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From a free-body diagram of the collar, the equations of equilibrium give

$$\rightarrow \Sigma F_x = 0: \quad T \cos 20^\circ - N_{BC} \sin 30^\circ = 0$$

$$\uparrow \Sigma F_y = 0: \quad N_{BC} \cos 30^\circ - T \sin 20^\circ - 900 = 0$$

$$T = 700 \text{ lb} \quad \angle 20^\circ \dots\dots\dots \text{Ans.}$$

$$N_{BC} = 1316 \text{ lb} \quad \angle 60^\circ \dots\dots\dots \text{Ans.}$$

