$$d(\Omega_{T_{\eta}^{(t)}}\dot{\eta}, \ \Omega_{T_{\eta}^{(t)}}\tilde{\eta}^{(t)}) \le \rho \cdot d(\Omega_{T_{\eta}^{(t)}}\dot{\eta}, \ \Omega_{T_{\eta}^{(t)}}\eta^{(t-1)}) + 2\widetilde{\Delta}.$$