The Hamiltonian structure of the ideal magnetohydrodynamics equations is used in order to investigate the stability of magnetized dissipationless plasma flows. We introduce three kinds of energy principles that differ from each other because they are formulated either in Eulerian or Lagrangian variables and because they impose different physical constraints on the allowed perturbations.

Specific features of this stability analysis are discussed:
1) the use of the time-dependent variable relabeling for Eulerian equilibria with flows when described in terms of Lagrangian variables,
2) the relationships between the different classes of allowed perturbations and their implications on the stability conditions.

Finally, a simple, translationally invariant, rotating pinch equilibrium configuration is analysed and the stability conditions obtained from the three different energy principles are compared.