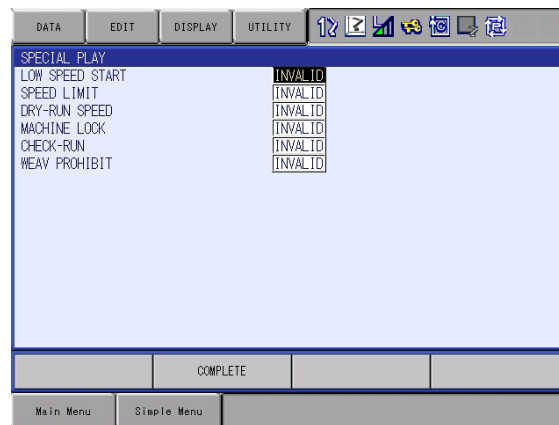### 4.2.2   Special Playback Operations

The following special operations can be performed during playback:

- Low speed operation

- Limited speed operation

- Dry-run speed operation

- Machine lock operation

- Check mode operation

- Weaving prohibited operation

Two or more special operations can be performed at the same time. If multiple operations are selected, the speed during playback is limited to the speed of the slowest operation. Settings for special operations are done in the SPECIAL PLAY window.

When the PLAYBACK window is displayed, move the cursor to the menu area and select {UTILITY} → {SPECIAL PLAY}. The SPECIAL PLAY window appears.

4.2.2.1   Low Speed Operation

The manipulator moves at low speed during the first step after starting.

After the operation of this step, the manipulator stops regardless of the selection of the operation cycle and then low speed operation is canceled.

During/After one step operation, pressing [START] allows the manipulator to move at the taught speed from the next step.

1. Select "LOW SPEED START" on the SPECIAL PLAY window.

    – The setting alternates between "VALID" and "INVALID".

2. Select "COMPLETE".

    – The window returns to the PLAYBACK window.

4-11

4.2.2.2   Limited Speed Operation

The manipulator operates within the limited speed for the teach mode. Usually, the limited speed is set to 250 mm/s at the TCP and the flange. For the step in which the speed at the TCP is 250 mm/s or less, operation is performed at the taught playback speed.

1. Select "SPEED LIMIT" under the SPECIAL PLAY window.

    – The setting alternates between "VALID" and "INVALID".

2. Select "COMPLETE".

    – The window returns to the PLAYBACK window.

4.2.2.3   Dry-Run Speed Operation

The dry-run speed is a constant speed that is independent of the speed used for teaching, and the dry-run speed is usually 10% of the maximum speed. The manipulator executes all the steps at the constant speed, which is convenient for quick check of a job consisting of slow operations.

> NOTE   Be careful of steps programmed at lower speeds than the dry-run speed, because they are executed at greater speeds than programmed.

1. Select the "DRY-RUN SPEED" under the SPECIAL PLAY window.

    – The setting alternates between "VALID" and "INVALID".

2. Select "COMPLETE".

    – The window returns to the PLAYBACK window.

Fig. 4-1: Safety Speed and Dry-Run Speed

4-12