We present the new “TRUE knee method” for the retrieval of instrument pointing information from SCIAMACHY’s limb scattering measurements. The UV-B region of the upper stratospheric limb scattering measurements is mainly influenced by the upper stratospheric ozone and pressure profiles and exhibits the so-called “knee feature” of the instrument pointing. Thus it is particularly well suited for retrieval of pointing information, i.e. the tangent heights. The TRUE knee method is particularly independent of a priori information as ozone, pressure, and tangent heights are retrieved simultaneously. We have implemented the TRUE knee method with the radiative transfer and inversion package SCIARAYS. The retrieval results can be used to validate and supplement the engineering pointing information, which is calculated from the satellite’s position and instrument settings.