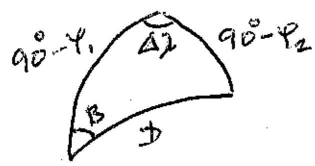

$\varphi_1\ ;\ \varphi_2$ latitudes of start and finish
B, D bearing and distance
$\Delta\lambda$ longitude difference

Spherical trig gives

$$\cos(90^\circ-\varphi_2) = \cos(90^\circ-\varphi_1)\cos D + \sin(90^\circ-\varphi_1)\sin D\cos B =$$
$$= \sin\varphi_1\sin(90^\circ-D) + \cos\varphi_1\cos(90^\circ-D)\cos B$$

Now, $\quad \text{hav}\,x = \dfrac{1-\cos x}{2} \Rightarrow \cos x = 1-2\,\text{hav}\,x$

Hence $\quad \underbrace{\cos(90^\circ-\varphi_2)}_{1-2\,\text{hav}(90^\circ-\varphi_2)} = \sin\varphi_1\sin(90^\circ-D) + \cos\varphi_1\cos(90^\circ-D)\,(1-2\,\text{hav}\,B) =$

$$= \underbrace{\sin\varphi_1\cos(90^\circ-D)+\cos\varphi_1\cos(90^\circ-D)}_{\underbrace{\cos(\varphi_1-(90^\circ-D))}_{1-2\,\text{hav}(\varphi_1-(90^\circ-D))}} - 2\cos\varphi_1\cos(90^\circ-D)\,\text{hav}\,B$$

$$\Rightarrow \quad \text{hav}(90^\circ-\varphi_2) = \underbrace{\text{hav}(\varphi_1-(90^\circ-D))}_{N} + \underbrace{\cos\varphi_1\cos(90^\circ-D)}_{1-Q}\,\text{hav}\,B$$

$$\text{hav}(x-y)+\text{hav}(x+y) = \frac{1-\cos(x-y)}{2} + \frac{1-\cos(x+y)}{2} =$$
$$= 1 - \frac{\cos(x-y)+\cos(x+y)}{2} = 1-\cos x\cos y$$

$\Downarrow$

$$Q = 1-\cos\varphi_1\cos(90^\circ-D) = \underbrace{\text{hav}(\varphi_1-(90^\circ-D))}_{N} + \underbrace{\text{hav}(\varphi_1+(90^\circ-D))}_{P} = N+P$$

$\therefore\ \boxed{\text{hav}(90^\circ-\varphi_2) = N + (1-Q)\,\text{hav}\,B}$ with N, P, Q as above

In a similar manner, with

$N = \text{hav}(\varphi_2-\varphi_1)$
$P = \text{hav}(\varphi_2+\varphi_1)$
$Q = N+P$

you get $\quad \boxed{\text{hav}\,\Delta\lambda = \dfrac{\text{hav}\,D - N}{1-Q}}$