

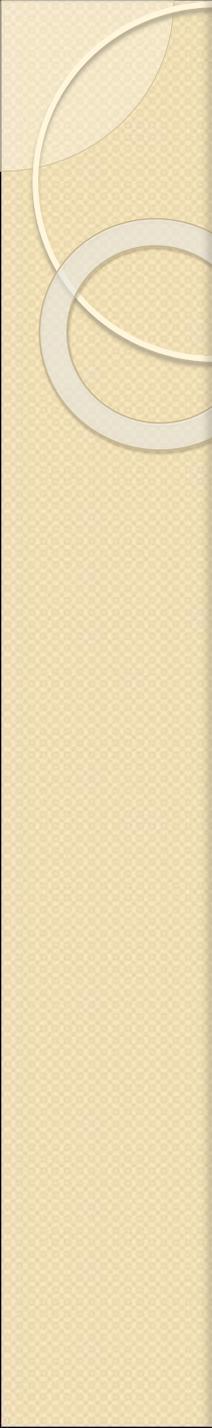
40105-07

Gaskets and Packing

- An introduction to
 - Gaskets
 - Packing
 - O-rings

I.0.0 Introductory Review

- Gaskets
 - **Seals two flat mating surfaces.**
 - Rigid (non-moving) joints only.
- Packing
 - Packed into a cavity (packing gland).
 - Rigid, rotating, or sliding joints.
- O-rings
 - Fits into a groove on one surface and compresses against the other surface.
 - Rigid or rotating joints.



40105-07

Gaskets and Packing

- Tracing a new gasket
 - Ink transfer
 - Hammer marking
- Cutting a new gasket
- Installing a new gasket

4.2.0 Tracing A New Gasket

- If you can work comfortably over the full face of the flange, you can trace the gasket instead of drawing it.
- A lot a machine seals do not conform to basic flange patterns, and cannot be drawn as easily as pipe flanges.
 - These must be traced also.

4.2.0 Tracing A New Gasket

- Step 17-Easy-1:
 - If you can access the sealing face, an easy way to layout a gasket is to:
 - Apply a thin coat of bluing ink on the flange or machine sealing surface.
 - Lay the gasket material over the flange.
 - Firmly, but gently, press over the entire surface of the flange.
 - Especially around inside and outside edges and bolt holes.
 - **The bluing ink will transfer the surface of the flange or machine onto the gasket material.**

4.3.0 Tracing A New Gasket

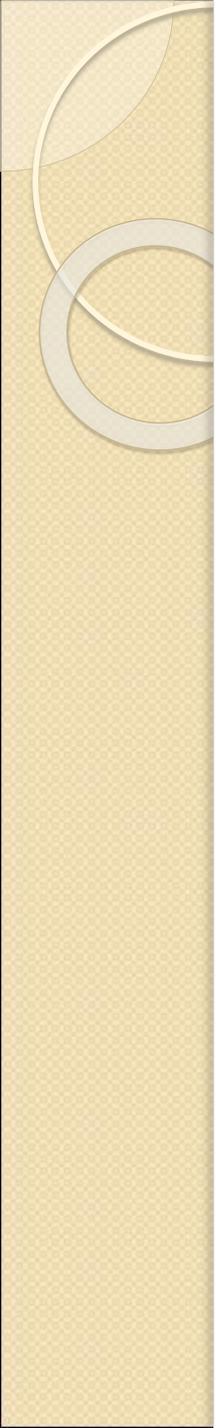
- Step 17-Easy-2:
 - If you can access the sealing face, an easy way to layout a gasket is to:
 - Lay the gasket material over the flange.
 - Firmly, but gently, tap with a ball peen hammer around the inside and outside edges and bolt holes.
 - Continual tapping will cut the gasket along all the edges and holes.
 - Be careful not to dent or chip the edges of the flange.

4.4.0 Cutting A New Gasket

- After the gasket outline has been properly drawn or transferred onto the gasket material; it now must be accurately cut.
- First, cut bolt holes with an accurately sized hollow punch.
- Second, cut the inside radius with a utility knife or scissors.
 - Just inside the inside diameter, cut 2 or 3 overlapping holes with the hollow punch to get a good starting point for the inside diameter, especially if you are using scissors.
- Finally, cut the outside radius with a utility knife or scissors.

4.4.0 Cutting a New Gasket

- Following is a brief video that demonstrates a gasket being made using a ball-peen hammer.

