

GASKCADD®

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GASKCADD® - Software Documentation

GASKCADD® LICENSE AGREEMENT

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HELP

The first source of assistance are the software HELP files; *General CADD Pro* and *GASKCADD®* are both supplied with HELP files that document the use of all commands. The third-party e-book "*Inside General CADD Pro*" by Ralph Grabowski is an excellent source of additional training on *General CADD Pro*, with excellent appendices and tutorial files. This (*GASKCADD®*) manual includes a 'User Tips' section, documenting questions posed by users. Additional help is available by contacting the authors by phone at (850) 476-6816 or by e-mail at support@gaskcadd.com. We will attempt to respond to all inquiries within 24 hours.

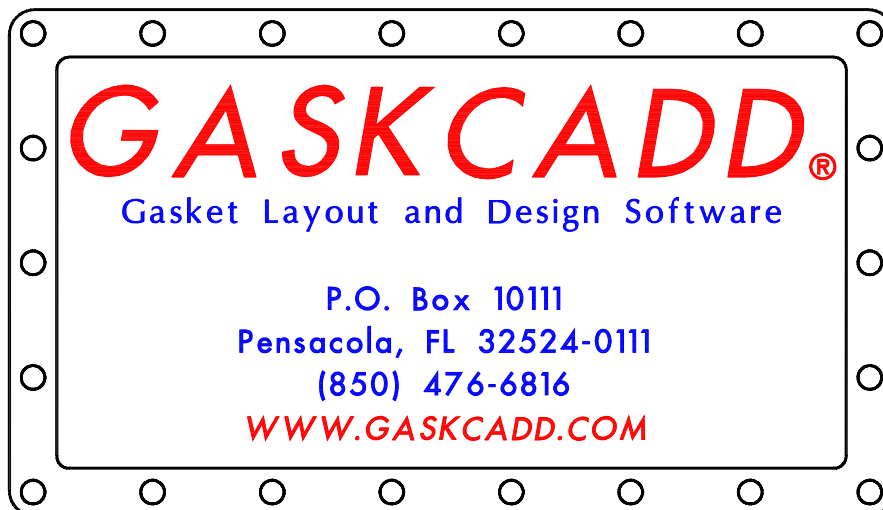


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GASKCADD® consists of a customized menu and set of programs written to run within the low cost drawing package, *General CADD Pro*. Its features are aimed at commercial gasket makers but will enhance the capabilities of anyone involved in the design or construction of pressure vessels or heat exchangers.

INSTALLATION

Before you install *GASKCADD®*, make sure you have successfully completed the installation of *General CADD Pro* in its default directory "C:\Program Files\General Cadd #" (where the # represents the version of General Cadd Pro being installed. Make sure your installation has successfully recognized the USB hardware security device for Versions 12 or lower. For Version 14, you must activate the software license: activate your license by contacting *GASKCADD®* [e-mail support@gaskcadd.com].

Insert the *GASKCADD®* CD into your CD drive. Open **Windows Explorer** and click on the drive letter that corresponds to your CD drive. Then "drag and drop" the *GASKCADD* (*GASKCADD14* for Version 14) subdirectory from the CD into the root directory of your C drive. (If you are installing from a USB thumb drive, the steps are the same.)

At this point, you are ready to start up *General CADD Pro*. Once the program is running, type in the two-letter command **LB** (Load Batch), and pick the command *RESET#.GXME* in the *GASKCADD* subdirectory. For Version 14 the filename is *RESET14.GXM* in the *GASKCADD14* subdirectory.

If you are running *General CADD Pro* Version 10 or higher, the *RESET* program has automatically set up commands which allow you to "flip" between the *General CADD Pro* menu (ALT-N) and the *GASKCADD®* menu (ALT-M).

If you are running *General CADD Pro* Version 9 or lower, you must install the custom commands which allow you to "flip" between the *General CADD Pro* menu and the *GASKCADD®* menu. Go to the CUSTOM drop-down menu, 'Custom' → 'Edit Custom Commands' → 'Fkeys'.

Scroll down to ALT-M and ALT-N, and type in the following:

ALT-M → VX,LV,\gaskcadd\gaskcadd.mnu

ALT-N → VX,LV,\$GCPPATH\generalcadd#.mnu

where # represents GCP version you are running

This will allow the user to select the *GASKCADD®* menu with ALT-M and the *General CADD Pro* menu with ALT-N.

Basic Shapes - RECTANGLE

FILE NAME RECTRING.xxx
FUNCTION Program to create rectangular ring gaskets

NOTE PROGRAM VERIFIES STYLE CHOSEN <<Rectangular RING Gasket>>

STEP 1 *Select Center of Rectangular Gasket with Mouse or Key Enter :*

STEP 2 *Enter Overall Gasket Width :*

STEP 3 *Enter Overall Gasket Height :*

STEP 4 *Enter Outside Corner Radius :*

STEP 5 *Specify inside dimensions by: Rib Width -OR- Hole Dimensions*

IF RIB WIDTH IS SELECTED THEN:

STEP 6R *Enter Vertical Rib Width :*

STEP 7R *Enter Horizontal Rib Width :*

IF HOLE DIMENSIONS IS SELECTED THEN:

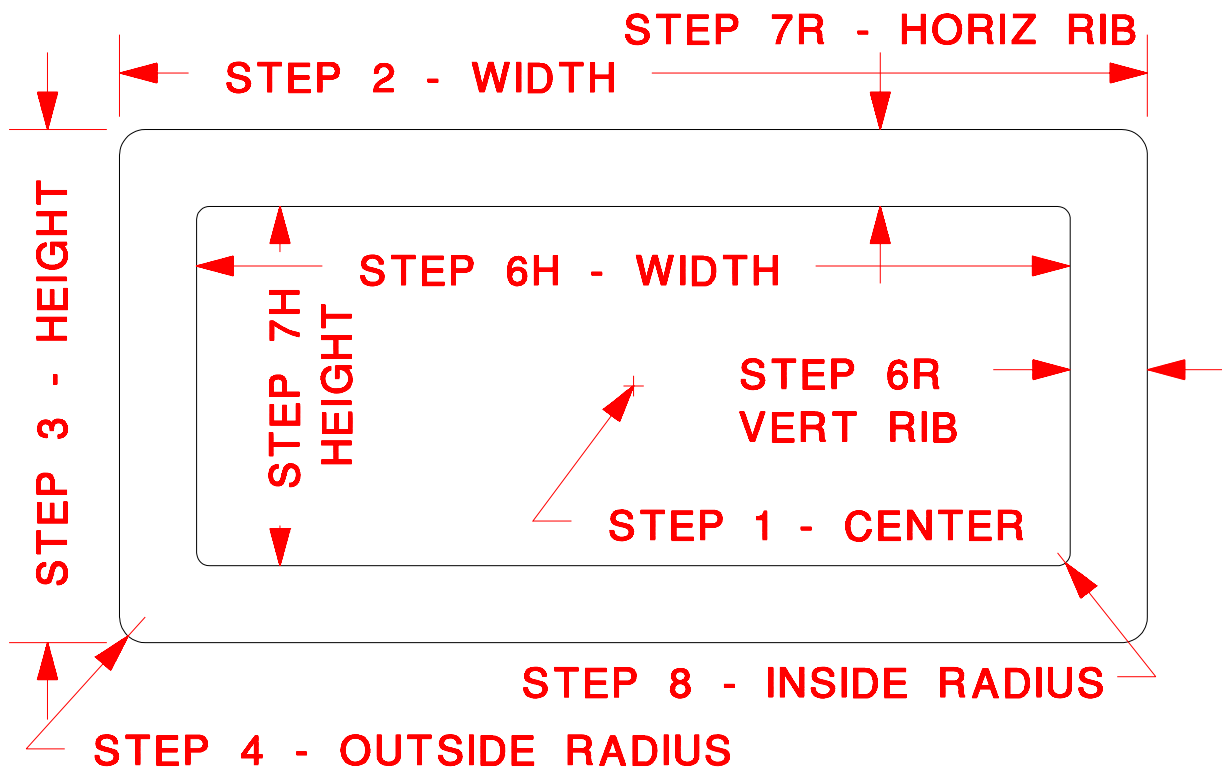
STEP 6H *Enter Inside Hole Width :*

STEP 7H *Enter Inside Hole Height :*

STEP 8 *Enter Inside Corner Radius :*

STEP 9 PROGRAM DRAWS INSIDE RECTANGLE & FILLETS CORNERS

STEP 10 PROGRAM DRAWS OUTSIDE RECTANGLE & FILLETS CORNERS



Basic Shapes - RING [R]

FILE NAME RINGASK.xxx

FUNCTION Program to create simple ring gaskets

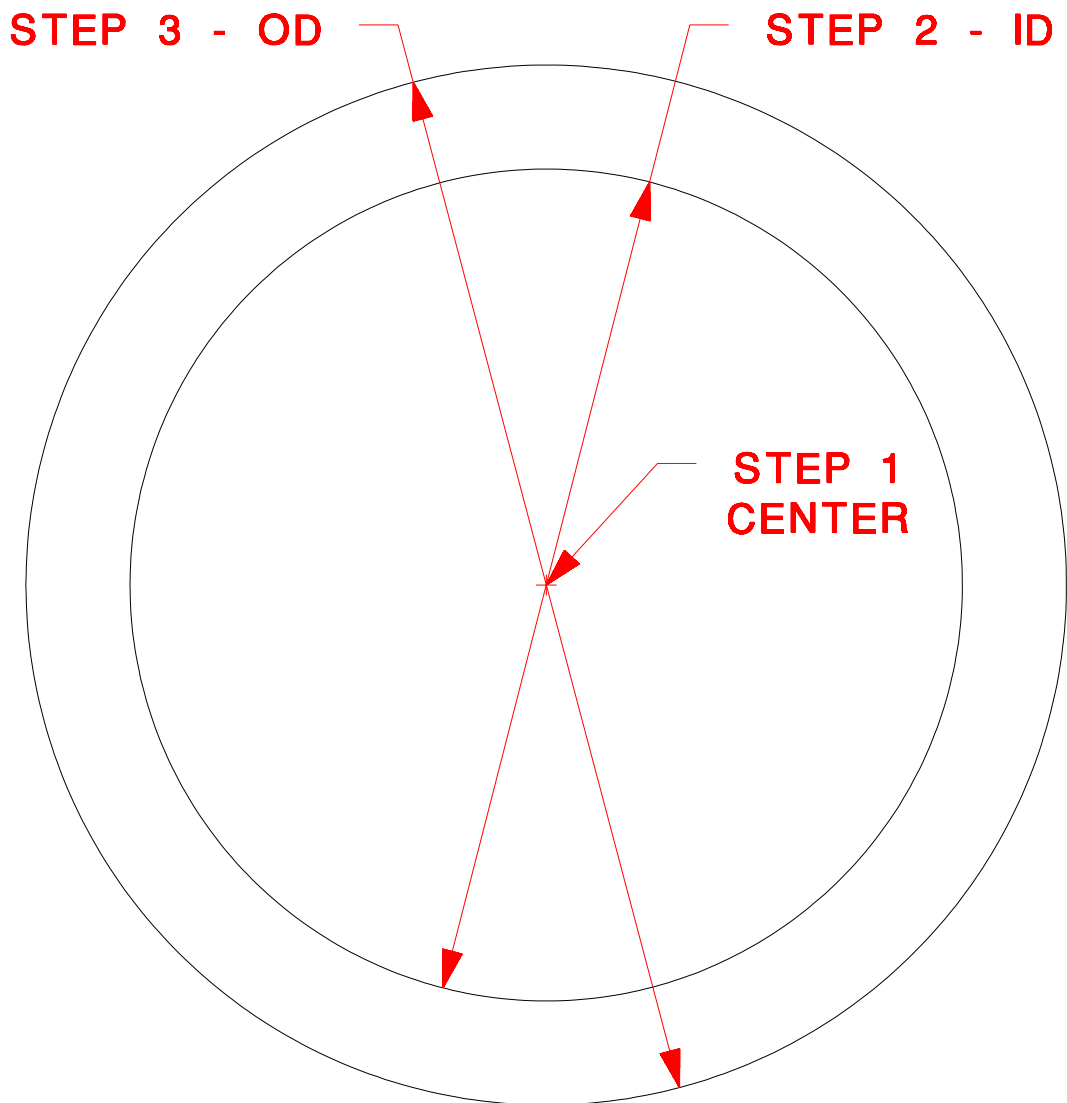
NOTE PROGRAM VERIFIES STYLE CHOSEN <<RING Gasket Style R>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 PROGRAM DRAWS CONCENTRIC CIRCLES TO FORM RING



