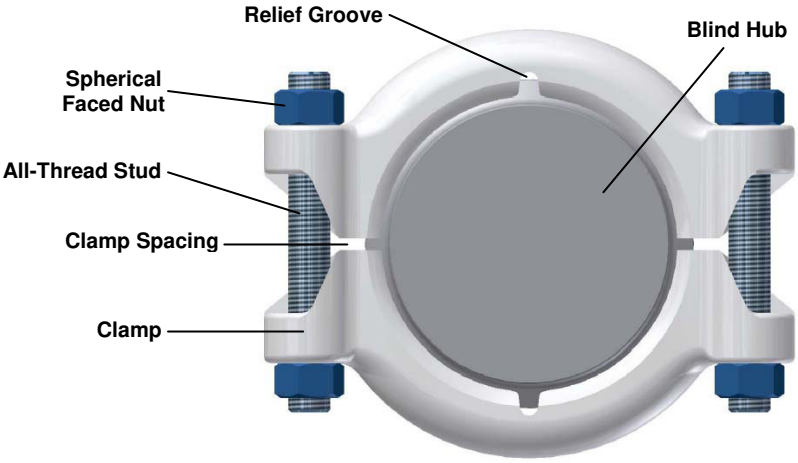
Proper assembly of the Grayloc R-CON connector is the key to pressure containment of the connection.



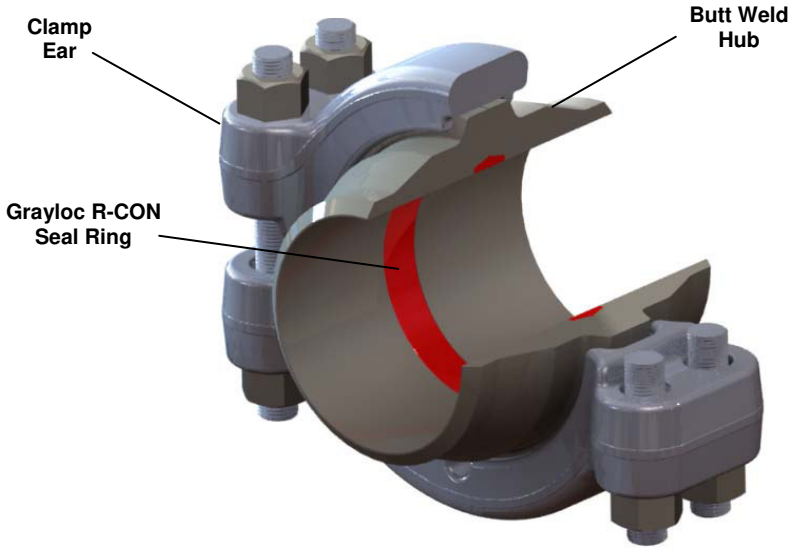
Before Assembly

The Grayloc R-CON seal ring does not seat until the connection is fully tightened; therefore, a small clearance, or standoff, between the hub faces should be observed when the seal ring is placed between the hubs. If no standoff is present, use a new seal ring.

Clean all lubricants and foreign matter from the hub sealing surfaces before installation. Use a non-abrasive material to clean the seal rings of all foreign matter. Normally, all seal rings have a coating or plating (PTFE, MoS_2 with Graphite), which acts as a lubricant during make-up. In some applications where uncoated / unplated seal rings are used, a light film of clean lubricant is recommended.

When applying lubricant, take special care to ensure that no solid or foreign particles are present in the lubricant. Also take care to prevent mechanical damage to the seal ring and the hub sealing surfaces.

Before assembly, the hubs must be aligned to allow engagement of the seal ring lips to the hub sealing surfaces. This will ensure proper engagement of the hub and clamp segments. For misaligned systems, it may be necessary to apply external loads to the mating piping (using jacks, come-a-longs, etc.) to align the hubs prior to assembly.



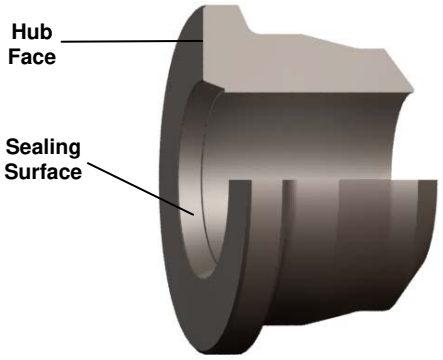
Assembly

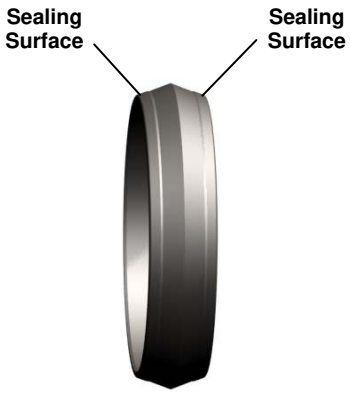
1. Align the hubs so that the seal ring can be installed.

2. Install the seal ring in the sealing surface of the hubs. The seal ring should rock slightly; i.e., the seal ring should not bottom out in the seal pocket. If it does not rock, use a new seal ring.

3. Apply lubrication to the hub-clamp contact area to reduce friction during assembly. Position the clamps around the hubs.

4. Lubrication of the bolting, the spherical faces of the nuts and clamp ears is recommended. Insert the stud bolts into the bolt holes of the clamp ears. The stud-bolts should be installed to insure that the spherically faced nuts fit into the spherical seats of the clamp ears.





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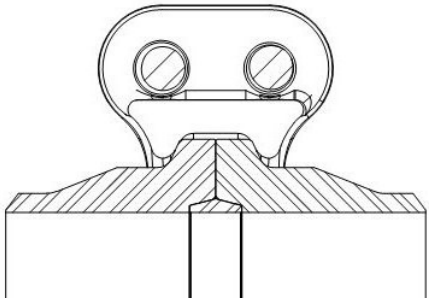
5. Tighten the bolting in a criss-cross pattern (i.e., bolt #1, #3, #2, #4), while keeping the spacing between the clamp halves approximately equal.

6. Torque the bolting to the recommended values shown in this bulletin. The clamp should be jarred (i.e. a sound blow to the back of the clamp with a soft hammer) and the bolting retightened. This should be repeated until bolt torque does not change after jarring (torque, jar, torque, jar, etc).

After proper assembly, the hub faces will be in full contact with each other.



MAKE-UP POSITION

For extreme misalignment and / or extreme piping loads, torque values 1-1/2 to 2 times the table values are recommended. Do not exceed 2 times the recommended torque values, as this may result in permanent damage from distortion to the connector components.