Simulations of the Multiturn Injection into Nuclotron Booster[*], V. ANGUELOV, <u>D. DINEV</u>, INRNE, Sofia - Computer simulations of the multiturn injection with betatron stacking into JINR-Dubna Nuclotron booster are presented. The booster, which is now under design, will be a six FODO periods synchrotron capable to accelerate protons up to 650 MeV and ions with $Z/A = 0.5$ up to 200 MeV/A. Three laws of orbit bump fall-linear, exponential and cosine have been studied. The dependencies of the injection efficiency on the distance from the centre of the injected beam to the septum edge, on the slope of the injected beam and on the number of the betatron oscillations per turn (Q) are calculated. The simulations show that the injection can cover about sixteen periods with an efficiency of 25%.