Remarks: See § 4.4, pages 168 till 170

Hints:

- Sketch the stress diagrams for all given stress values to scale.
- Calculate the location of the normal centre NC.

Answers:

d and f gives the correct combinations of normal stress.

Explanation:

The normal centre NC is located in the flange, along the line of symmetry and $\frac{3}{4}a$ under A.

- The normal stress varies linearly. Analytical calculation: $\sigma_B = (\sigma_A + \sigma_C)/2$.
- From the sketched stress diagrams (or the formula) it is evident that a, b and e do not have a linear normal stress variation.
- There are no normal forces acting on the beam, therefore $\sigma_{NC} = 0$. From the stress-diagrams it is clear that c does not meet this condition