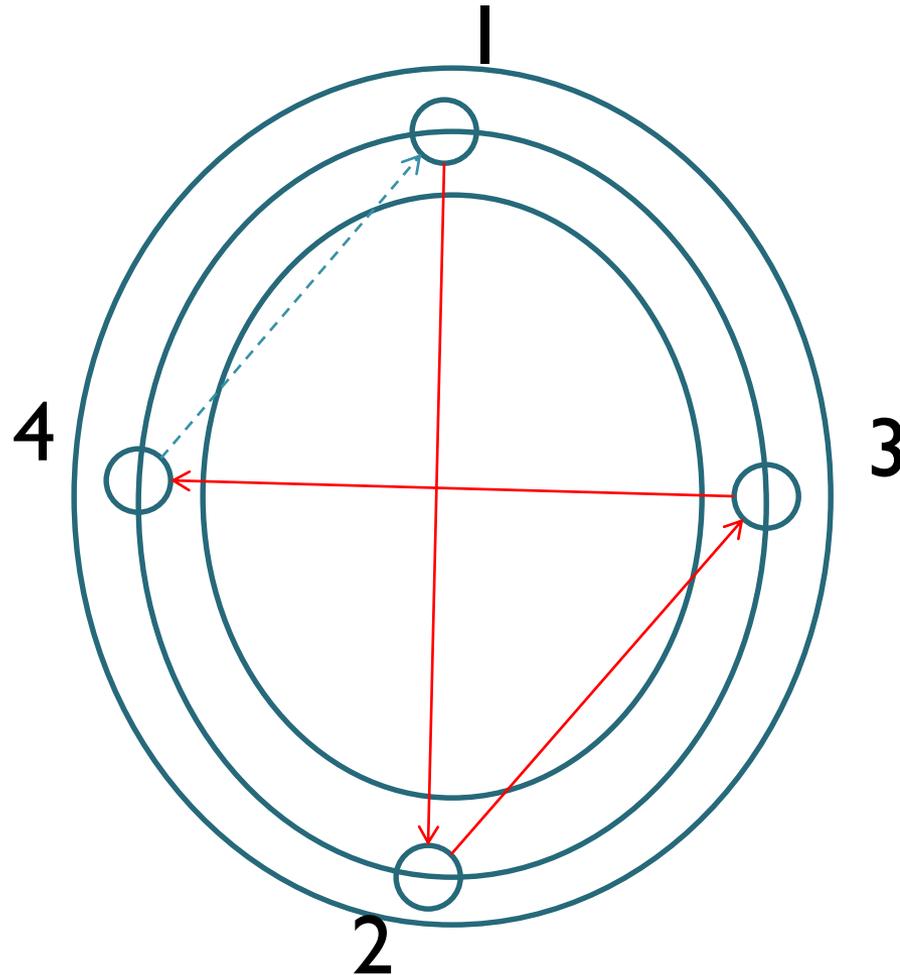


5.0.0 Installing A New Gasket

- Use a scraper, wire brush, and/or solvent as necessary to:
 - Be sure that all old gasket material has been completely removed from both sealing surfaces.
- Position gasket on one sealing surface.
 - Be sure it is even and flat.
- Align second sealing surface to gasket.
 - Be careful not to disturb the gasket.
- Install all bolts, finger-tight.
 - You should be able to wiggle the flange slightly for bolt alignment if needed.
- Tighten bolts, following a star-shaped pattern.
 - **Tighten each bolt a little at a time each sequence until the correct torque has been achieved.**
 - Note the following patterns.