Basic Shapes - OVAL RING

FILE NAME ELIPRING.xxx

FUNCTION Program to create oval (elliptical) ring gaskets

NOTE PROGRAM VERIFIES STYLE CHOSEN <<OVAL RING GASKET>>

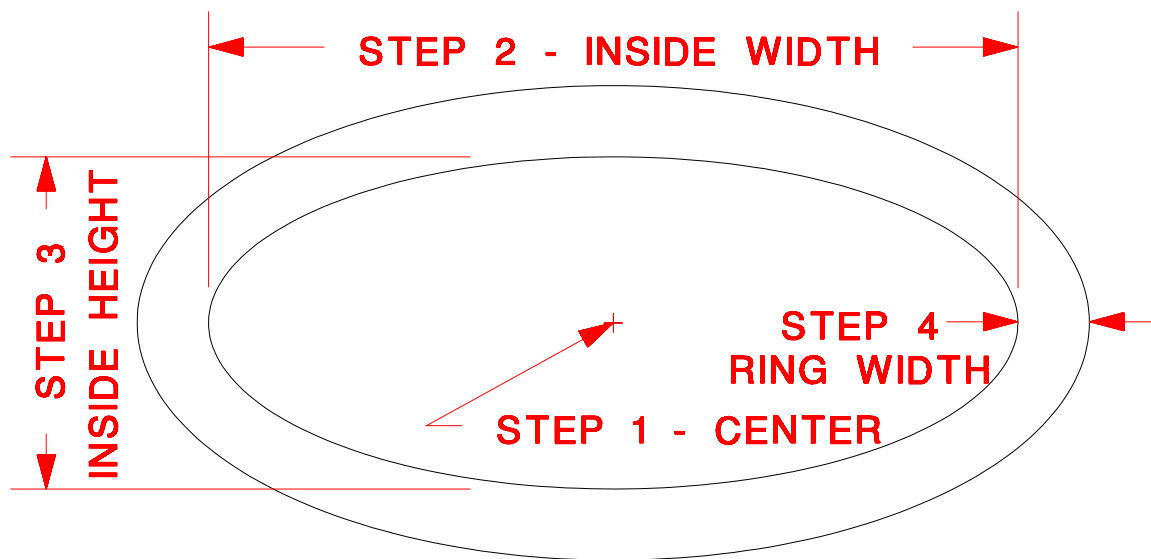
STEP 1 *Select Center of Oval Ring Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Width of Oval :*

STEP 3 *Enter Inside Height of Oval :*

STEP 4 *Enter Ring Face Width :*

STEP 5 PROGRAM DRAWS INSIDE ELLIPSE & OUTSIDE ELLIPSE TO FORM OVAL RING



Basic Shapes - OBROUND RING

FILE NAME OBROUND.xxx

FUNCTION Program to create obround ring gaskets

NOTE PROGRAM VERIFIES STYLE CHOSEN <<OBROUND RING GASKET>>

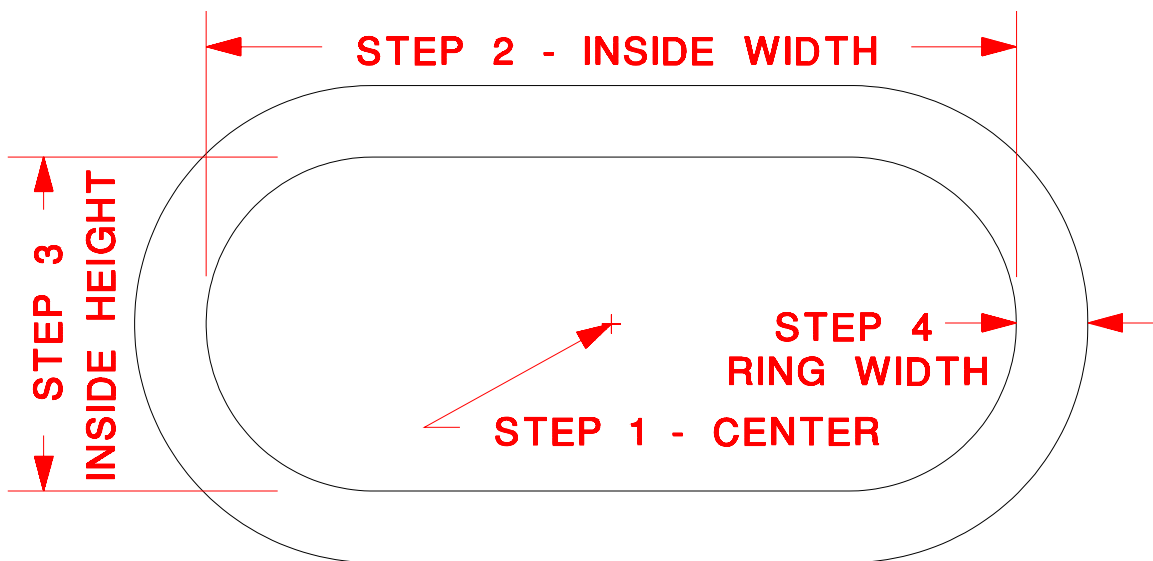
STEP 1 *Select Center of Obround Ring Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Width of Obround Ring :*

STEP 3 *Enter Inside Height of Obround Ring :*

STEP 4 *Enter Ring Face Width :*

STEP 5 PROGRAM DRAWS INSIDE ARC & OUTSIDE ARC TO FORM OBROUND RING



Basic Shapes - DIAMOND

FILE NAME DIAMONDR.xxx
FUNCTION Program to create diamond ring gaskets

NOTE PROGRAM VERIFIES STYLE CHOSEN <<Diamond RING Gasket>>
STEP 1 *Select Center of Gasket with Mouse or Key Enter :*
STEP 2 *Enter Width of Gasket Opening (INSIDE) :*
STEP 3 *Enter Height of Gasket Opening (INSIDE) :*
STEP 4 *Enter Radius of INSIDE Left/Right Ends :*
STEP 5 *Enter Radius of INSIDE Top/Bottom :*
STEP 6 PROGRAM DRAWS INSIDE BEFORE PROMPTING FOR OTHER INPUTS
STEP 7 *Select: Uniform Sealing Width -OR- Special Diamond Shape*

IF UNIFORM SEALING WIDTH IS SELECTED THEN:

STEP 8U *Enter Sealing Surface Width :*

STEP 9U PROGRAM COMPLETES DRAWING OF UNIFORM DIAMOND RING

IF SPECIAL DIAMOND SHAPE IS SELECTED THEN:

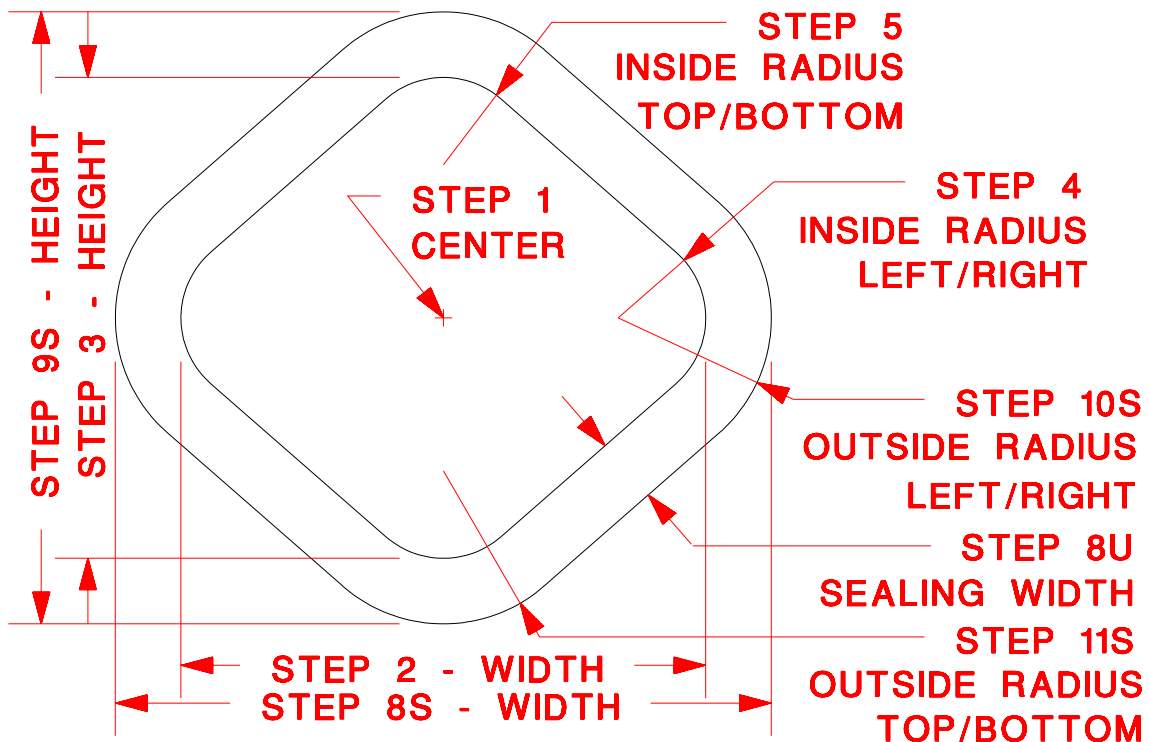
STEP 8S *Enter Overall Width of Gasket (OUTSIDE) :*

