

CLAIMS

1. A running tool for a casing hanger, the running tool comprising:

securement means to secure the casing hanger to the running tool, the
5 securement means being movable between a secured position in which the casing hanger is secured to the running tool and an unsecured position in which the casing hanger is unsecured to the running tool; wherein, in the secured position, the casing hanger is suspendable from the running tool and the running tool supports a suspension weight of the casing hanger;

10 activation means in order to enable the securement means to move from a secured position to an unsecured position, wherein the activation means is axially moveable between the secured position and the unsecured position; and characterised in that the running tool comprises

release prevention means in order to prevent the movement of the
15 securement means from the secured position to the unsecured position whilst the suspension weight of the casing hanger is suspended from the running tool;

in which the release prevention means comprises abutment means to prevent axial movement of the activation means from the secured position to the unsecured position whilst the casing hanger is supported from the running tool and
20 the suspension weight of the casing hanger is being transferred to the running tool; and

wherein once the suspension weight is not supported from the running tool, the running tool becomes releasable from the casing hanger.

25 2. A running tool for a casing hanger according to Claim 1 in which the activation means provide a recess and in which the recess enables the securement means to move from the secured position to the unsecured position and, in which, the recess is axially moveable in the running tool and wherein the recess is moved axially downwardly in order to be radially aligned with an inner
30 surface of the securement means and in which the abutment means prevents the movement of the recess into axial alignment with a securement member of the securement means.

3. A running tool for a casing hanger according to Claim 1 or Claim 2 in which the activation means comprises a collet which moves downwardly in order to allow a profiled lock ring of the securement means to move radially inwardly to release the running tool from a mating profile on an inner surface of the casing hanger.

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4. A running tool for a casing hanger according to any preceding claim in which the abutment means comprises an annular shoulder which projects inwardly from a collet of the activation means and the abutment means also comprises an annular shoulder which projects radially outwardly from a body of the running tool and wherein, once the suspension weight of the casing hanger is not supported from the running tool, a piston which is secured to the collet is arranged to move the collet downwardly with the collet moving over the load shoulder in order for the activation means to move to an unsecured position.

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15 5. A running tool for a casing hanger according to any preceding claim in which the release prevention means is arranged to prevent:
unintentional activation of the activation means, and
release of the casing hanger prior to the casing hanger being secured within a well bore.

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6. A running tool for a casing hanger according to any preceding claim in which the securement means projects radially outwardly from the running tool and the securement means is radially moveable from an outer secured position to an inner unsecured position and, in which, the activation means is arranged to prevent movement of the securement means from the secured position to the unsecured position and the activation means locks the securement means in a radially projecting position relative to an outer surface of the running tool, the securement means comprising a securement member which comprises an annular securement member and wherein the securement member comprises a locking ring and in which the securement member provides an outer engaging surface which is arranged to engage in a corresponding engagement groove provided on an inner surface of the casing hanger.

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7. A running tool for a casing hanger according to any preceding claim in which the securement means is retained in the secured position by thrust means, the thrust means comprising thrust pins which are arranged to bear against the activation means and, wherein, the activation means retains the thrust means in the secured position and in which the recess is axially moveable from a secured position at which the thrust means bears against the activation means to an unsecured position at which the thrust means is moveable into the recess and the securement member is radially inwardly moveable.
8. A running tool for a casing hanger according to any preceding claim in which the activation means is activated by a downward axial pressure applied to the running tool and, in which, the downward pressure is applied by a fluid located in an annulus located on an upper side of the running tool.
9. A running tool for a casing hanger according to Claim 8 in which the fluid comprises drilling mud.
10. A running tool for a casing hanger according to any preceding claim in which the activation means comprises retaining means to prevent axial movement of the activation means within the running tool and wherein the retaining means comprises a plurality of retaining members, in which, the retaining members comprise shear pins which are arranged to shear to enable the activation means to move axially from the secured position to the unsecured position.
11. A running tool for a casing hanger according to Claim 10 in which the shear pins are arranged to shear in reaction to a pressure applied to the running tool.
12. A running tool for a casing hanger according to Claim 11 in which the shear pins are arranged to shear in reaction to a fluid pressure applied within an annulus located on an upper side of the running tool.
13. A running tool for a casing hanger according to any preceding claim in which the running tool comprise auxiliary release means to activate the release of

the casing hanger from the running tool.

14. A running tool for a casing hanger according to Claim 13 in which the auxiliary release means comprises anti-rotation means to prevent rotation between the running tool and the casing hanger and the auxiliary release means comprises a rotatable member on the running tool which is rotatable in order to cause the axial movement of the activation means from the secured position to the unsecured position.

15. A method of positioning a casing hanger within a well bore, the method comprising securing a running tool to the casing hanger wherein the running tool comprises:

securement means to secure a casing hanger to the running tool, the securement means being movable between a secured position in which the casing hanger is secured to the running tool and an unsecured position in which the casing hanger is unsecured to the running tool; wherein, in the secured position, the casing hanger is suspendable from the running tool and the running tool supports a suspension weight of the casing hanger;

activation means in order to enable the securement means to move from a secured position to an unsecured position wherein the activation means is axially moveable between the secured position and the unsecured position; and

release prevention means in order to prevent the movement of the securement means from the secured position to the unsecured position whilst the suspension weight of the casing hanger is suspended from the running tool;

the method comprising releasing the running tool from the casing hanger by axially moving the activation means; characterised by

the release prevention means preventing axial movement of the activation means from the secured position to the unsecured position with abutment means whilst the casing hanger is supported from the running tool and the suspension weight of the casing hanger is being transferred to the running tool; and

enabling the release of the running tool from casing hanger due to the suspension weight of the casing hanger not being supported from the running tool.