



VarioStack™

SIEMENS

Lift Calibration Procedure

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Parts and Service: 1-800-938-7378

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Important: Prior to operating any of the equipment or performing any of the maintenance procedures described within this manual, it is strongly recommended that the operator and maintenance technician read the information provided within the applicable sections of this manual. All personnel shall pay particular attention to the notes, cautions, warnings, and dangers presented in this manual and posted on or in the area of the equipment. This equipment has been designed for use by trained and qualified operators. Every possible effort to prevent injury to the operator or maintenance personnel has been taken in the preparation of this manual. Damage to the equipment is possible when the procedures contained within this manual are not followed.

Revisions

Revision	Date	Description
A	2020-July-21	Initial Release

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1 Introduction

1.1 Purpose

This document describes steps required to calibrate the encoder for the lift servo in the VarioStack™ system. This procedure should be executed during the initial machine setup and anytime the lift servo motor or controller are removed and replaced. The procedure may also be needed to resolve frequent jams caused by poor alignment of the lift during the destack operation.

1.2 Referenced Documents

Siemens Part Number	Title
740-01372	VarioStack™ Operation Manual
740-01373	VarioStack™ Service Manual

1.3 Assumptions

1.3.1 Electrical Main Control Enclosure will be delivered with software installation already completed and commissioned by follow document **730-03228 VarioStack™ SW Installation Instructions**.

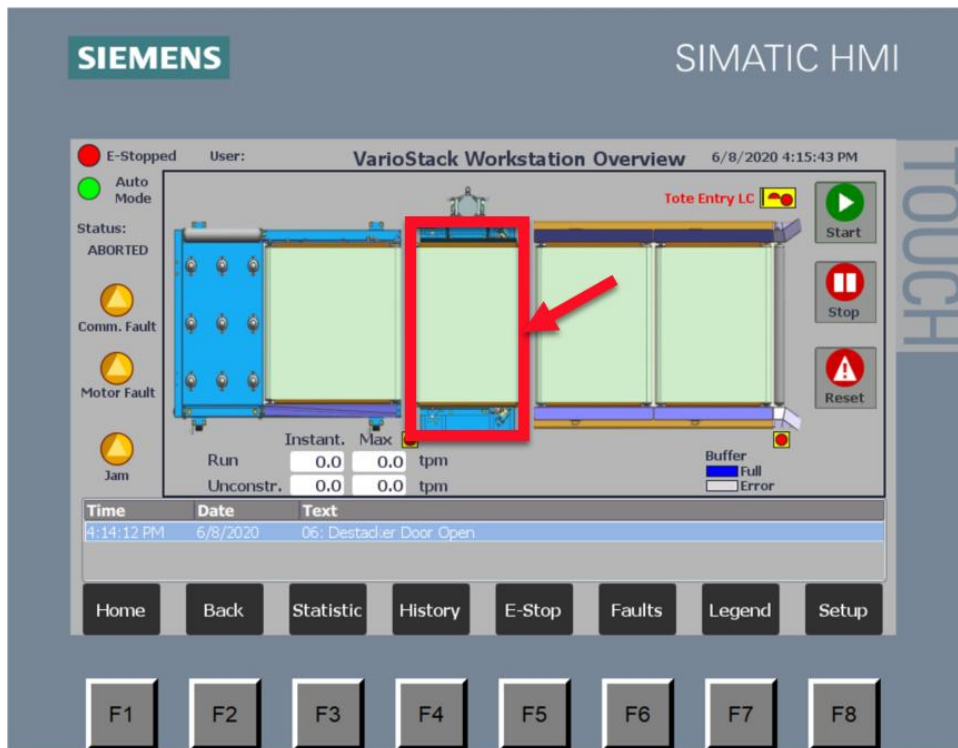
1.3.2 At a minimum, the technician should be familiar with the following documents before executing this procedure:

- **740-01373 VarioStack™ Service Manual**
- **740-01372 VarioStack™ Operation Manual**

2 Calibrate Lift Home Position

2.1 Set Grip Position

- 2.1.1 Ensure the machine is empty of totes or other objects.
- 2.1.2 Start the machine in Manual Mode.
- 2.1.3 Ensure there are no active faults or E-Stops. If necessary, use the reset button on the Main OCP to clear these error conditions.
- 2.1.4 Go to Home Screen and select the Destacker Module.



