
Program Name: SD_Homing

Program Description: This program is used to execute a homing move with a ClearPath-SD servo. It contains the logic for hardstop homing and sensor-based homing.
Change the Motor0_Home_Sensor bit to -1 or the I/O port (0-12) that your home sensor is connected too to switch between hardstop and sensor-based homing respectively.
See the ClearLink Homing Readme for a step by step guide on setting up the Configuration Assembly for homing.

Motor Required: One ClearPath-SD (Step & Direction) motor connected to ClearLink at connector M-0.

Software Used: Studio 5000 Logix Designer (Version 32.02.00 was used to create this routine).

Controller Used: Allen-Bradley CompactLogix Controller / Model #: 1769-L16ER-BB1B was used to create this example.

BEFORE RUNNING THIS EXAMPLE, your ClearPath-SD motor must first be configured in MSP (ClearPath Motor Setup Program). See the ClearLink Software Object Data Reference for motor setup and configuration instructions: https://www.teknic.com/files/downloads/clearlink_ethernet-ip_object_reference.pdf.

IMPORTANT FAILURE TO PROPERLY TUNE AND CONFIGURE YOUR CLEARPATH MOTOR BEFORE USE MAY RESULT IN UNEXPECTED MOTION, OR NO MOTION.

IMPORTANT The user must set the Begin_Homing tag to begin the homing sequence.

*****BEGIN RUNG COMMENTS*****

• Enable Motor 0. CAUTION: Enabled motors can output torque and move in response to motion commands.

0

EQU		
Source A	CURRENT_STATE	0
Source B	STATE_ENABLING	0

ClearLink:O1.Motor0_Output_Reg_Enable



ClearLink:I1.Motor0_Status_HLFB_ON



MOV		
Source	STATE_WAITING_TO_START_HOMING	1
Dest	CURRENT_STATE	0

1

EQU		
Source A	CURRENT_STATE	0
Source B	STATE_WAITING_TO_START_HOMING	1

• The user must set the Begin_Homing tag to start the homing sequence.

