

V1: velocity of the fly leg

V2: velocity of the rod leg

VL: speed of loop turnover

Vav: speed of loop advance (in respect of the caster)

Without shooting line:

$$\mathbf{VL} = 1/2 V1$$

$$\mathbf{V2} = 0$$

$$\mathbf{VL} = \mathbf{Vav}$$

Shooting line:

$$\mathbf{VL} = 1/2 (V1 - V2)$$

$$\mathbf{Vav} = 1/2 (V1 - V2) + V2$$

Triple haul:

V2 = now has a negative value!

$$\mathbf{VL} = 1/2 (V1 + V2)$$

$$\mathbf{Vav} = 1/2 (V1 + V2) - V2$$