Radiation treatment of head and neck cancer with intensity-modulated radiation therapy (IMRT) usually involves treating the superior aspects of the target volume with IMRT fields, and the inferior portion of the target volume (the low neck nodes) with a static anterior-posterior field (commonly known as the low anterior neck, or LAN field). A match line between the IMRT and the LAN fields is created with possibly large dose inhomogeneities (hot and cold spots) which are clinically undesirable. We propose a practical method to properly match the two fields with minimal dependence on patient setup errors. The method requires one-point (mono-isocentric) setup of the IMRT and LAN fields with half beam blocks as defined by the asymmetric jaws. The inferior jaws of the IMRT field are altered from those produced automatically from the treatment planning system such that they match the superior jaw of the LAN field. The matching of the two fields therefore does not depend on the particular treatment plan of IMRT and depends only on the matching of the asymmetric jaws, which can usually be adjusted to give a dose homogeneity of better than 5%. Measurements in solid water phantom were performed to verify the field matching technique. Dose inhomogeneities of less than 5% were obtained in the match line region. Feathering of the match line can easily be done by changing the matching jaw positions only. Because of the isocentric setup, the intrafraction match line dosimetry does not depend on patient setup errors.