Claims:

1. A misalignment correction device for mitigating misalignment of a piece of oilfield equipment in or proximate a rotating control device (RCD), comprising:

a rounded shoulder on a first surface of the misalignment correction device;

a socket profile on a second surface of the misalignment correction device, wherein the rounded shoulder is configured to abut the socket profile, and further wherein the rounded shoulder is configured to rotate within the socket profile to compensate for angular misalignment between the RCD and the piece of oilfield equipment;

one of the group consisting of a key and a slot defined on the rounded shoulder; and

the other of the group consisting of the key and the slot defined on the socket profile, wherein the key is configured to engage the slot, and further wherein engagement between the key and the slot inhibits relative rotation between the rounded shoulder and the socket profile about a longitudinal axis of the piece of oilfield equipment.

2. The device according to claim 1, further comprising a bearing assembly, a seal element support or a receiver having an exterior surface, wherein the first surface is defined on the exterior surface of the respective bearing assembly, seal element support or receiver.

3. The device according to claim 2, further comprising a latch assembly having an annular piece defining an interior surface surrounding the bearing assembly, wherein the socket profile is defined on the interior surface of the annular piece.

4. The device according to claim 1, further comprising a floating joint having an outer surface within the RCD, wherein said floating joint is configured to shift radially to compensate for misalignment.

5. The device according to claim 4, wherein said floating joint is configured to shift horizontally within the RCD.

6. The device according to claim 4, wherein said floating joint is further configured to shift uphole and downhole within the RCD.

7. The device according to claim 4, further comprising one or more plates having an inner surface within the RCD, wherein the socket profile is defined on the inner surface of the plates.

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8. The device according to claim 1, further comprising:
a bearing assembly within the RCD; and
a sleeve having an inside surface and an outside surface, wherein the inside surface is joined to the bearing assembly, and further wherein the rounded shoulder is defined on the outside surface of the sleeve.

9. The device according to claim 1, further comprising one or more thrust bearings within the RCD.

10. An apparatus for correction of misalignment of a piece of oilfield equipment within a rotating control device (RCD), comprising:
a misalignment correction device, wherein at least part of the piece of oilfield equipment is located within the misalignment correction device;
a spherical shoulder on a first surface of the misalignment correction device;
a socket defined on a second surface of the misalignment correction device, wherein the socket is configured to engage the spherical shoulder;
a sealing element having an internal diameter and an external diameter, wherein the internal diameter is configured to seal against the piece of oilfield equipment; and
a pressure reduction system, wherein the pressure reduction system comprises a piston assembly configured to reduce a wellbore pressure to a reduced pressure experienced by the external diameter of the sealing element.

11. The apparatus according to claim 10, further comprising: one or more plates having an interior surface and an exterior surface within the misalignment correction device, wherein the second surface upon which the socket is defined is the interior surface of the one or more plates.

12. The apparatus according to claim 11, further comprising a floating joint, wherein said floating joint is configured to shift radially to compensate for horizontal misalignment between the RCD and the piece of oilfield equipment.

13. The apparatus according to claim 12, wherein said floating joint is further configured to shift uphole and downhole within the RCD.

14. The apparatus according to claim 12, further comprising:

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a carrier configured to house the one or more plates and the floating joint; and
a chamber defined within the carrier and located adjacent to the exterior surface of the one or more plates, wherein the one or more plates are configured to move in and out of the chamber in response to the horizontal misalignment between the RCD and the piece of oilfield equipment.

15. The apparatus according to claim 14, wherein the one or more plates include a key which is configured to engage a slot defined on the spherical shoulder.

16. The apparatus according to claim 15, further comprising a thrust bearing adjacent to the one or more plates.

17. The apparatus according to claim 10, wherein the misalignment correction device is located on a spool mounted below the RCD.

18. The apparatus according to claim 14, wherein the carrier includes a key which is configured to engage a slot defined on the exterior surface of the one or more plates.

19. A method for correction of misalignment of a piece of oilfield equipment within a rotating control device (RCD), comprising the steps of:
housing at least a part of the piece of oilfield equipment within a misalignment correction device proximate a bearing assembly;
shifting the misalignment correction device radially in response to horizontal misalignment between the RCD and the piece of oilfield equipment; and
limiting the radial shifting of the misalignment correction device.

20. The method according to claim 19, further comprising the steps of: rotating the misalignment correction device in response to angular misalignment between the RCD and the piece of oilfield equipment; and limiting the rotation of the misalignment correction device.

21. The method according to claim 19, further comprising the step of: shifting the misalignment correction device uphole and downhole in response to movement of the piece of oilfield equipment.

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22. The method according to claim 19, wherein said step of shifting the misalignment correction device further comprises the step of: shifting a plate laterally into a chamber.

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