STEP 9S *Enter Overall Height of Gasket (OUTSIDE) :*

STEP 10S *Enter OUTSIDE Left/Right Radius :*

STEP 11S *Enter OUTSIDE Top/Bottom Radius :*

STEP 12S PROGRAM COMPLETES DRAWING OF SPECIAL DIAMOND RING



Basic Shapes - PEAR

FILE NAME PEARR.xxx

FUNCTION Program to create pear ring gaskets

NOTE PROGRAM VERIFIES STYLE CHOSEN <<Pear Shaped RING Gasket>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Width of Gasket Opening (INSIDE) :*

STEP 3 *Enter Radius of INSIDE Left End :*

STEP 4 *Enter Radius of INSIDE Right End :*

STEP 5 PROGRAM DRAWS INSIDE BEFORE PROMPTING FOR OTHER INPUTS

STEP 6 *Select: Uniform Sealing Width -OR- Special Pear Shape*

IF UNIFORM SEALING WIDTH IS SELECTED THEN:

STEP 7U *Enter Sealing Surface Width :*

STEP 8U PROGRAM COMPLETES DRAWING OF UNIFORM PEAR RING

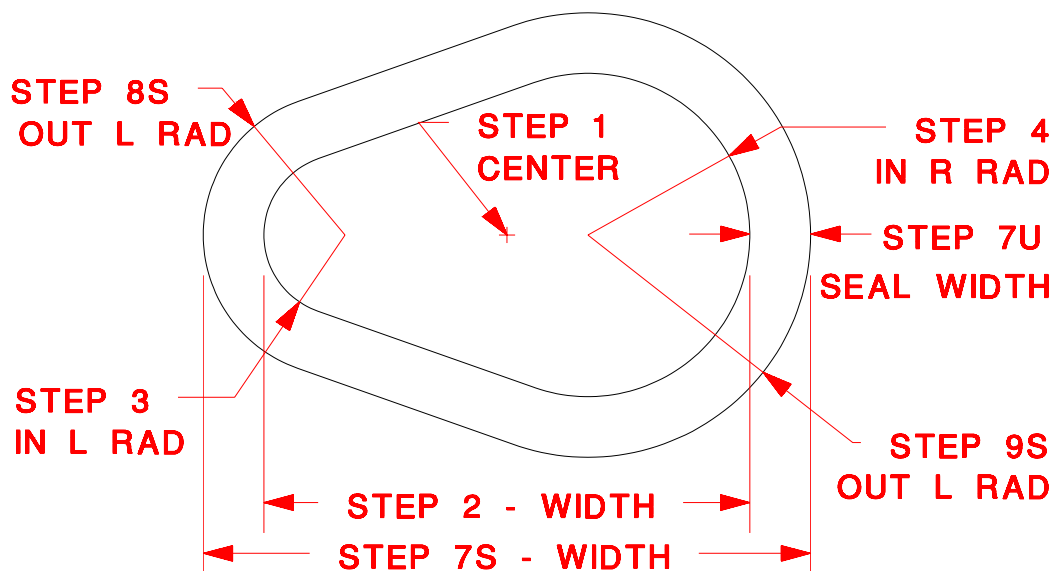
IF SPECIAL PEAR SHAPE IS SELECTED THEN:

STEP 7S *Enter Overall Width of Gasket (OUTSIDE) :*

STEP 8S *Enter OUTSIDE Left Radius :*

STEP 9S *Enter OUTSIDE Right Radius :*

STEP 10S PROGRAM COMPLETES DRAWING OF SPECIAL PEAR RING



Construct – RECTANGULAR BOLT PATTERN

FILE NAME HOLERECT.xxx

FUNCTION Program to create bolt holes in rectangular gaskets

NOTE PROGRAM VERIFIES SELECTION CHOSEN <<Rectangular Bolt>>

STEP 1 *Select Center of Rectangular Pattern with Mouse or Key Enter :*

STEP 2 *Specify Uniform -OR- Special (w/ or w/o corner holes)*

IF UNIFORM PATTERN IS SELECTED THEN:

STEP 3U PROGRAM VERIFIES SELECTION CHOSEN Uniform
Rectangular Hole Pattern / Center Placement

STEP 4U *Enter Diameter of Holes :*

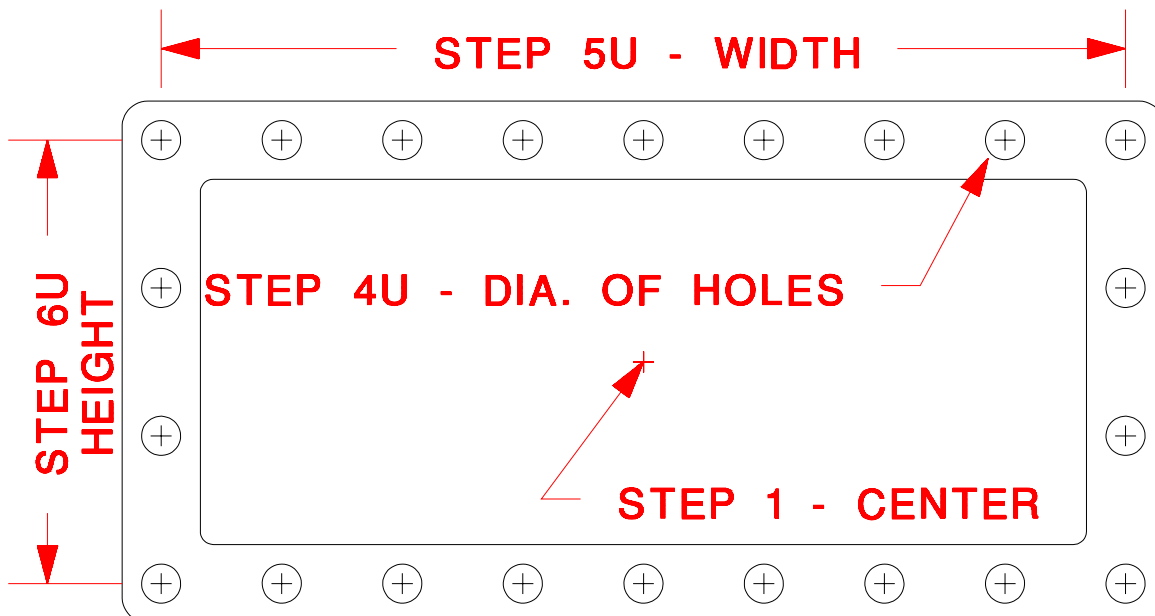
STEP 5U *Enter Width of Pattern :*

STEP 6U *Enter Height of Pattern :*

STEP 7U *Enter Number of Holes Horizontal Row :*

STEP 8U *Enter Number of Holes Vertical Row :*

STEP 9U PROGRAM PLACES CORNER HOLES, THEN
COMPLETES THE PATTERN



STEP 7U - NO. HOLES HORIZ ROW (9)

STEP 8U - NO. HOLES VERT ROW (4)

Construct - RECTANGULAR BOLT PATTERN (continued)

IF SPECIAL PATTERN IS SELECTED THEN:

STEP 3S PROGRAM VERIFIES SELECTION CHOSEN Special
Rectangular Hole Pattern / Center Placement
(Holes at corners or not)

STEP 4S Enter Diameter of Holes :

STEP 5S Enter Width of Pattern (Vertical Bolt CL to CL) :

STEP 6S Enter Height of Pattern (Horizontal Bolt CL to CL) :

STEP 7S Enter Total Number of Holes Horizontal Row :

STEP 8S Enter Uniform Horizontal Hole Spacing :

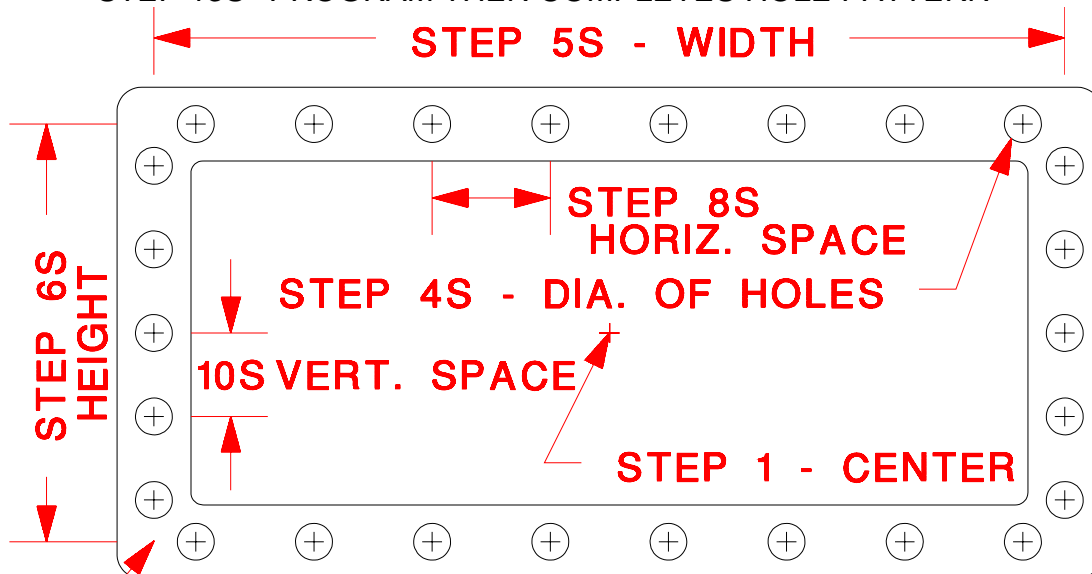
STEP 9S Enter Total Number of Holes Vertical Row :

STEP 10S Enter Uniform Vertical Hole Spacing :

STEP 11S Are there holes at the CORNERS of pattern?
Yes -OR- No

STEP 12S IF YES, PROGRAM PLACES CORNER HOLES,
IF NO, SKIP TO THE NEXT STEP

STEP 13S PROGRAM THEN COMPLETES HOLE PATTERN



STEP 11S - HOLES AT CORNERS? - Y/N
STEP 7S - NO. HOLES HORIZ ROW (8)
STEP 9S - NO. HOLES VERT ROW (5)

Construct - BOLT CIRCLE

FILE NAME BOLT.CIRC.xxx
FUNCTION Program to create bolt circle pattern for gaskets
[For any gasket with bolt holes in a circle]

