Axle of mass \( M \) is to move up an inclined frictionless plane that makes an angle \( \theta \) wrt the horizontal plane. What value must \( V_0 \) be in order that the axle will climb the plane?

Write the equation of motion:

\[
M \frac{d\vec{v}}{dt} = \vec{F}_B \cos \theta - Mg \sin \theta
\]

\[
\frac{d\vec{v}}{dt} = \frac{I \vec{L}|B|}{M} \cos \theta - g \sin \theta
\]

\[
\Rightarrow \frac{I \vec{L}|B|}{M} > g \tan \theta
\]

\[
I > \frac{Mg \tan \theta}{|B|}
\]

By Ohm's Law

\[
V_0 > \frac{Mg \tan \theta \cdot |B|}{R}
\]

to accelerate Axle up incline.