Atom force microscopy (AFM) is a widely used imaging method of solids' surface structure. Collecting the information about relief is realized by a very sharp tip fixed on a flexible cantilever. The surface is scanned by this tip and the flexion of the cantilever is recorded using the reflection of a laser ray. The tip gradually becomes blunt, dirty or destroyed by this process. The work deals with a possibility of reparation of such tips, which still have usable cantilevers. We used focused ion beam (FIB) and gas injection system (GIS) which are built in the scanning electron microscope (SEM). We tried various techniques and parameters of ion etching and deposition. The modified tips were tested using the AFM on KFPP workplace.