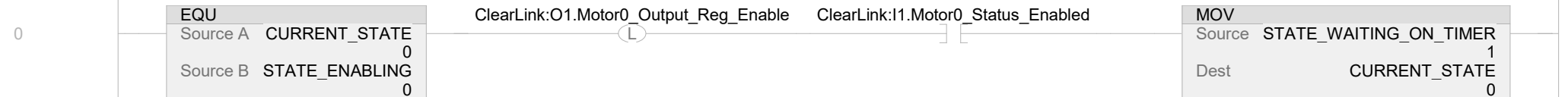

Program Name: SD_Velocity_Move (One Axis)
Program Description: This program commands a ClearPath-SD motor to move back and forth at a specified velocity.
Motor Required: One ClearPath-SD (Step & Direction) motor connected to ClearLink at connector M-0.
Software Used: Studio 5000 Logix Designer (Version 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.

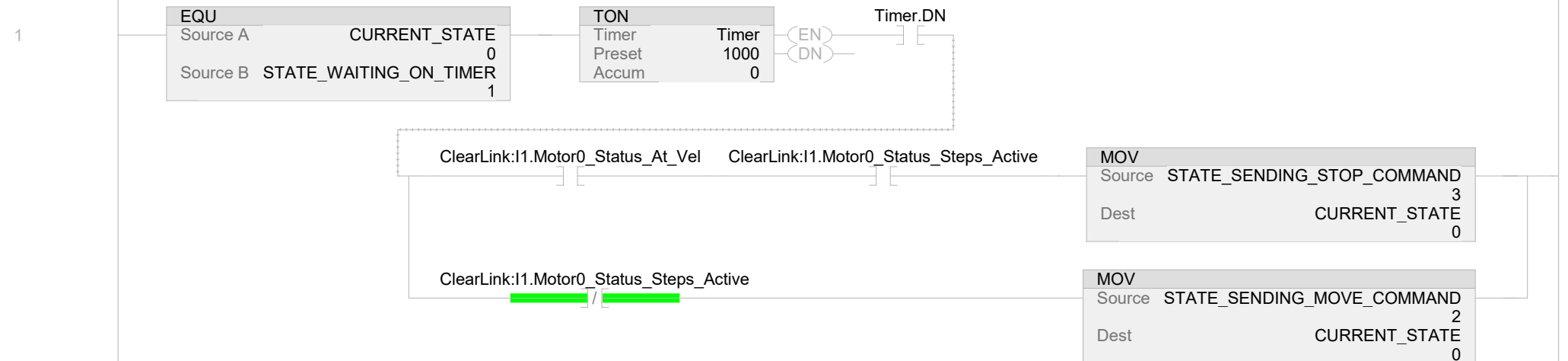
BEFORE RUNNING THIS EXAMPLE, your ClearPath-SD motor must first be configured in MSP (ClearPath Motor Setup Program). See the ClearLink Software Object Data Reference for motor setup and configuration instructions: https://www.teknic.com/files/downloads/clearlink_ethernet-ip_object_reference.pdf.
IMPORTANT FAILURE TO PROPERLY TUNE AND CONFIGURE YOUR CLEARPATH MOTOR BEFORE USE MAY RESULT IN UNEXPECTED MOTION, OR NO MOTION.

