segment. It is shown on the PPR tree and in the 3D viewer. The offsets are named as Offset-Constraint1, if the offset is created using the end-effector offset stored in Constraint1.
   ꝺ IK Update is done on the Manikin to restore the Manikin to target-posture.
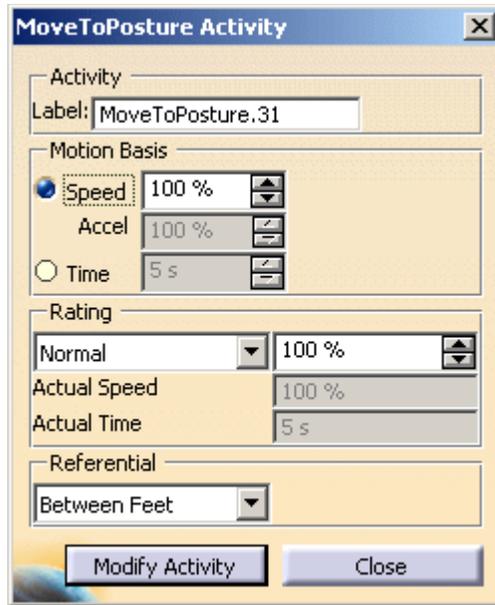
2. In the 3D view, modify the worker's posture (or change the motion basis or referential).

3. Click **Modify Activity** to save the changes, then **Close**.

Use the MoveToPosture Contextual Menu

In the PPR tree, right-click on a **MoveToPosture** node to access the contextual menu for that **MoveToPosture**.
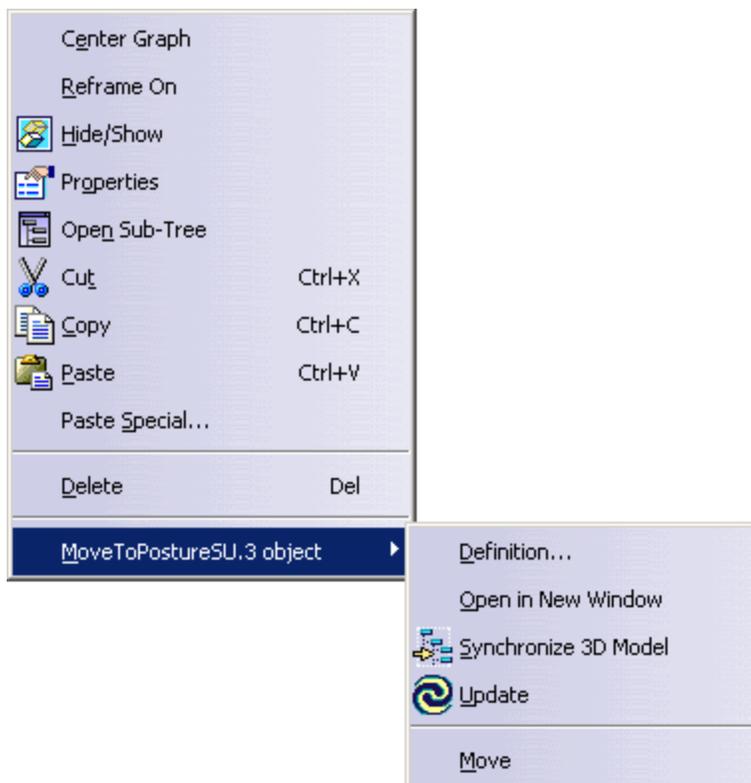
Update

Use this command to **update constraints** and store the correct resulting posture back into the selected MoveToPosture activity. Multiple MoveToPosture activities or human tasks can be selected at the same time; the updated posture information, based on the internal constraints update, is restored. Please note that in case of multi-select of activities, only the posture stored in activities selected for update is re-written; other activities in the same task are not modified; even though the 3D world is synchronized to the end of the task.

This command is useful, for example, when:

- Anthropometric values are changed
- Layout changes, i.e., table height
- Data is copy/pasted from one MoveToPosture to another
- A task or a set of MoveToPostures is moved

Move

Entire tasks can be moved in the 3D view; a set of activities within a task can also be used.