CLAIMS

1. A system, comprising:

a hanger running tool, comprising:

an inner sleeve having a first mating surface configured to engage a second mating surface of a hanger to couple the inner sleeve to the hanger; and

an outer sleeve disposed about the inner sleeve and configured to rotate about a common longitudinal axis with respect to the inner sleeve;

wherein the inner sleeve comprises a first mounting feature configured to selectively engage a second mounting feature of the outer sleeve such that rotation of the outer sleeve drives rotation of the inner sleeve when the first mounting feature is engaged with the second mounting feature.

2. The system of claim 1, wherein the first mating surface comprises first threads configured to interface with second threads of the second mating surface.

3. The system of claim 1, wherein the first and second mounting features are configured to selectively engage one another in a radial direction. ~~wherein the inner sleeve comprises a first mounting feature configured to selectively engage a second mounting feature of the outer sleeve such that rotation of the outer sleeve drives rotation of the inner sleeve when the first mounting feature is engaged with the second mounting feature.~~

4. The system of ~~claim 3~~claim 1, wherein the first mounting feature comprises one or more spring energized dogs disposed in an exterior surface of the inner sleeve and the second mounting feature comprises one or more spring energized dog pockets disposed on an interior surface of the outer sleeve, and the spring energized dogs are configured to interface with the spring energized

dog pockets when the spring energized dogs and the spring energized dog pockets are aligned circumferentially about the common longitudinal axis.

5. The system of claim 1, wherein the outer sleeve comprises a third mating surface disposed on a bottom edge of the outer sleeve, and the third mating surface is configured to mate with a mating surface disposed on a hanger energizing ring.

6. The system of claim 5, wherein the third mating surface comprises outer sleeve castellations configured to mate with energizing ring castellations of the hanger energizing ring.

7. The system of claim 1, wherein the outer sleeve is configured to move axially along the common longitudinal axis with respect to the inner sleeve.

8. The system of claim 7, wherein the outer sleeve comprises a bearing shoulder configured to abut a lower mating edge of the inner sleeve when the outer sleeve is in a maximum vertical position with respect to the inner sleeve.

9. The system of claim 3, wherein the outer sleeve is configured to move axially along the common longitudinal axis with respect to the inner sleeve, the outer sleeve comprises a bearing shoulder configured to abut a lower mating edge of the inner sleeve when the outer sleeve is in a maximum axial position with respect to the inner sleeve, and the first and second mounting features are at a common axial position when the bearing shoulder and lower mating edge abut.

10. A method for running a hanger running tool, comprising:
attaching an inner sleeve of a hanger running tool to a hanger;
lowering the hanger into a housing utilizing the hanger running tool;

locking the hanger to the housing via the hanger running tool by energizing an energizing ring via rotation of an outer sleeve of the running tool about a common longitudinal axis with respect to the inner sleeve of the hanger running tool;

detaching the hanger from the inner sleeve of the hanger running tool; and

retrieving the hanger running tool.

11. The method of claim 10, wherein attaching the inner sleeve to the hanger comprises comprises screwing a threaded mating surface of the hanger to a complimentary threaded mating surface of the hanger running tool; and wherein detaching the hanger from the inner sleeve comprises unscrewing the threaded mating surface of the hanger from the complimentary threaded mating surface of the hanger running tool.

12. The method of claim 10, wherein locking the hanger to the housing via the hanger running tool comprises:

engaging outer sleeve castellations disposed on the outer sleeve of the hanger running tool into castellations of the energizing ring; and

rotating the outer sleeve about the common longitudinal axis with respect to the inner sleeve to cause axial movement of the energizing ring in a first axial direction, wherein the axial movement of the energizing ring in the first axial direction causes a locking ring to expand radially outward and lock into position with respect to the housing.

13. The method of claim 12, wherein detaching the hanger from the inner sleeve of the hanger running tool comprises:

disengaging the outer sleeve castellations from the castellations of the energizing ring;

axially moving the outer sleeve in a second axial direction with respect to the inner sleeve until a first mounting feature of the inner sleeve is at a common axial position as a second mounting feature of the outer sleeve;

rotating the outer sleeve until the first mounting feature of the inner sleeve engages the second mounting feature of the outer sleeve, such that rotation of the outer sleeve causes rotation of the inner sleeve; and

detaching the hanger from the inner sleeve of the hanger running tool by rotating the outer sleeve and the inner sleeve.

14. The method of claim 10, comprising applying an axial force within the hanger subsequent to locking the hanger into the housing to ensure that the hanger is locked in place relative to the housing.

15. The method of claim 10, wherein lowering the hanger into the housing utilizing the hanger running tool comprises:

detecting when the hanger lands on a landing shoulder of the housing; and

halting the lowering of the hanger upon such detection.

16. A system, comprising:

a hanger running tool, comprising:

an inner sleeve having a first mating surface configured to engage a second mating surface of a hanger to couple the inner sleeve to the hanger; and

an outer sleeve disposed about the inner sleeve and configured to rotate about a common longitudinal axis with respect to the inner sleeve;

wherein the outer sleeve comprises a third mating surface disposed on a bottom edge of the outer sleeve, and the third mating surface is configured to mate with a mating surface disposed on a hanger energizing ring.