NOTE PROGRAM VERIFIES SELECTION CHOSEN <<BOLT CIRCLE>>

STEP 1 *Select Center of Bolt Circle with Mouse or Key Enter :*

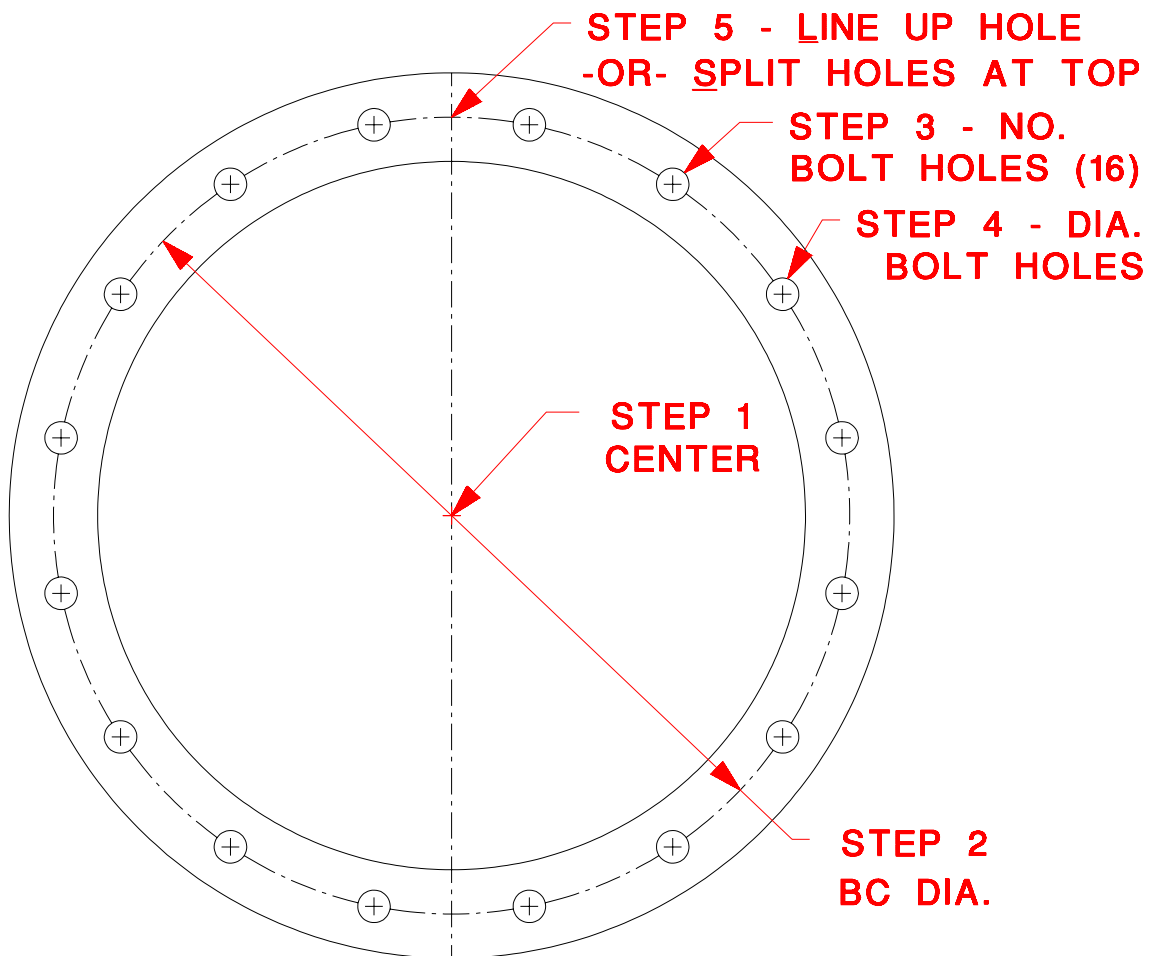
STEP 2 *Enter Diameter of Bolt Circle :*

STEP 3 *Enter Number of Bolt Holes :*

STEP 4 *Enter Diameter of Bolt Holes :*

STEP 5 *Select: Line up Hole at TOP -OR- Split Holes at TOP?*

STEP 6 PROGRAM CREATES BOLT CIRCLE ARRAY

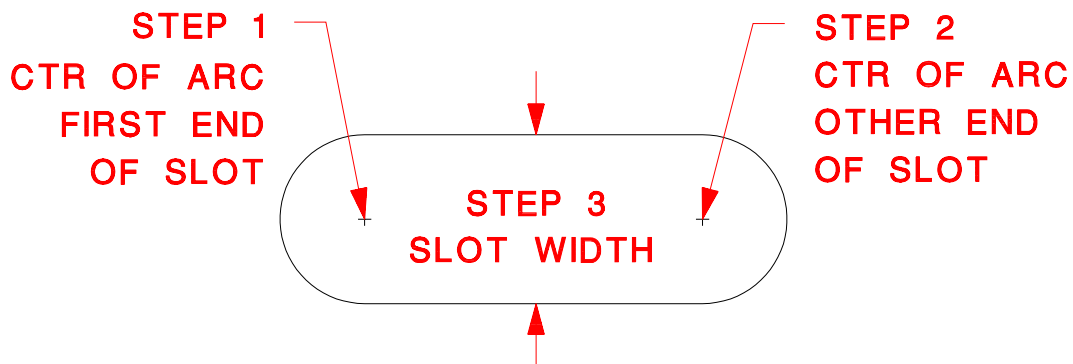


Construct - GASKET HOLE

- FILE NAME GASKHOLE.xxx
FUNCTION Program to create holes for gasket layouts
[Add a hole to any gasket layout]
- NOTE PROGRAM VERIFIES SELECTION CHOSEN <<GASKET HOLE>>
- STEP 1 *Select Center of Hole with Mouse or Key Enter :*
- STEP 2 *Enter Diameter of Hole :*
- STEP 3 PROGRAM CREATES HOLE (CIRCLE)

Construct - SLOTTED HOLE

- FILE NAME SLOT.xxx
FUNCTION Program to create slotted holes for gasket layouts
[Add a slot (slotted hole) to any gasket layout]
- NOTE PROGRAM VERIFIES SELECTION CHOSEN <<SLOTTED HOLE>>
- STEP 1 *Select Center of arc at first end of slot with Mouse or Key Enter :*
- STEP 2 *Select Center of arc at other end of slot with Mouse or Key Enter :*
- STEP 3 *Enter Width of slot:*
- STEP 4 PROGRAM CREATES SLOTTED HOLE (SLOT)



Construct - DOVETAIL

FILE NAME DOVETAIL.xxx

FUNCTION Program to create dovetail joint(s) for gasket ribs

COMMENT Before starting a dovetail, the user will find it helpful to place a "construction" line at the location on the gasket rib where the dovetail is to be placed. Draw the line with a method that will insure that the line is perpendicular to both sides of the rib. After the dovetail is placed, the "construction" line should be erased. Note that the dovetail will be offset from the "construction" line either right or left, up or down, depending on which end is selected first (STEP 3A or 6U).

STEP 1 PROGRAM VERIFIES SELECTION CHOSEN <<DOVETAIL JOINT>>

STEP 2 Specify Automatic -OR- User Specified Dimensions

IF AUTOMATIC IS SELECTED THEN

STEP 3A Select Left End of Joint w/ Dovetail UP, Mouse or Key Enter :

STEP 4A Select Right End of Joint w/ Dovetail UP, Mouse or Key Enter :

STEP 5A PROGRAM CREATES DOVETAIL, PROPORTIONED FROM DISTANCE BETWEEN LEFT & RIGHT ENDS

IF USER SPECIFIED IS SELECTED THEN :

STEP 3U Enter Root (Bottom) Width of Dovetail :

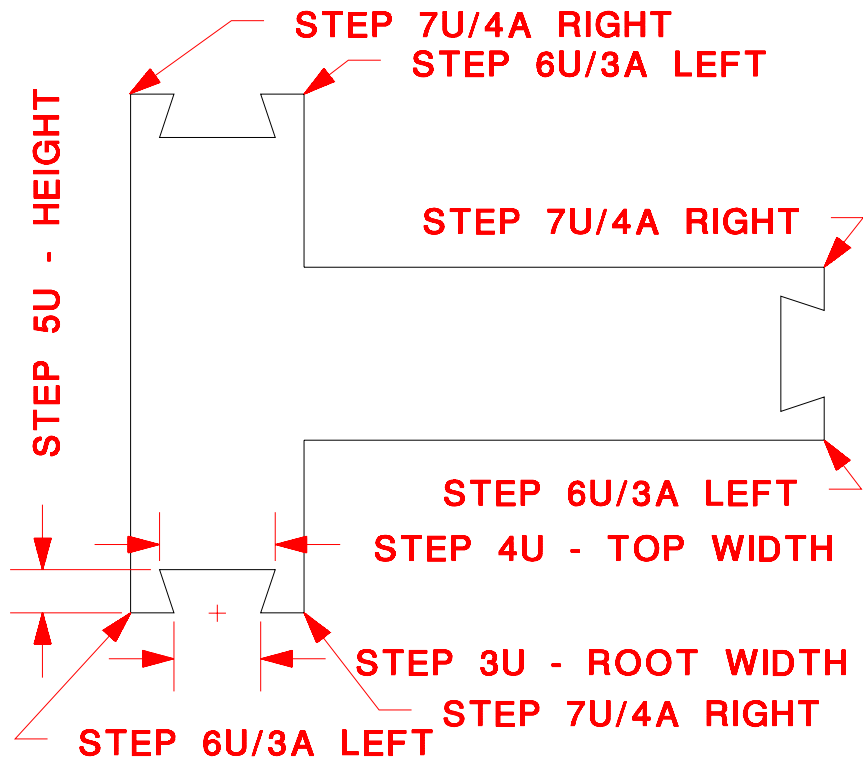
STEP 4U Enter Top Width of Dovetail :

STEP 5U Enter Height of Dovetail :

STEP 6U Select Left End of Joint w/ Dovetail UP, Mouse or Key Enter :

STEP 7U Select Right End of Joint w/ Dovetail UP, Mouse or Key Enter :

STEP 8U PROGRAM CREATES DOVETAIL



Construct - DOVETAIL-MULTI

FILENAME: DOVETAIL-MULTI.xxx

FUNCTION Program to create dovetail joint(s) with user-selectable number of dovetails across a joint.

COMMENT Sometimes when creating a dovetail joint, a single dovetail is simply too large and breaking the distance up manually and inserting individual dovetails is too tedious and time consuming. This program automates that process.

Before starting a dovetail-multi, the user will find it helpful to place a "construction" line at the location on the gasket rib where the dovetail-multi is to be placed. Draw the line with a method that will insure that the line is perpendicular to both sides of the rib. After the dovetail is placed, the "construction" line should be erased.