- 2.1.5 On Destacker Module Screen press the Manual Controls button:

Manual Controls

- 2.1.6 The Login Screen may appear. Enter the User and Password, and then press **OK**.

User: **maint**

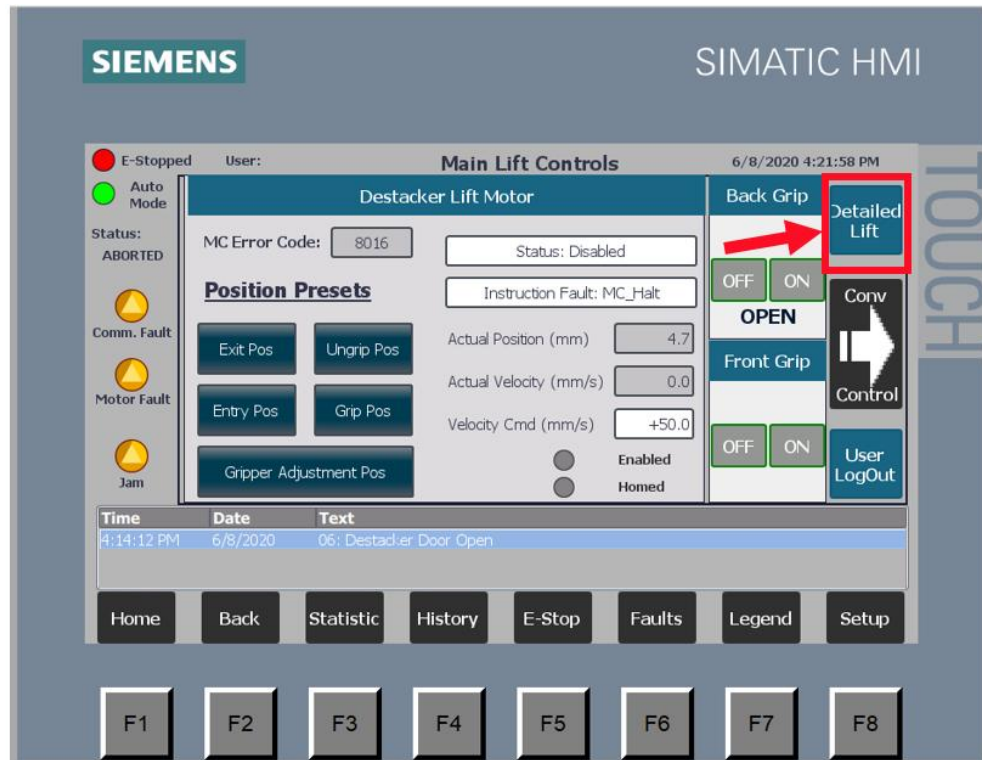
Password: **maint**

2.1.7 After login, press on the Manual Controls button on the Destacker Module Screen again.

Manual Controls

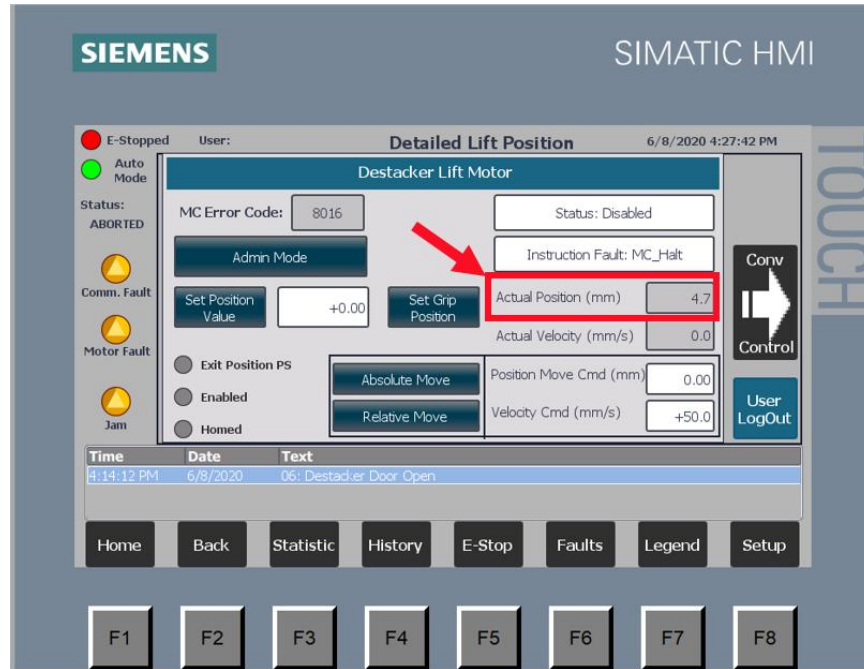
Detailed
Lift

2.1.8 On the Main Lift Control Screen press on Detailed Lift button to get to Detailed Lift Position Screen.



2.1.9 Check Actual Position (mm):

- 2.1.9.1 The Actual Position (mm) field should range between zero (lowest position) and ~870mm (highest position). The controller will not allow the lift to move outside of this range.

