Assembly Code Example[1]

```
TIM16_WriteTCNT1:
  ; Save global interrupt flag
  in  r18,SREG
  ; Disable interrupts
  cli
  ; Set TCNT1 to r17:r16
  out TCNT1H,r17
  out TCNT1L,r16
  ; Restore global interrupt flag
  out SREG,r18
  ret
```

C Code Example[1]

```
void TIM16_WriteTCNT1( unsigned int i )
{
  unsigned char sreg;
  unsigned int i;
  /* Save global interrupt flag */
  sreg = SREG;
  /* Disable interrupts */
  _CLI();
  /* Set TCNT1 to i */
  TCNT1 = i;
  /* Restore global interrupt flag */
  SREG = sreg;
}
```

Note: 1. See ”Code Examples” on page 7.
For I/O Registers located in extended I/O map, “IN”, “OUT”, “SBIS”, “SBIC”, “CBI”, and “SBI” instructions must be replaced with instructions that allow access to extended I/O. Typically “LDS” and “STS” combined with “SBRS”, “SBRC”, “SBR”, and “CBR”.

The assembly code example requires that the r17:r16 register pair contains the value to be written to TCNT1.

13.3.1 Reusing the Temporary High Byte Register

If writing to more than one 16-bit register where the high byte is the same for all registers written, then the high byte only needs to be written once. However, note that the same rule of atomic operation described previously also applies in this case.

13.4 Timer/Counter Clock Sources

The Timer/Counter can be clocked by an internal or an external clock source. The clock source is selected by the Clock Select logic which is controlled by the *Clock Select* (CS12:0) bits located in the *Timer/Counter control Register B* (TCCR1B). For details on clock sources and prescaler, see ”Timer/Counter0 and Timer/Counter1 Prescalers” on page 141.