25 In a velocity selection, positively charged particles $+q$ enter an electric field of strength E and a magnetic field of flux density B that are applied perpendicularly to each other in the same region. Particles which are travelling at speed v are undeflected by the cross-fields.

Which of the following is necessarily true?

A To select particles of charge $-q$ with speed v, there is a need to reverse the direction of either E or B.

B To select charged particles with speed $2v$, with the magnitude of B unchanged, the magnitude of E needs to be doubled.

C For particles of charge $-q$, there is a need to reverse the directions of both E and B in order to select the particles with speed v.

D If the magnitude of charge doubles, the magnitudes of the electric field strength and magnetic flux density cannot remain as E and B to select the particles with speed v.