Begin_Homing



MOV		
Source	STATE_CLEAR_MOTOR_FAULTS	2
Dest	CURRENT_STATE	0

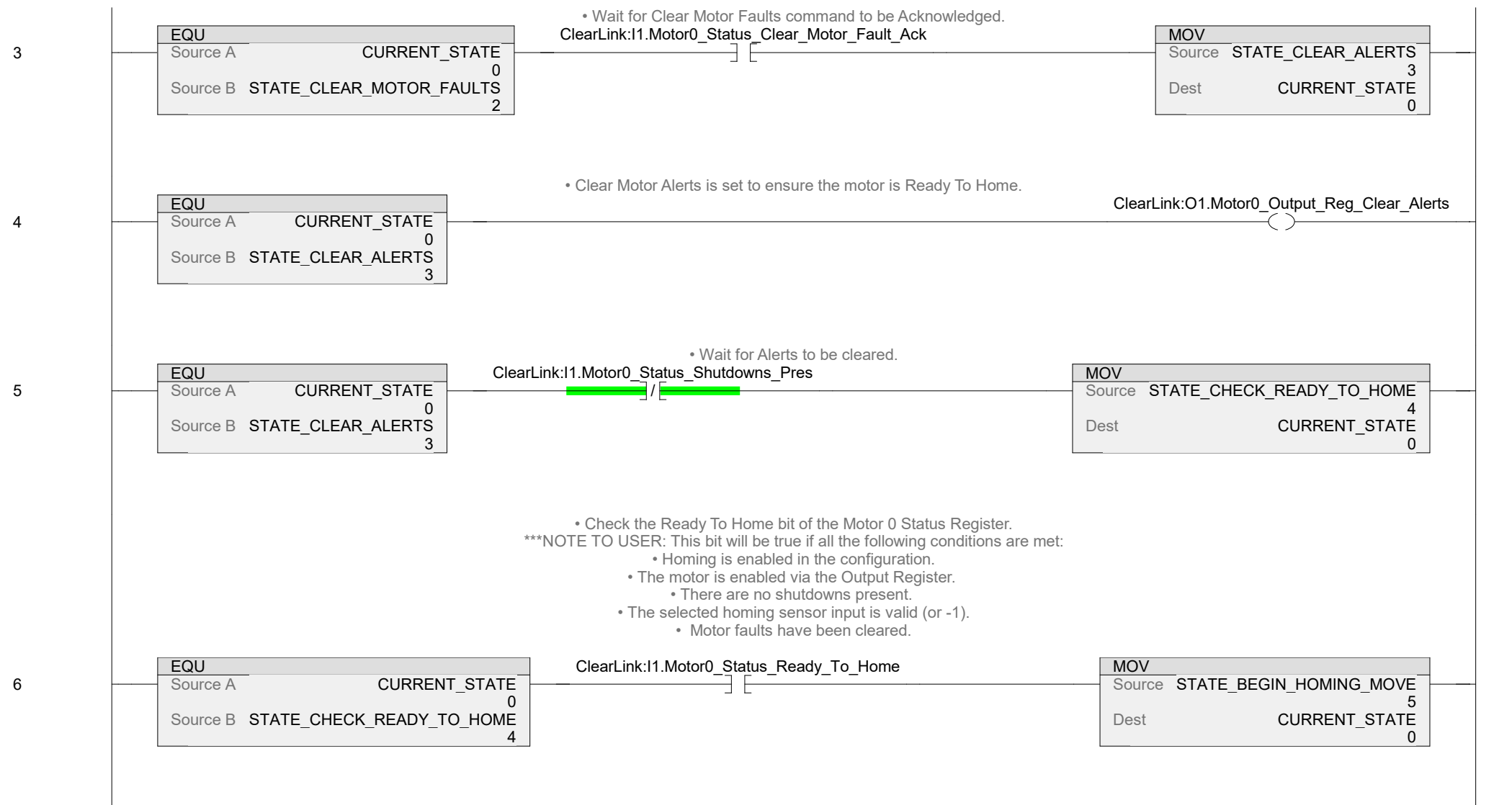
2

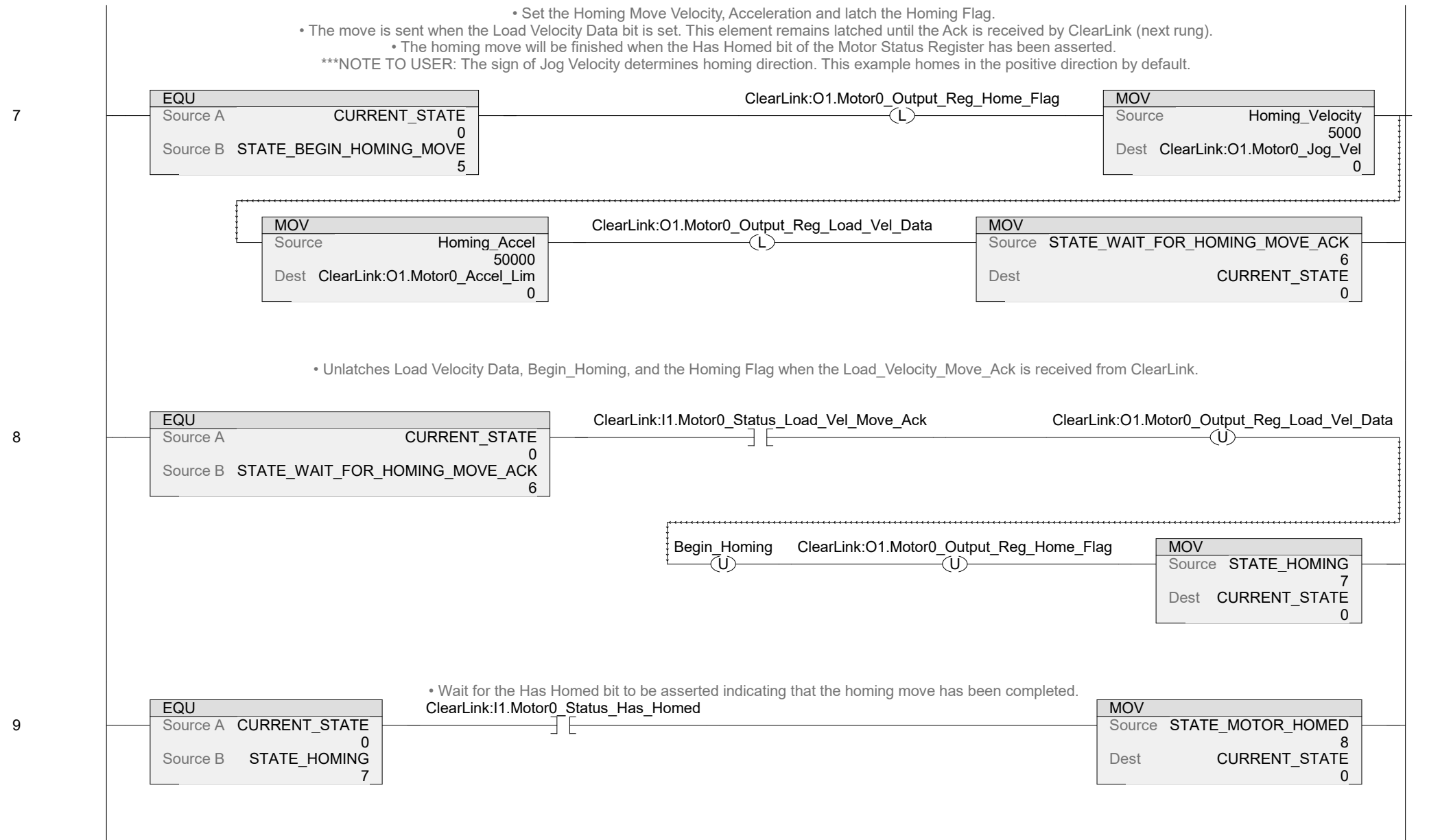
EQU		
Source A	CURRENT_STATE	0
Source B	STATE_CLEAR_MOTOR_FAULTS	2

• Clear Motor Faults is set to ensure the motor is Ready To Home.
• Clearing Motor Faults is required, even if there is not a Motor Fault present.

ClearLink:O1.Motor0_Output_Reg_Clear_Fault









- Move the motor's configuration into a local tag where it is easily accessible. The motors configuration DOES NOT update in real time but can be helpful when debugging homing issues.
***NOTE TO USER: Many of the bits in this register can be accessed directly through tags in the configuration assembly.

MOV	
Source	ClearLink:C.Motor0Config
	2#0000_0000_0000_0000_0000_0000_1001
Dest	CONFIGURATION
	2#0000_0000_0000_0000_0000_0000_0000

15

(End)