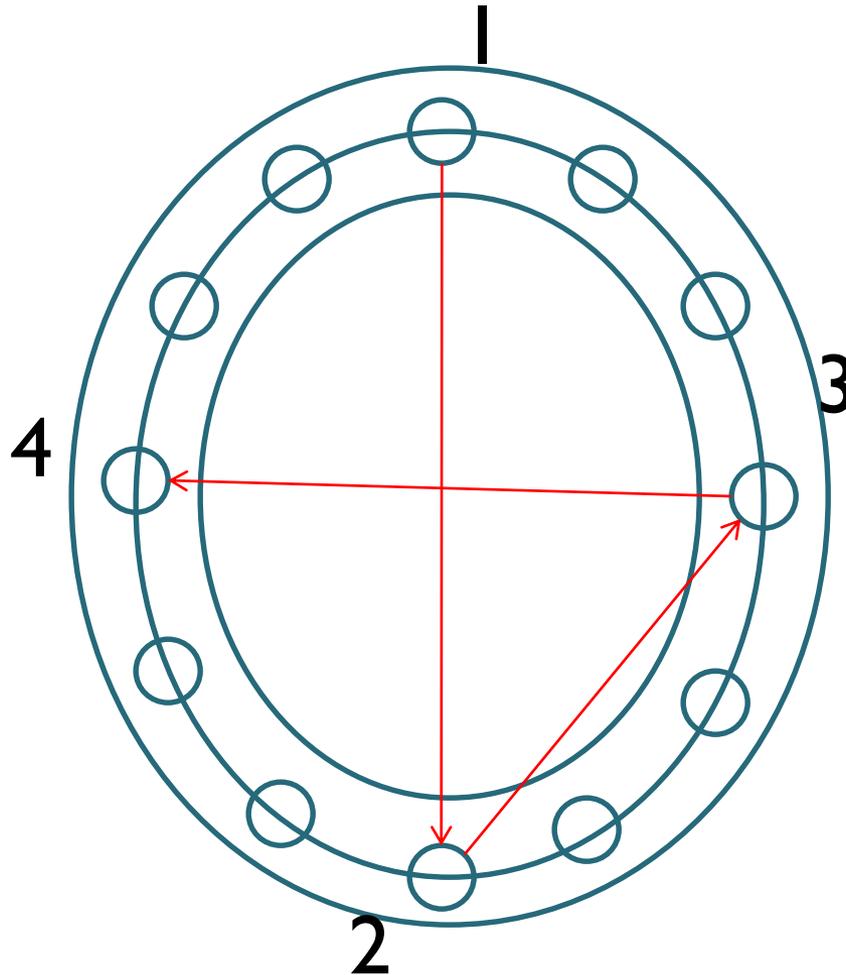
5.0.0 Installing A New Gasket

- Tightening Pattern for a 4-Bolt Flange:



5.0.0 Installing A New Gasket

- Tightening Pattern for a 12-Bolt Flange:

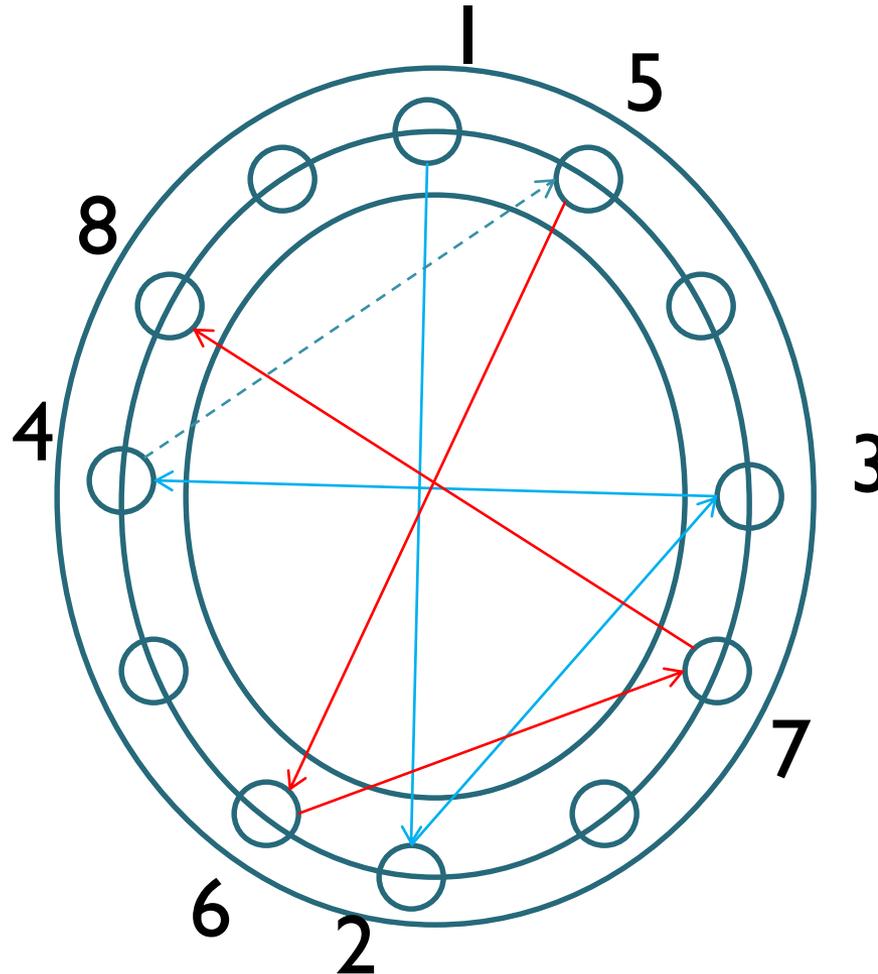


For multi-bolt faces, it is easier to:

- 1) start at 12:00,
 - 2) go straight down to 6:00,
 - 3) go across to 3:00,
 - 4) go straight across to 9:00,
 - 5) Go back up to 12:00 and move over one bolt
- To continue this same pattern until you tighten all bolts.

5.0.0 Installing A New Gasket

- Tightening Pattern for a 12-Bolt Flange:



5.0.0 Installing A New Gasket

- Tightening Pattern for a 12-Bolt Flange:

