$$P^2 = \frac{4\pi^2}{G(m_1 + m_2)}\, a^3$$

$$\text{spindown timescale} \;\; T = \frac{P}{\dot{P}} = \frac{P}{dP/dt}$$

$$\text{Period} \;\; P = 0.089218 \text{ s}$$

$$\frac{dP}{dt} = \frac{4.38 \times 10^{-5} \text{ s}}{3.456 \times 10^{8} \text{ s}} = 1.267 \times 10^{-13}$$

$$T = \frac{0.089218 \text{ s}}{1.267 \times 10^{-13}} = 7.0 \times 10^{11} \text{ s} = 22,000 \text{ yr}$$