Subject: **Hard-Stop Homing Commands for StepSERVO and SV200 Series**
Applies to: All StepSERVO and SV200 servo drive models
Date: October 1, 2015
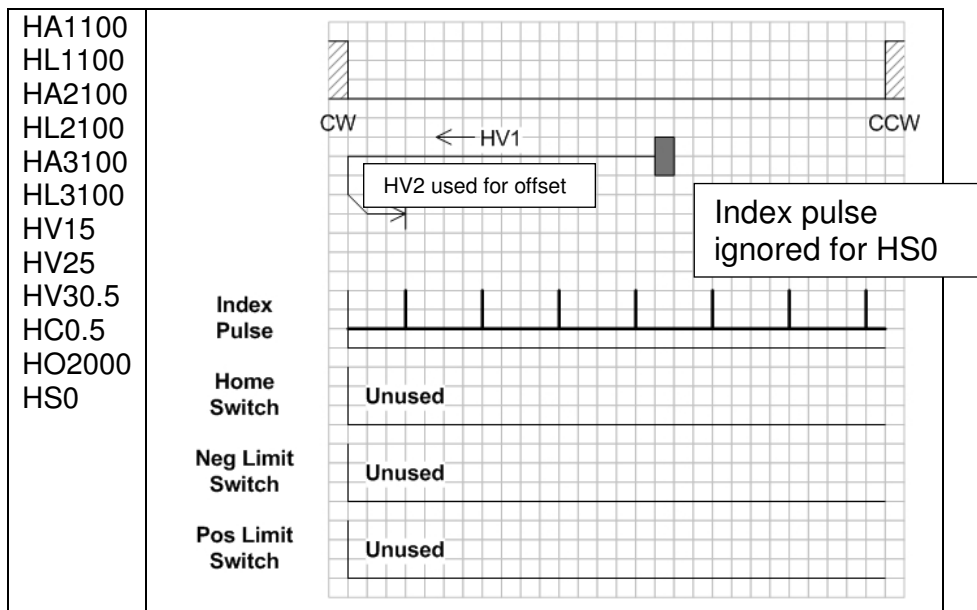Author: Matt Cole, Application Engineering Manager
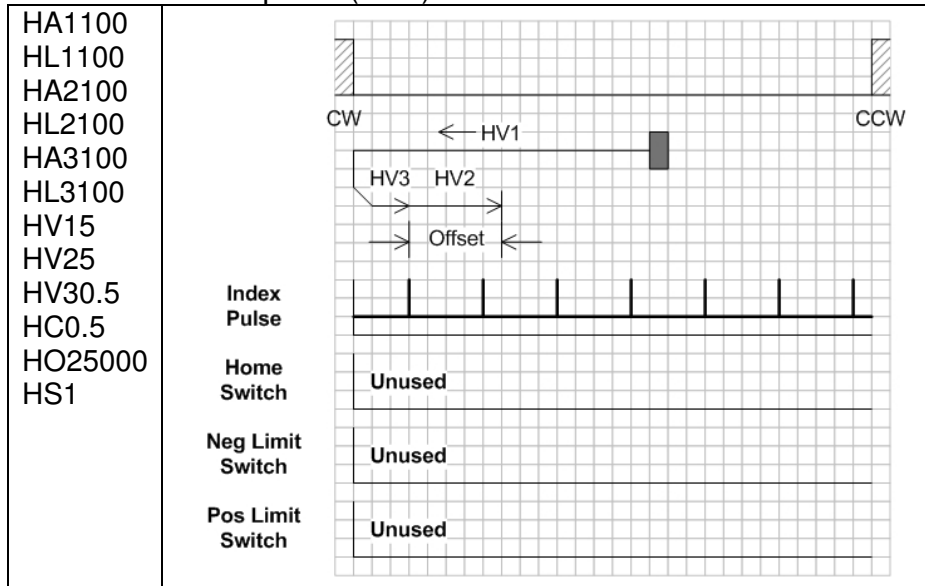
Description

This application note covers the HS command, as well as other associated SCL commands, that are used for the hard-stop homing process. This method of homing does not require an external sensor and functions by sensing a pre-defined current threshold value.

Commands:

HA (Homing Acceleration), HL (Homing Deceleration), HV (Homing Velocity)
HC (Hard Stop Homing Current limit)
HO (Home Offset; negative value indicates start in CCW direction)
HS (Hard Homing execute)

Example #1 – without encoder index pulse (HS0)


```
HA1100
HL1100
HA2100
HL2100
HA3100
HL3100
HV15
HV25
HV30.5
HC0.5
HO2000
HS0
```

Example #2 – with index pulse (HS1)

| HA1100 |
| HL1100 |
| HA2100 |
| HL2100 |
| HA3100 |
| HL3100 |
| HV15 |
| HV25 |
| HV30.5 |
| HC0.5 |
| HO25000 |
| HS1 |

Hard-Stop Homing Details:

Searching for the mechanical end-stop begins with HV1 speed. The start direction comes from the sign of the HO command ("-" is CCW, no sign is CW). The motor will stop when the actual current equals the preset Hard Stop Current (HC) as the actuator reaches the end of travel.

Search Index behavior:

HS1
Then the motor runs in the opposite direction at the HV3 speed to the first encoder index. After that the motor moves to the Homing Offset (HO) position at the HV2 speed.

HS0
Then the motor just moves to the Homing Offset (HO) position at the HV2 speed.