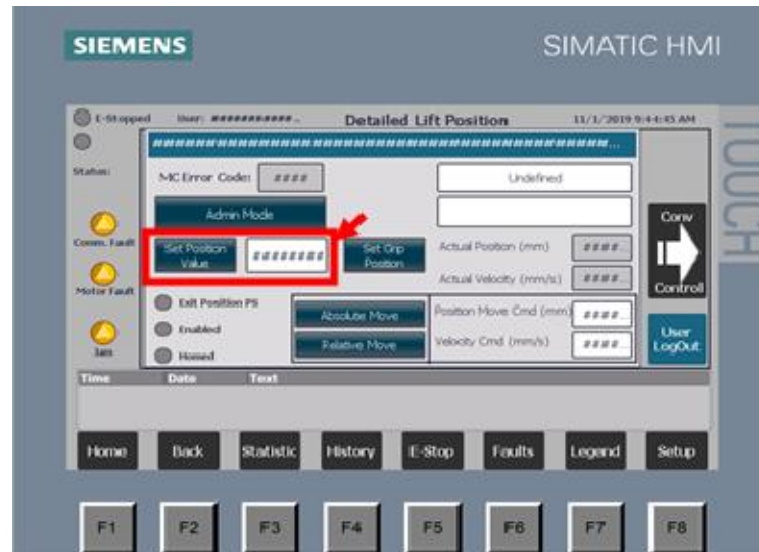


If any of the following conditions are true, skip to step 2.1.10.

- Current position value is outside of the allowable range
- Current position value doesn't roughly match the actual position of the lift
- Lift controller has never been calibrated

- 2.1.9.2 Enter a value of zero in the field next to “Set Position Value” button and press “Set Position Value” button. Verify the “Actual Position (mm)” updates to the zero value.

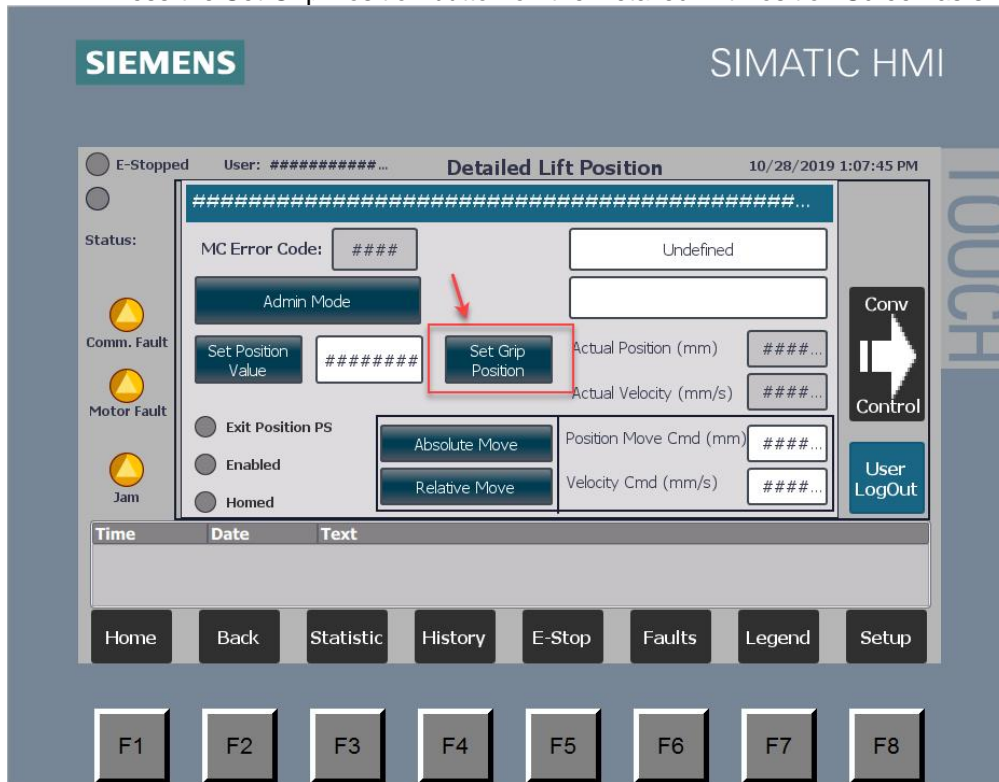
This step will allow the lift to raise to the grip position without the “Actual Position (mm)” ever exceeding its upper limit value (~870 mm). See figure below.



