In this work, we consider linear ill-posed problems $Ax \approx b$, where b is polluted by noise. These problems are difficult to solve, a direct (for example, the least squares) solution is usually useless. It is known, that combining the iterative Golub-Kahan bidiagonalization procedure with some inner regularization of the obtained bidiagonal problem forms a set of powerful regularization methods – hybrid methods. In this work, we study these methods from computational point of view. To do this we developed a MATLAB software including a user-friendly interface, and used it to run hybrid methods on various testing problems from the Regularization Toolbox with different noise levels and noise colors. Noise revealing iteration detection methods are used to determine in which iteration the bidiagonalization problem becomes significantly polluted by noise. Several inner regularization and inner parameter finding methods are considered.