Let \( R \) be an \( E_\infty \) ring spectrum. Given a map \( f : X \to BGL_1(R) \), we can construct a Thom spectrum \( Xf \). If \( f \) is a loop map, then there is an \( A_\infty \) \( R \) module structure on the Thom spectrum. I will consider various examples of these Thom spectra and construct \( A_\infty \) structures on them. I will then use this identification to calculate Topological Hochschild Homology.