We consider repulsively interacting atomic Fermi gases subject to artificial Rashba spin-orbit coupling. The interaction is modelled by a contact force between the fermions. To second order in perturbation theory, we obtain the effective two-body interactions in the dilute, single-branch limit \[1\]. We then use the effective interaction to calculate the perturbative ground-state energy of the system. We finally discuss the relation between single-channel model and its extensions (\(N\)-body forces) and the full multichannel theory.