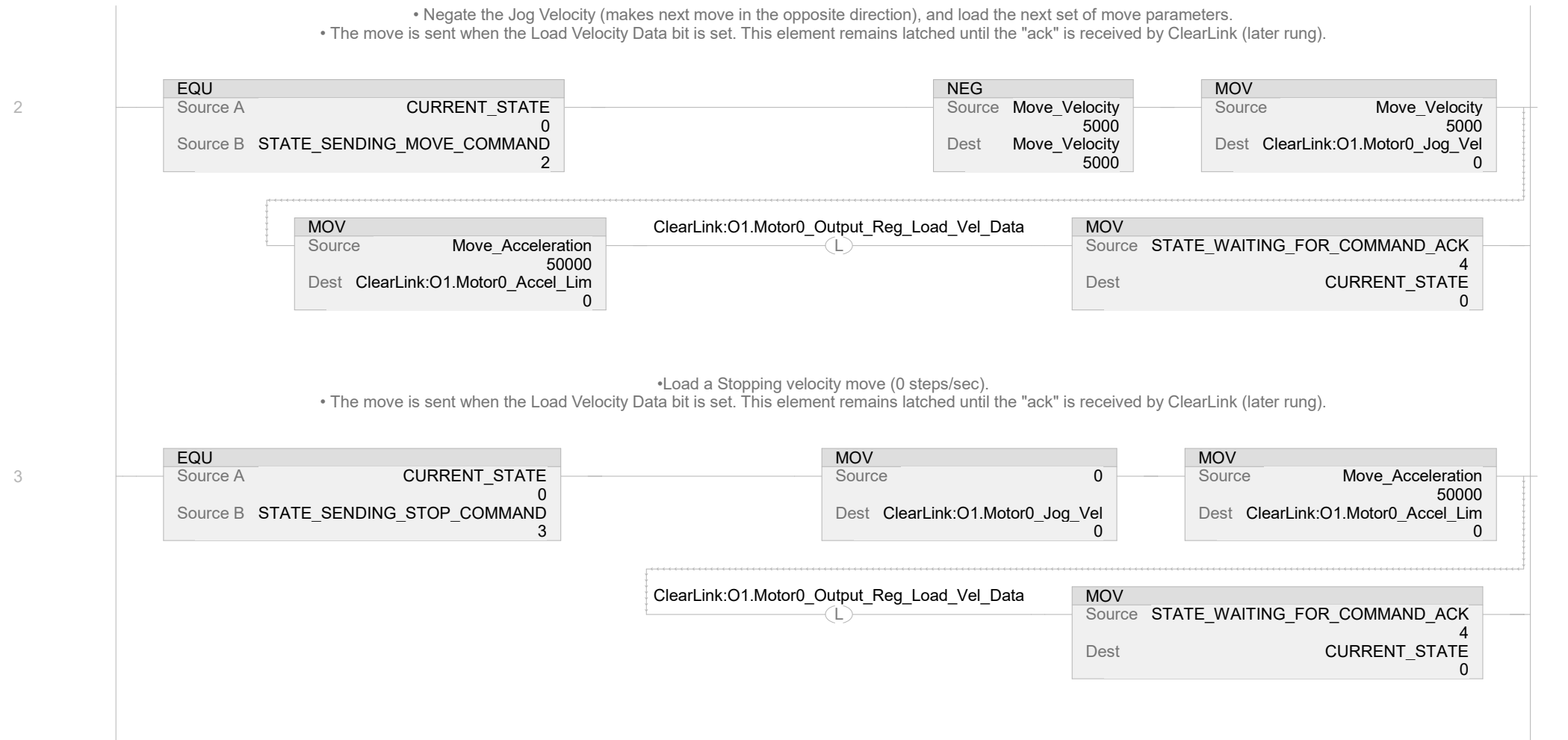
*****BEGIN RUNG COMMENTS*****

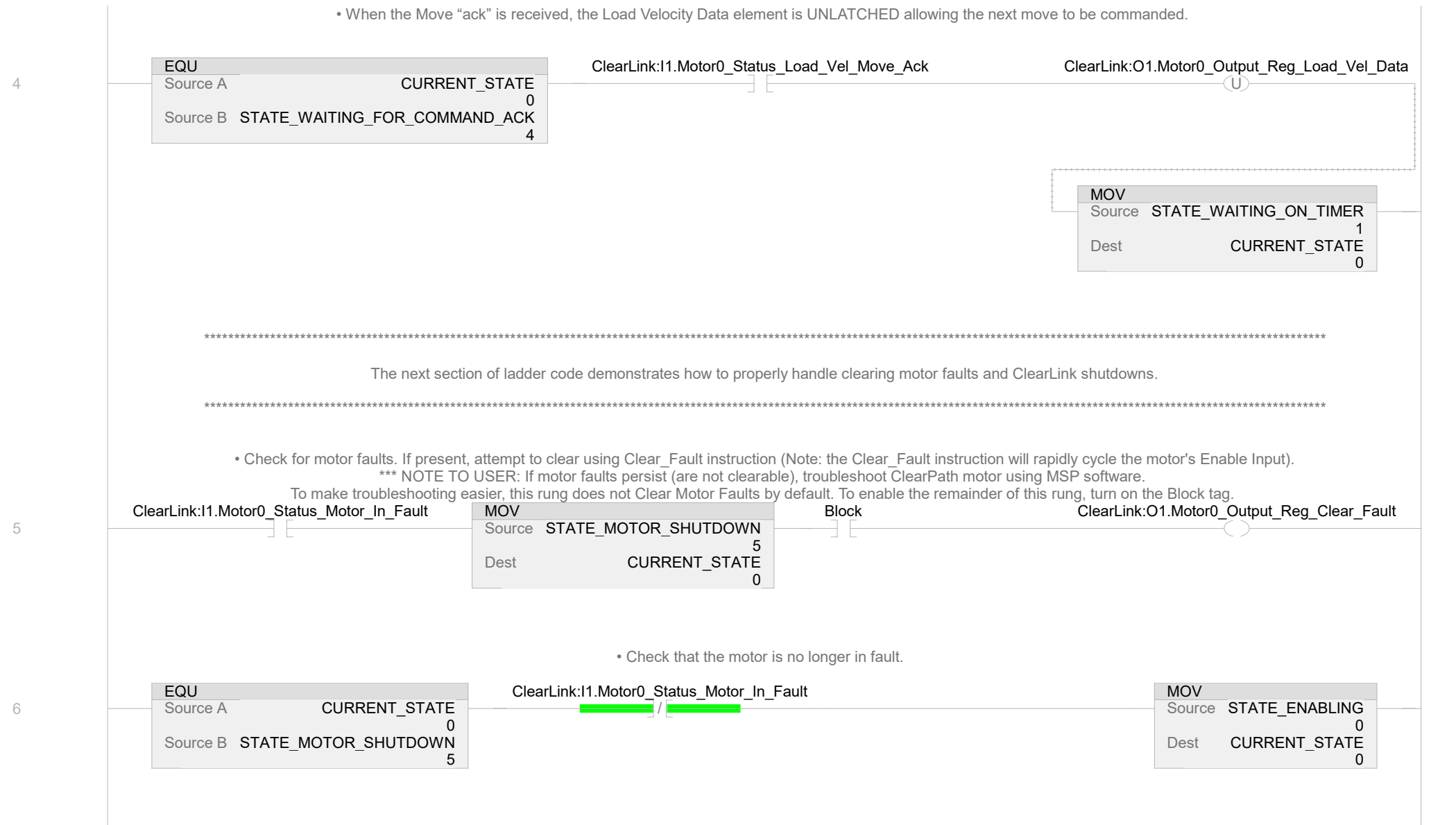
- Enable Motor 0. CAUTION: Enabled motors can output torque and move in response to motion commands.



