CLAIMS

1. A reaction washer comprising:

a) a washer axis;

b) a top face;

c) a number of tool access castles that are arrayed along a circumference of said top face with respect to said washer axis and that are extending away from said top face. and within and up to an outer washer diameter of said reaction washer.

2. The reaction washer of claim 1, wherein at least one of said number of tool access castles comprises a lock-on groove that is circumferentially at least partially undercutting said at least one tool access castle.

3. The reaction washer of claim 1, wherein at least one of said number of tool access castles is extending downward away from said top face.

4. The reaction washer of claim 1, further comprising a disk spring washer body.

5. An axially reacting washer stack comprising:

a. a washer axis;

b. a top washer comprising:

i) a top face;

ii) a number of tool access castles that are arrayed along a circumference of said top face with respect to said washer axis and that are extending away from said top face and within and up to an outer washer diameter of said reaction washer;

c. a support washer;

d. a helical ramp at least on one of said top washer and said support washer; and

e. a ramp indenter at least on one other of said top washer and said support washer, said indenter being in sliding contact with said helical ramp while said top washer is stacked on said support washer.

6. The axially reacting washer stack of claim 5, further comprising an indentation depth squirt indicator that is part of at least one of said support washer, said top washer and an interposition washer that is in between said top washer and said support washer, wherein said indentation depth squirt indicator comprises a squirting medium that said indentation depth squirt indicator is squirting away from said axially reacting washer stack at a predetermined indentation depth of said indenter into said helical ramp.

7. An axial reaction washer system comprising:

a. a tightening axis;

b. a tightening element threaded on a main tightening thread, said tightening element comprising an actuation coupling such that said tightening element is being displaced axially along said tightening axis while being rotationally actuated and screwed along said main thread by an actuation torque applied via said actuation coupling

c. at least one of a reaction washer and a reaction washer stack comprising:

i) a top face that is pushed on to by said tightening element;

ii) a number of tool access castles that are arrayed along a circumference of said top face with respect to said washer axis and that are extending away from said top face and within and up to an outer washer diameter of said reaction washer;

iii) at least one of a number of bite spikes and a number of bottom serrations;

d. a concentric socket tool comprising an inner actuation socket and an outer reaction socket, said inner actuation socket mating said actuation coupling and said outer reaction socket mating said tool access castles such that said actuation torque is being transferred onto said tightening element via said inner actuation socket while a reaction torque is transferred onto said tool access castles via said outer reaction socket and onto a resting surface via at

least one of said bite spikes and said bottom serrations, wherein said reaction torque is opposing said actuation torque such that said tightening element is being rotated around said tightening axis while said tightening element is pushing onto said reaction washer and at least one of said bite spikes and said bottom serrations are biting into said resting surface such that said reaction torque is being transferred via said reaction washer onto said resting surface.

8. The axial reaction washer system of claim 7, wherein at least one of said number of tool access castles comprises an undercutting groove and wherein said reaction socket comprises a hooking nose that is correspondingly shaped and engaging with said undercutting groove and axially locking said reaction socket with said at least one of said number of tool access castles prior to transferring a reaction torque from said reaction socket onto said tool access castle.

9. The axially reacting washer stack of claim 7, wherein said washer stack comprises:

a) a top washer comprising said top face and said tool access castles;

b) a support washer comprising at least one of said bite spikes and said bottom serrations;

c) a helical ramp that is part of at least on of said top washer and said support washer such that while said top washer is being rotated by said reaction torque, said top washer is in a helical relative movement with respect to said support washer until a ramp friction on said helical ramp has increased up to a washer top level at which said reaction torque is transferred onto said support washer such that said top washer is stopped and said tightening element is further rotated by said actuation torque.

10. The axial reaction washer system of claim 9, wherein:

a. at least one of said top washer and said tightening element comprises a first circumferential lock feature;

b. said support washer comprises a second circumferential lock feature; and

c. said washer stack further comprises a circumferential lock ring that is rotationally locking together said top washer with said support washer while engaging with said first circumferential lock feature and said second circumferential lock feature.

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