STEP 1 PROGRAM VERIFIES SELECTION CHOSEN

<<MULTI-DOVETAIL JOINT>> and prompts:

Enter number of dovetails desired across joint: (Enter a number)

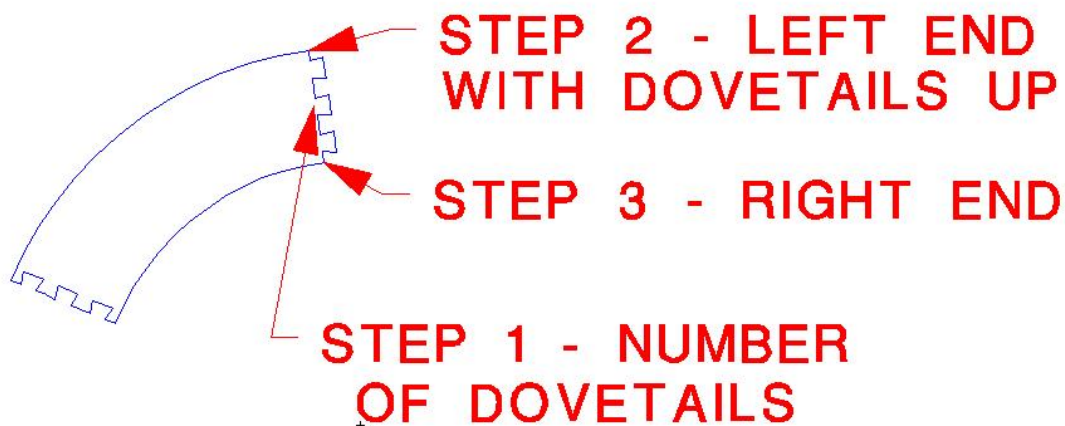
STEP 2 *Select Left End of Joint with Dovetail(s) UP (Mouse or Key Enter)*

(With cursor close, click Right Mouse Button or 'NP' (Near Point) on keyboard.)

STEP 3 *Select Right End of Joint with Dovetail(s) UP (Mouse or Key Enter)*

(With cursor close, click Right Mouse Button or 'NP' (Near Point) on keyboard.)

STEP 4 PROGRAM CREATES STRING OF ADJOINING DOVETAILS



Construct - FINGER JOINT

FILE NAME: FINGERJOINT. xxx

FUNCTION Program to create a finger joint (similar to dovetail-multi) with user-selectable number of fingers across a joint.

COMMENT Before starting a finger joint, the user will find it helpful to place a "construction" line at the location on the gasket rib where the finger joint is to be placed. Draw the line with a method that will insure that the line is perpendicular to both sides of the rib. After the finger joint is placed, the "construction" line should be erased.

STEP 1 PROGRAM VERIFIES SELECTION CHOSEN

<<FINGER JOINT>> and prompts:

Enter number of fingers desired across a joint: (Enter a number)

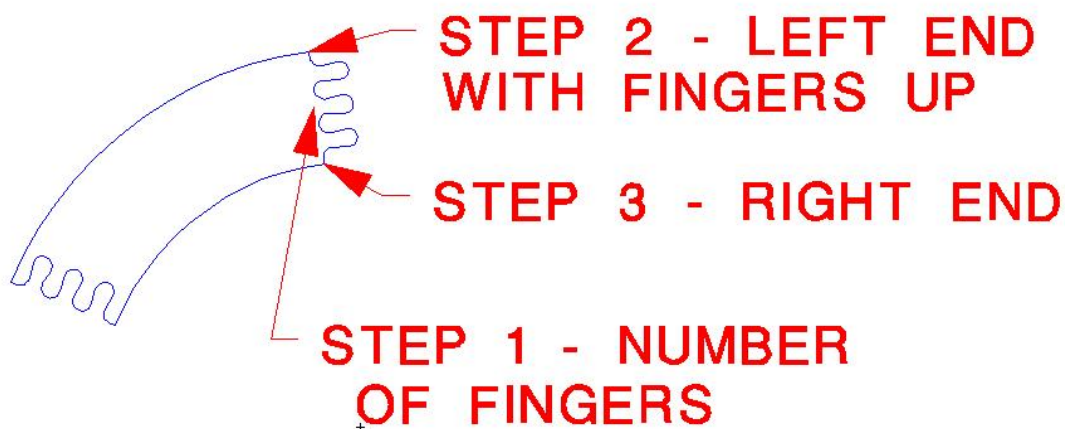
STEP 2 *Select Left End of Joint with Finger(s) UP (Mouse or Key Enter)*

(With cursor close, click Right Mouse Button or 'NP' (Near Point) on keyboard.)

STEP 3 *Select Right End of Joint with Finger(s) UP (Mouse or Key Enter)*

(With cursor close, click Right Mouse Button or 'NP' (Near Point) on keyboard.)

STEP 4 PROGRAM CREATES SELECTED NUMBER OF ADJOINING FINGERS



Construct – HOLETAB

FILE NAME HOLETAB.xxx

FUNCTION Program to create circular tab joint(s) for gasket ribs.

COMMENT This program is similar in function to the dovetail joint, but for a die fabricated segmented gasket, this shape is easier to make. (A modified punch, like those used for bolt holes, is utilized to make the tab.) Before starting a holetab, the user will find it helpful to place a "construction" line at the location on the gasket rib where the holetab is to be placed. Draw the line with a method that will insure that the line is perpendicular to both sides of the rib. After the holetab is placed, the "construction" line should be erased. Note that the holetab will be offset from the "construction" line either right or left, up or down, depending on which end is selected first (STEP 3).

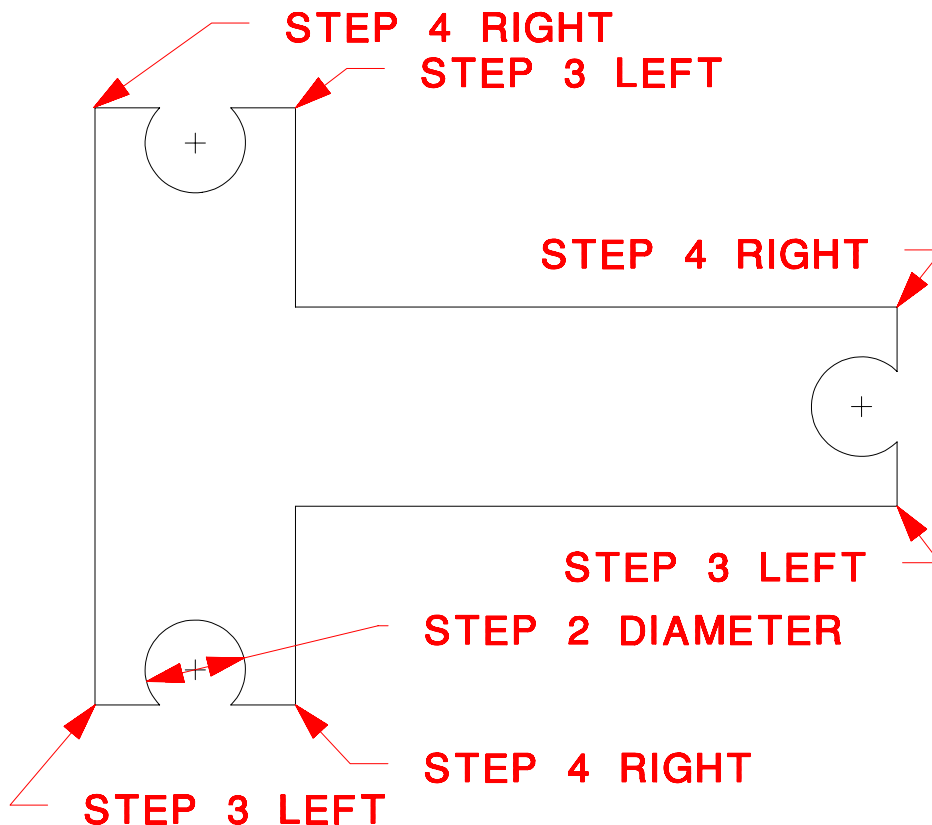
STEP 1 PROGRAM VERIFIES SELECTION <<CIRCULAR TAB JOINT>>

STEP 2 *Enter Desired TAB Diameter :*

STEP 3 *Select Left End of Joint w/ TAB UP, Mouse or Key Enter :*

STEP 4 *Select Right End of Joint w/ TAB UP, Mouse or Key Enter :*

STEP 5 PROGRAM CREATES CIRCULAR TAB JOINT



Construct - FILLET

- COMMAND** Fillet on *GASKADD®* Construct menu
- FUNCTION** Built-in General Cadd command **FI** (Fillet) to insert an arc of specified radius between two nonparallel lines or arcs. Before insertion of the radius is begun, the menu executes the built-in General Cadd command **FR** (Fillet Radius) to prompt the current fillet radius value. If this is the needed value it may be used, or you may key enter the value you need.
- COMMENT** Many of the *GASKADD®* design programs include steps that set a number of fillet radii after prompting for an input value. If your gasket design contains a fillet radius value that differs from others in the group, use this command to insert the fillet. After inserting the revised fillet, erase the other fillet with the General Cadd command **OE** (Object Erase).
- STEP 1** *Menu Select FILLET command*
- STEP 2** MENU EXECUTES **FR** (Fillet Radius) COMMAND
- STEP 3** *Enter the radius value at the prompt :*
- STEP 4** *Press the ENTER key to set the value*
- NOTE** If the value displayed in Step 3 is correct, press the ENTER key
- STEP 5** MENU EXECUTES **FI** (Fillet) COMMAND
- STEP 6** *Cursor select first object*
- STEP 7** *Cursor select second object*
- STEP 8** PROGRAM DRAWS FILLET AT INTERSECTION OF SELECTED OBJECTS

Heat Exchanger C-1

FILE NAME C_ONE.xxx
FUNCTION Program to create C-1 heat exchanger gaskets
[Single Full Horizontal Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style C-1, 1 Rib>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

