CLAIMS

1. A tubular connection comprising:

a first tubular member having a box connector defined at an upper end thereof, the box connector defining a first longitudinal axis and including internal mating features along an internal surface thereof and a box-side metallic sealing surface defined on the internal surface below the internal mating features; and

a second tubular member having a pin connector defined at a lower end thereof, the pin connector defining a second longitudinal axis and including external mating features defined along an external surface thereof, the external mating features operable to engage the internal mating features of the box connector to couple the first and second tubular members to one another, the pin connector further including a stabbing flank defined on the external surface below the external mating features, the stabbing flank comprising:

an annular flank surface tapered radially inwardly in a direction toward the lower end of the pin connector to define a cone angle with respect to the second longitudinal axis;

an annular groove extending radially inward from the annular flank surface in a direction normal to the cone angle;

a pin-side metallic sealing surface defined such that at least a portion of the pin-side metallic sealing surface is disposed within the annular groove, the pin-side metallic sealing surface operable to engage the box-side metallic sealing surface to form a fluid seal therewith when the external mating features are engaged with the internal mating features; and

an alignment protrusion extending outward with respect to the pin-side metallic sealing surface in a direction normal to the cone angle, the alignment protrusion defined below the pin-side metallic sealing surface such that the alignment protrusion is operable to engage the internal mating features of the box connector to concentrically align the pin connector with the box connector and urge the pin-side metallic sealing surface radially inward and away from the internal mating features when the pin connector is stabbed into the box connector.

2. The tubular connection of claim 1, wherein the box connector includes at least one upward facing axial load shoulder abutting a downward facing surface of the pin connector when the pin and box connectors are disposed in a fully made-up configuration, and wherein the box connector

includes an annular relief groove in which the alignment protrusion is received when the pin and box connectors are disposed in the fully made-up configuration.

3. The tubular connection of claim 2, wherein the alignment protrusion is substantially spaced from the internal surface of the box connector when received within the annular relief groove.

4. The tubular connection of claim 1, wherein the alignment protrusion defines a lower-most surface of the pin connector.

5. The tubular connection of claim 1, wherein the alignment protrusion defines a lower portion of the annular flank surface below the annular groove.

6. The tubular connection of claim 5, wherein the lower portion of the annular flank surface and an upper portion of the annular flank surface above the annular groove are both generally arranged at the cone angle.

7. The tubular connection of claim 1, wherein the box connector further includes a generally cylindrical surface defined below the box-side metallic sealing surface for engaging the alignment protrusion as the external mating features are engaged and disengaged with the internal mating features.

8. The tubular connection of claim 7, wherein the external and internal mating features are helical threads, and wherein the alignment protrusion rotationally engages the generally cylindrical surface.

9. A method for joining tubular members, the method comprising the steps of:

(a) providing a box connector including an internal surface defining internal mating features and a box-side metallic sealing surface defined thereon;

(b) providing a pin connector including an external surface defining external mating features, a pin-side metallic sealing surface, an annular groove and an inwardly tapered annular flank surface thereon, wherein the pin connector further includes an alignment protrusion extending outward with respect to the pin-side metallic sealing surface in a direction normal to a cone angle defined by the inwardly tapered annular flank surface, further wherein the annular groove extends radially inward from the annular flank surface in a direction normal to the cone angle, further wherein at least a portion of the pin-side metallic sealing surface is disposed within the annular groove; and

(c) axially inserting the pin connector into the box connector to thereby:

(i) engage the alignment protrusion with the internal surface of the box connector to concentrically align the pin connector with the box connector;

(ii) engage the external mating features with the internal mating features to couple the pin connector with the box connector; and

(iii) engage the pin-side metallic sealing surface with the box-side metallic sealing surface to deform at least one of the pin-side metallic sealing surface and the box-side metallic sealing surface to form a fluid seal between the pin connector and the box connector when the pin connector and box connector are in a fully made-up configuration.

10. The method according to claim 9, wherein step (c) further comprises:

(iv) disengaging the alignment protrusion from the internal surface of the box connector such that the alignment protrusion is substantially spaced from the internal surface when the pin connector and box connector are in the fully made-up configuration.