Tip loss effect of rotors plays an important role in predictions of wind turbine performance. Classical tip corrections, based on the Prandtl tip reduction function, including Glauert’s, Wilson & Lissaman’s and De Vries’ corrections are considered in the paper. In the proximity of the tip, these classical models fail to predict the physical behaviour. A new tip correction model is proposed. Comparisons between numerical and experimental data for flows past the NREL combined experiment rotor and the Swedish WG 500 rotor show that only the new model can predict correctly the force in the tip region.