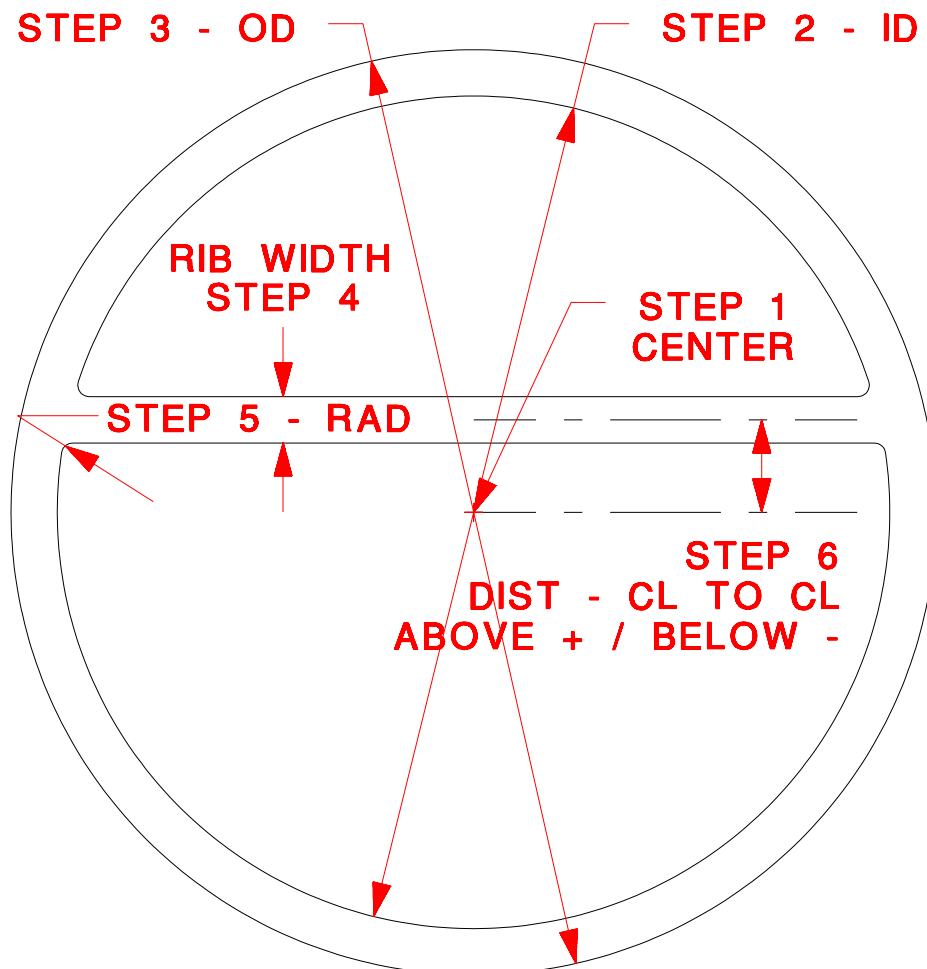
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter DIST from Gasket CL to CL of Horizontal Rib [Above + / Below -]*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAK INTO ARCS, THEN LOCATES AND DRAWS RIB & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger E-1

FILE NAME E_ONE.xxx
FUNCTION Program to create E-1 heat exchanger gaskets
[Two Equally Spaced Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style E-1, 2 Ribs>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

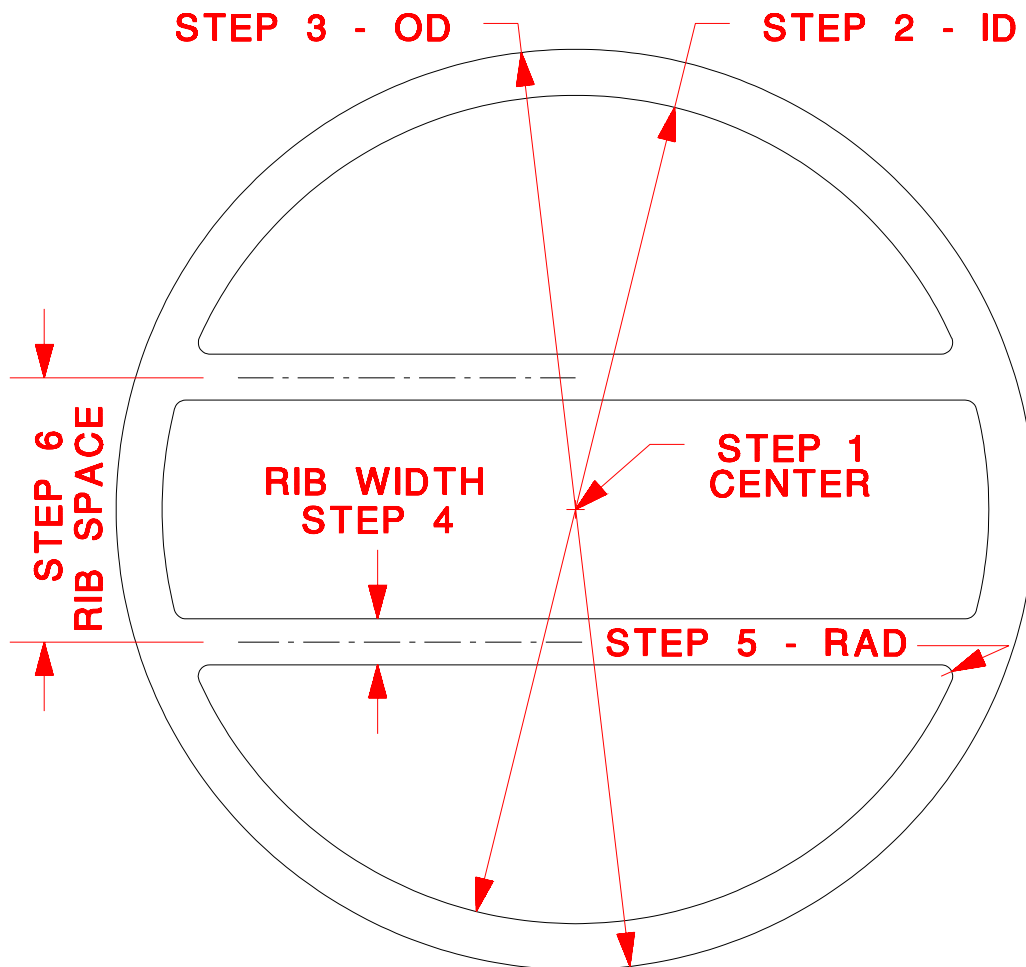
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - CL to CL :*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS RIBS & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger E-2

FILE NAME E_TWO.xxx

FUNCTION Program to create E-2 heat exchanger gaskets
[Full Horizontal Rib w/ Half Vertical Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style E-2>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

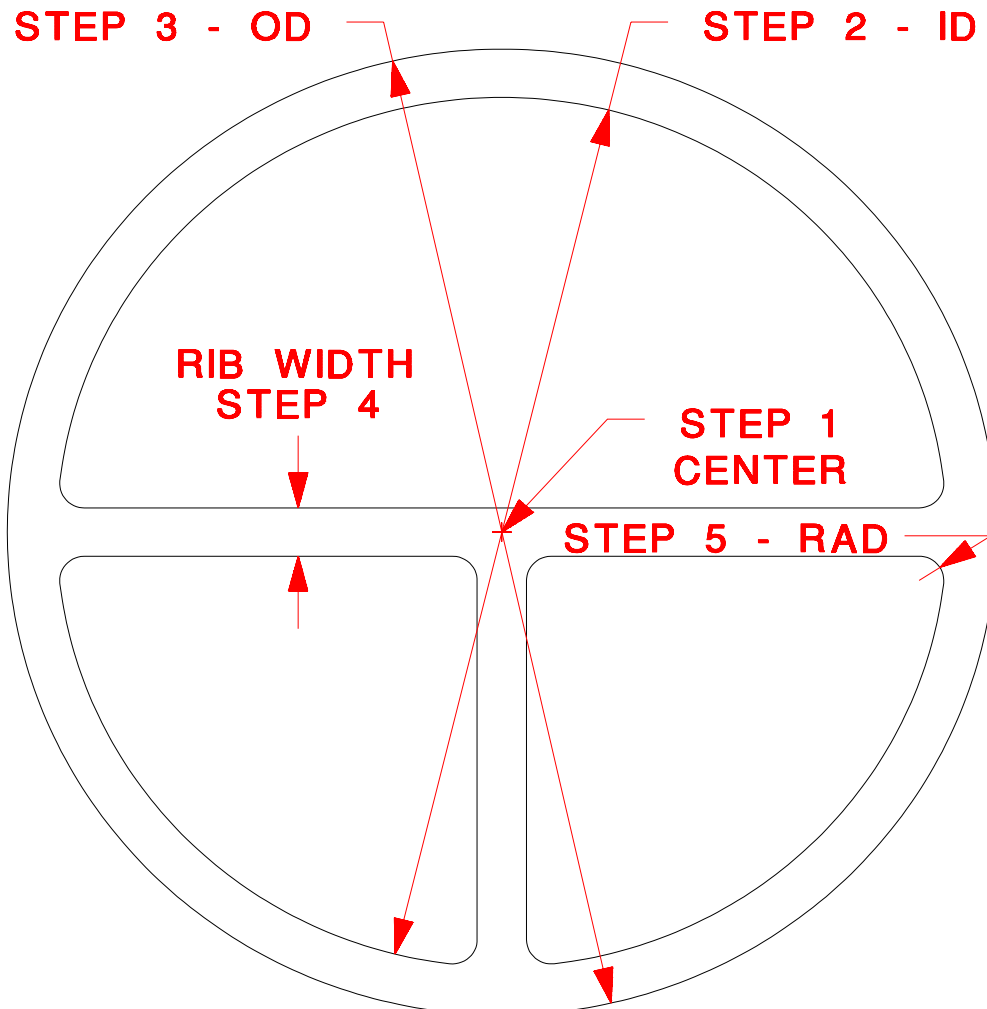
STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIB, & THEN HALF VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger F-2

FILE NAME F_TW0.xxx
FUNCTION Program to create F-2 heat exchanger gaskets
[Partial Vertical Rib w/ One Left & One Right Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style F-2>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