- 2.1.10 Use the JOG UP or the JOG DOWN buttons on the Main OCP to get to the grip position (Cam Roller aligned with the Gripper Cam) as shown below.



2.1.11 Press the Set Grip Position button on the Detailed Lift Position Screen as shown below.



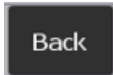
2.1.12 Verify the Actual Position (mm) changes to the configured grip position value.

This value is 780mm by default.


Note: Position will not update if the system has any error conditions (E-Stops or faults) present. If position fails, recheck for these conditions.

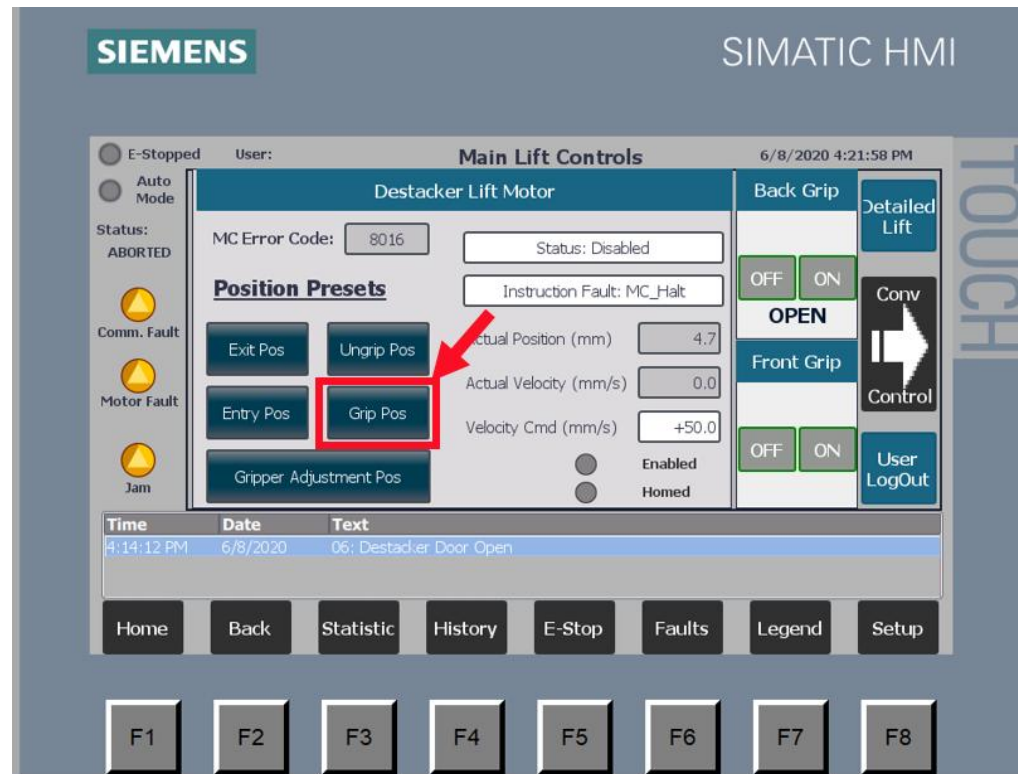
2.2 Verify Grip Position

2.2.1 Use the JOG UP  or the JOG DOWN  buttons on the Main OCP to jog the lift away from the grip position

2.2.2 Press  to return to the Main Lift Controls screen.

2.2.3 Verify the system is still in manual mode, no E-Stops are pressed, and no faults are present

2.2.4 Press  to command the lift to drive to the grip position.



2.2.5 Check gripper cam alignment to the respective cam roller as described in step 2.1.10. If proper alignment is not achieved, repeat this procedure.