

Cheat Sheet of *Photinus* Firefly Flash Signals

1. *Photinus pyralis*

The flight path of *P. pyralis* is vertically looping, with a single long flash on the forward and upward portion of each loop, resulting in a “J” pattern.



2. *Photinus macdermotti* (bonus)

Males fly straight, level, and slowly, 1-5 meters above the ground. They emit two slow flashes every 1-2 meters or every 2 seconds, flying upward on the second flash.



3. *Photinus consanguineus*

Males fly straight and slowly, bobbing up every 0.5 meters or so. They emit short (0.7 seconds) flashes at the start and end of each jump in their flight path.



4. *Photinus marginellus*

The flight path for *P. marginellus* entails hopping up and down low in the brush, with a short, 0.5-second flash at the end of each “hop.” Flashes are about 3 seconds apart.



5. *Photinus brimleyi*

Photinus brimleyi fly rapidly in straight or loosely meandering paths at a constant height. While flying forward, they begin to flash, and then during light emission, they stop suddenly and hover for a moment before extinguishing their light and rushing forward again. This creates the appearance of a jagged flight path.



6. *Photinus collustrans*

Males alternate between flying straight and flying in a lateral arch or in a sideways loop (as though dodging an obstacle). They flash during each lateral deviation from their straight path for about 0.4 seconds per flash.



7. *Photinus granulatus*

This species flies about 1 meter off of the ground, flashing every other second while jerking back and forth to create zigzag patterns.



8. *Photinus ignitus*

Males fly straight, level, and slowly, about 1-2 meters above the ground, emitting brief (0.2 seconds) flashes without changing speed. Flashes occur every 5.1 seconds.



9. *Photinus consimilis*

These males flash late into the evening. They fly slowly, emitting 4-9 quick flashes every 10 seconds, sometimes stopping and hovering on the last flash. They may also produce 2-3 slow flashes, emitted during level flight every 2-6 seconds.



10. *Photinus carolinus*

The flashes of this species are very similar to the flashes of *P. consimilis*, with a slightly longer interval between sets of flashes of about 13 seconds.