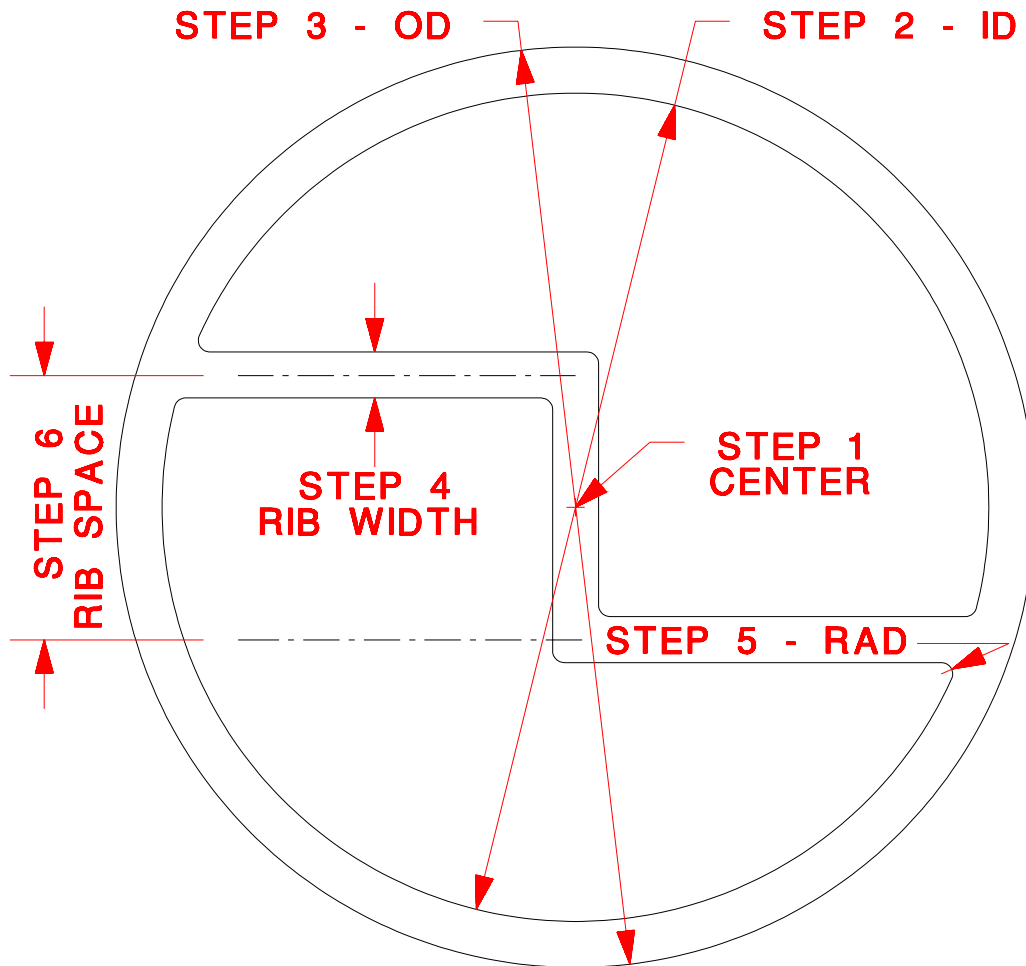
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Ribs :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - CL to CL:*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS RIBS & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger G-1

FILE NAME G_ONE.xxx
FUNCTION Program to create G-1 heat exchanger gaskets
[Three Equally Spaced Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style G-1, 3 ribs>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

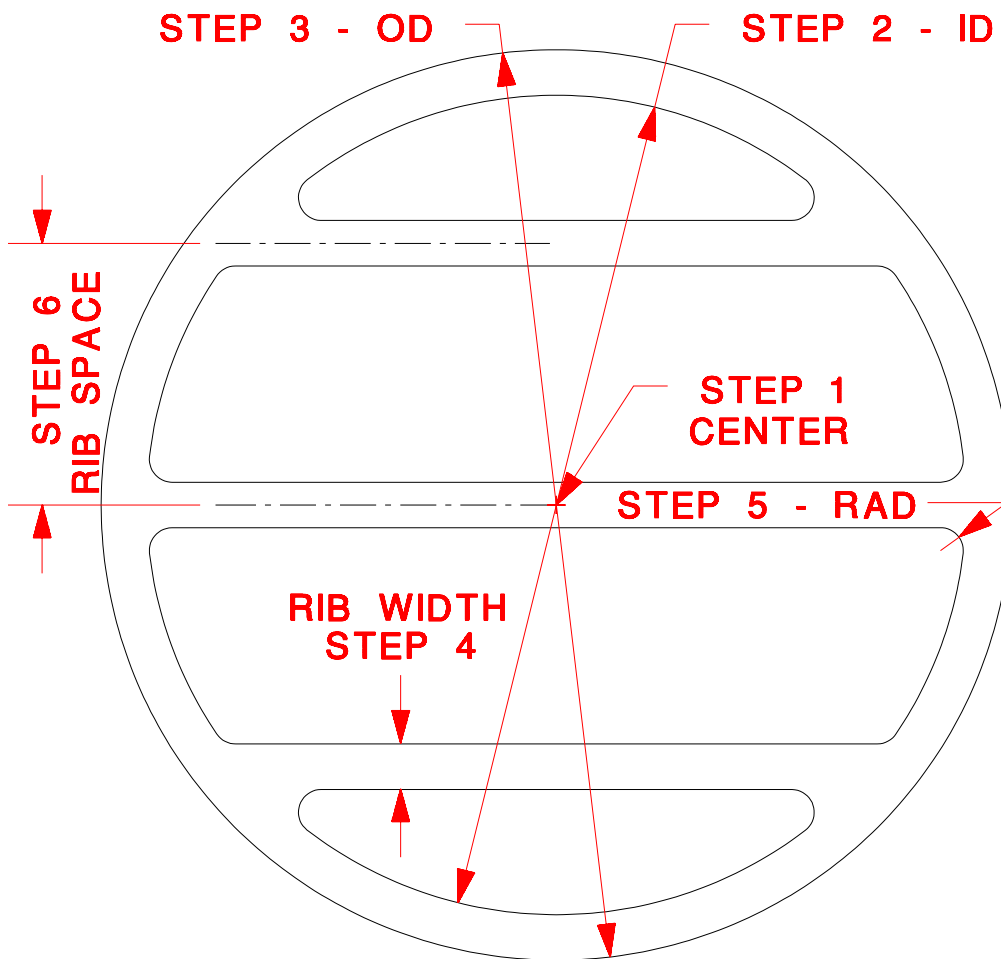
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - CL to CL:*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS RIBS & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger G-3

FILE NAME G_THREE.xxx
FUNCTION Program to create G-3 heat exchanger gaskets
[Full Vertical Rib w/ One Left & One Right Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style G-3>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

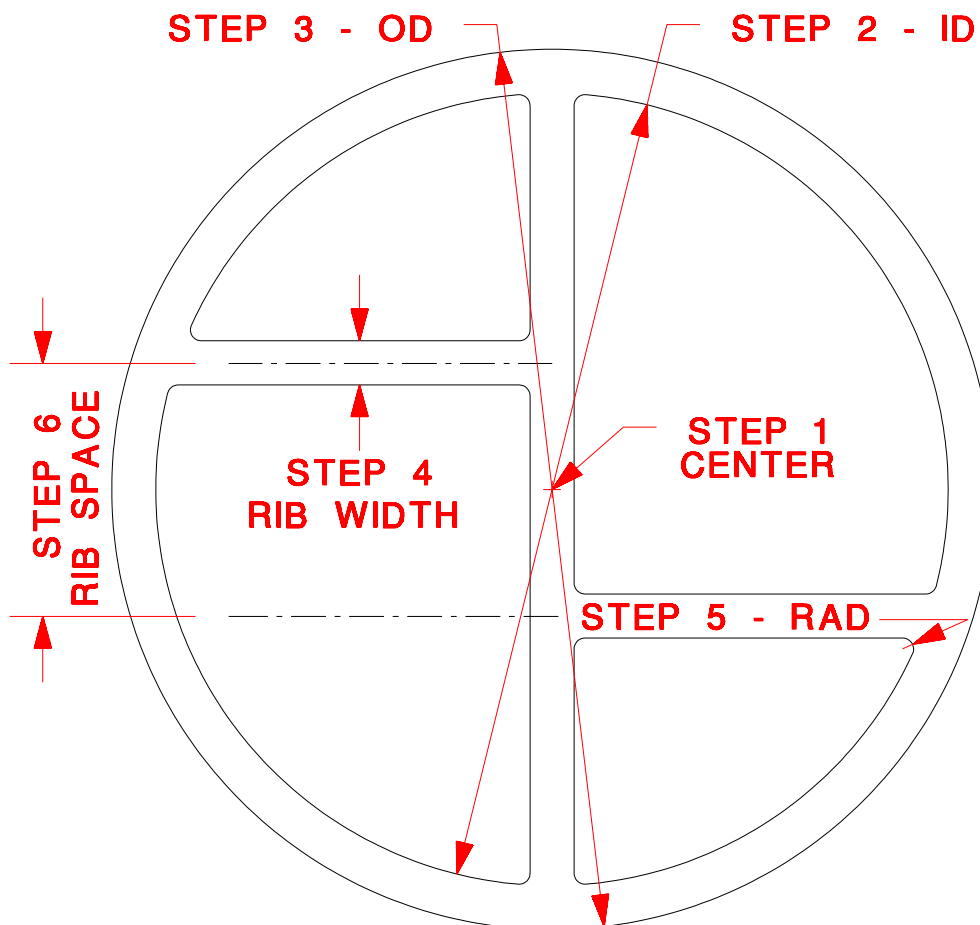
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Ribs :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - CL to CL:*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HALF HORIZONTAL RIBS, & THEN FULL VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger G-4

FILE NAME G_FOUR.xxx

FUNCTION Program to create G-4 heat exchanger gaskets
[Partial Vertical Rib w/ Two Left Ribs & One Right Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style G-4>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

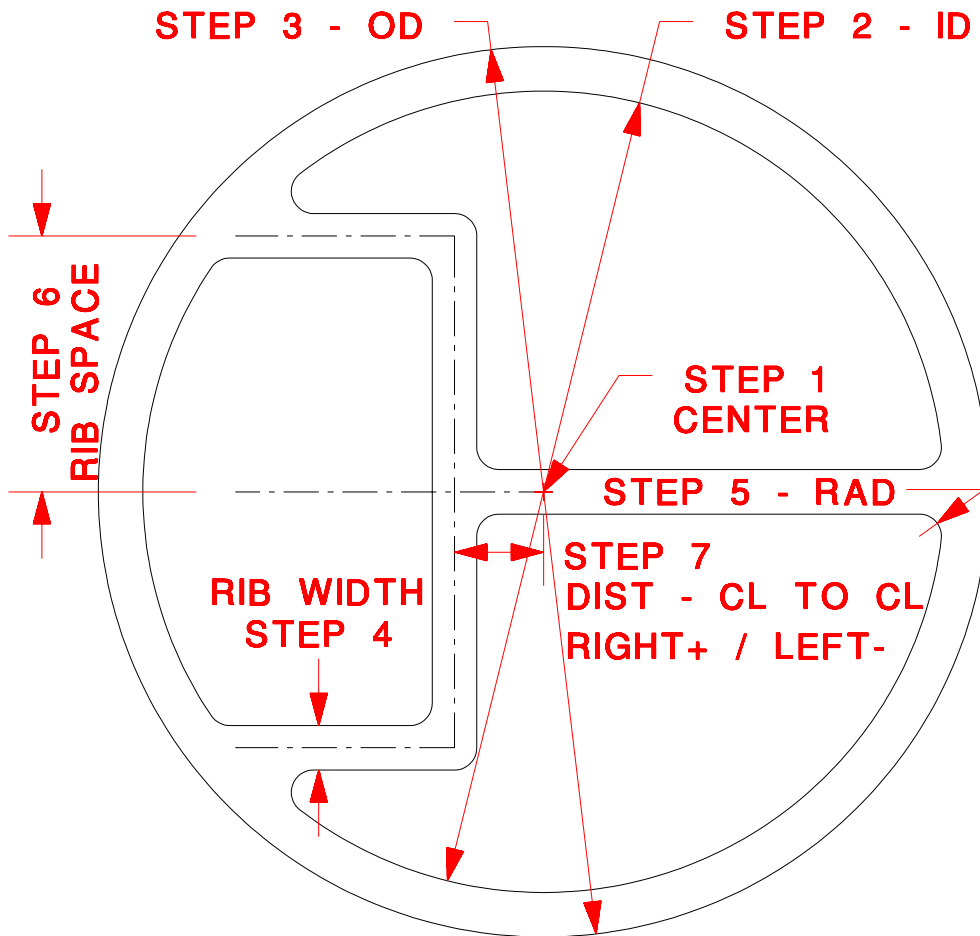
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - DIST TOP LEFT Rib is above Horizontal CL of Gasket:*

