

```
.include <m2560def.inc>

.equ  FSTEP1 = 0x0C  ; values to rotate a full step
.equ  FSTEP2 = 0x06  ; "
.equ  FSTEP3 = 0x03  ; "
.equ  FSTEP4 = 0x09  ; "
.equ  HSTEP1 = 0x08  ; values to rotate a half step
.equ  HSTEP2 = 0x0C  ; "
.equ  HSTEP3 = 0x04  ; "
.equ  HSTEP4 = 0x06  ; "
.equ  HSTEP5 = 0x02  ; "
.equ  HSTEP6 = 0x03  ; "
.equ  HSTEP7 = 0x01  ; "
.equ  HSTEP8 = 0x09  ; "
; ----- ↙
; This subroutine rotates the stepper motor clockwise in full step sequence. The lower 4 pins
; of PORTA must be configured for output before calling this subroutine.
; ----- ↙
; -----
.def    temp = r20
FScw:  ldi temp,FSTEP1 ; output the first step pattern
      out PORTA,temp ; "
      rcall wait10ms ; provide time for motor to react
      ldi temp,FSTEP2
      out PORTA,temp
      rcall wait10ms
      ldi temp,FSTEP3
      out PORTA,temp
      rcall wait10ms
      ldi temp,FSTEP4
      out PORTA,temp
      rcall wait10ms
      ret
; ----- ↙
; This subroutine rotates the stepper motor clockwise in half step sequence. The lower 4 pins
; of PORTA must be configured for output before calling this subroutine.
; ----- ↙
; -----
.def    temp1 = r21
HScw:  ldi temp1,HSTEP1 ; send out the first step pattern
      out PORTA,temp1 ; "
      rcall wait10ms ; provide time for motor to react
      ldi temp1,HSTEP2
      out PORTA,temp1
      rcall wait10ms
      ldi temp1,HSTEP3
      out PORTA,temp1
      rcall wait10ms
      ldi temp1,HSTEP4
      out PORTA,temp1
      rcall wait10ms
      ldi temp1,HSTEP5
      out PORTA,temp1
      rcall wait10ms
      ldi temp1,HSTEP6
      out PORTA,temp1
      rcall wait10ms
      ldi temp1,HSTEP7
```

```
out PORTA,temp1
rcall wait10ms
ldi temp1,HSTEP8
out PORTA,temp1
rcall wait10ms
ret
.include "delays_mega.asm"
```