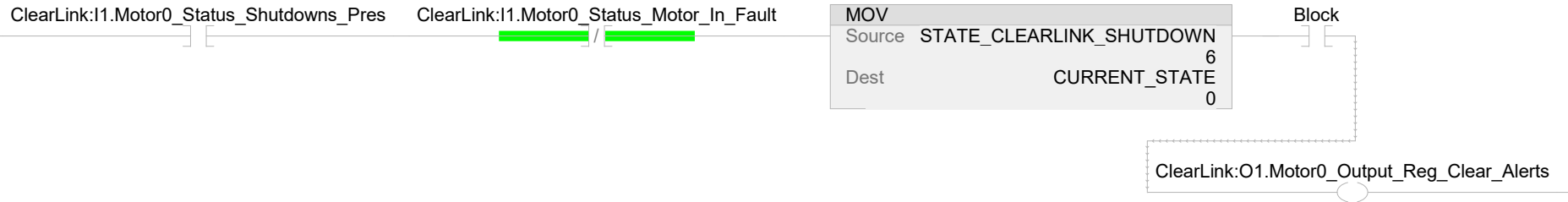
- Wait for the 1000ms timer to finish and determine what move to send. If the motor is Steps Active and At Velocity (moving at target speed) begin stopping. If the motor is not Steps Active (stopped) begin the next velocity move.



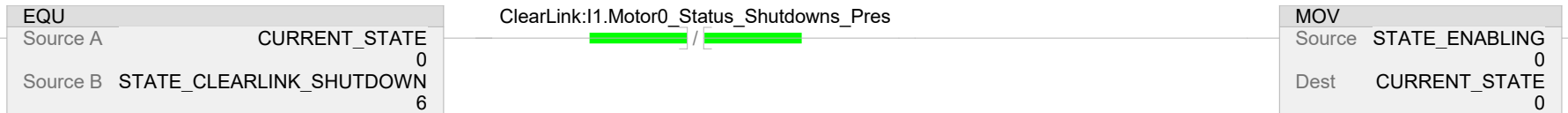




- Check for ClearLink shutdowns. If shutdowns are present, attempt to clear using Clear_Alerts bit. Note: uncleared shutdowns will prevent further motion.
***NOTE TO USER: To identify the cause of persisting shutdowns, check ClearLink Shutdown Register (ClearLink:I1.Motor0_Shutdowns). To make troubleshooting easier, this rung does not Clear Alerts by default. To enable the remainder of this rung, turn on the Block tag.



- Check that the motor no longer has alerts present.



The rest of this ladder is not required to perform a velocity move, but calls out useful tags for velocity applications.

- Checks if motor 0 is at its target velocity and if steps are being sent.
***NOTE TO USER: This combination is commonly used to determine if the motor is moving at target velocity.



- If there are any shutdowns present, set the corresponding bit in the Accumulated Shutdown History. The Accumulated Shutdown History is a collection of all shutdowns that have occurred since the program began.

***NOTE TO USER: Many of the bits in this register can be accessed directly through tags in the input assembly.

