Write down the formula of length of belt for open belt drive and cross belt drive.

Question:
Write down the formula of length of belt for open belt drive and cross belt drive.

Answer:

Formula for length of open belt drive and cross belt drive:

Open belt drive:

$$L = 2C + \pi(D_2 + D_1)/2 + (D_2 - D_1)^2/4C$$

Cross belt drive:

$$L = 2C + \pi(D_2 + D_1)/2 + (D_2 + D_1)^2/4C$$

Where L=length.

C=centre distance.

D1 = pitch diameter of small pulley.

D2 =pitch diameter of large pulley.