STEP 7 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HALF HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger G-5

FILE NAME G_FIVE.xxx

FUNCTION Program to create G-5 heat exchanger gaskets
[Partial Vertical Rib w/ Two Horizontal Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style G-5>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

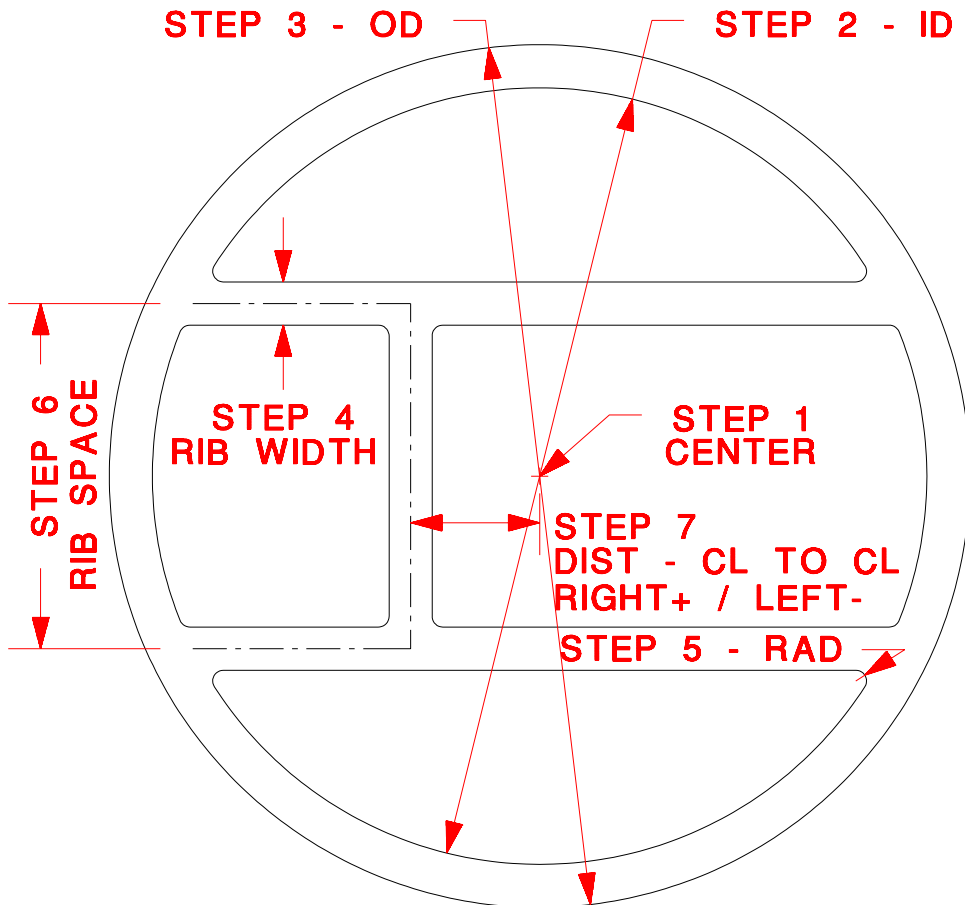
STEP 4 *Enter Width of Gasket Ribs :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - CL to CL:*

STEP 7 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN HALF VERTICAL RIB (CENTERED OR OFFSET) TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger G-9

FILE NAME G_NINE.xxx

FUNCTION Program to create G-9 heat exchanger gaskets
[Full Horizontal Rib w/ Full Vertical Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style G-9>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

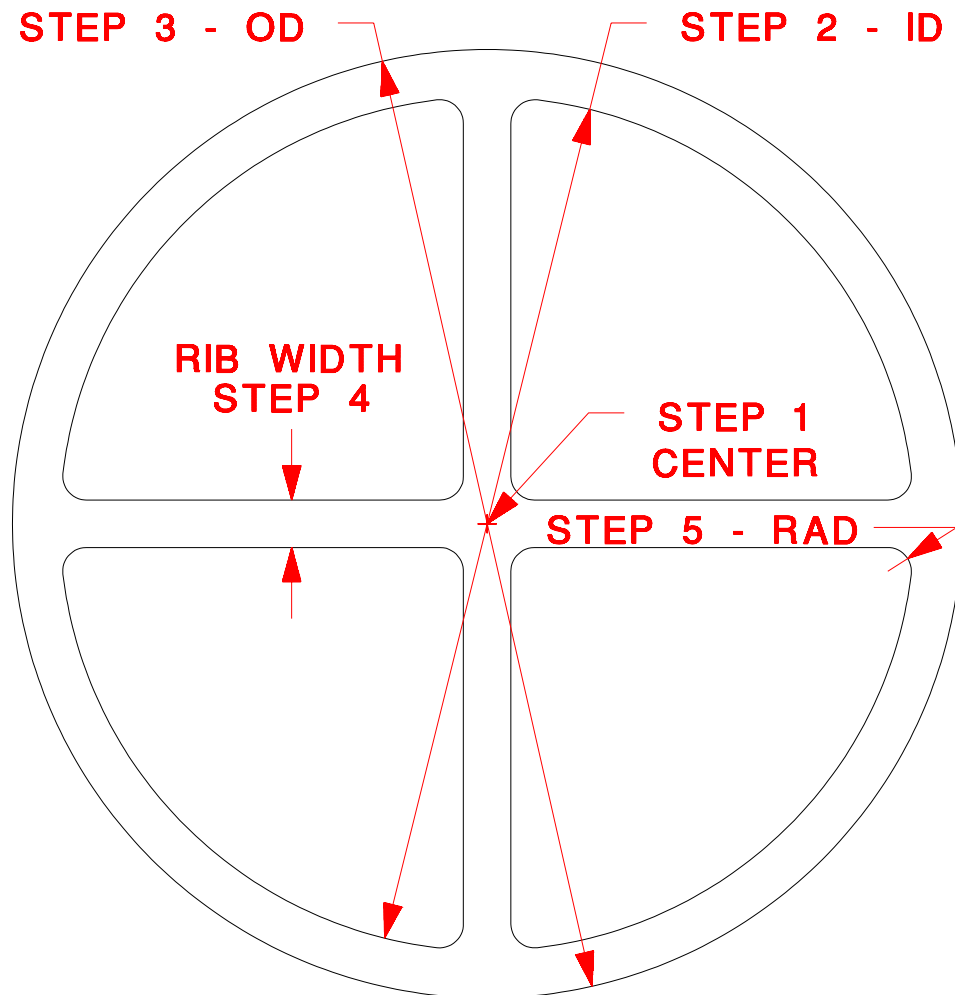
STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIB, & THEN VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger H-1

FILE NAME H_ONE.xxx
FUNCTION Program to create H-1 heat exchanger gaskets
Full Vertical Rib w/ Two Left Ribs & One Right Rib

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style H-1>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

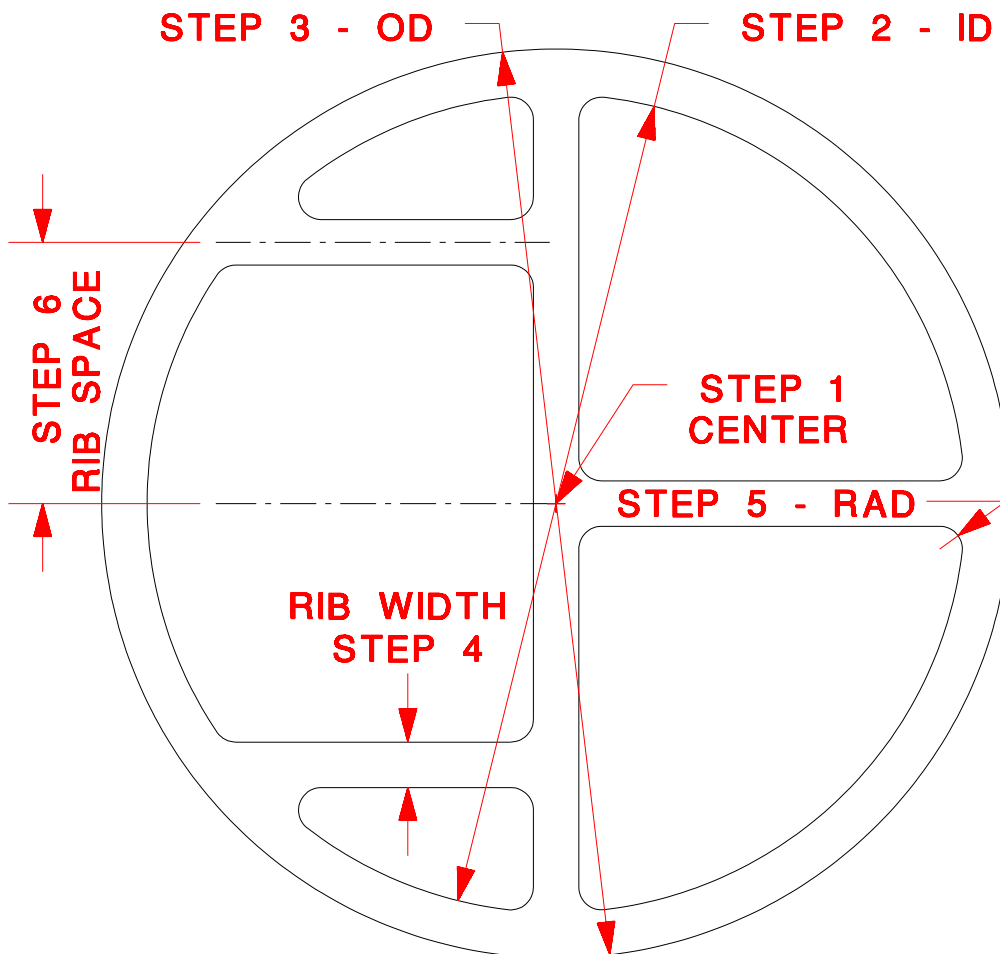
STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Rib Spacing - DIST TOP LEFT Rib is above Horizontal CL of Gasket:*

STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HALF HORIZONTAL RIBS, & THEN VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger H-2

FILE NAME H_TWO.xxx

FUNCTION Program to create H-2 heat exchanger gaskets
[Four Horizontal Ribs, spaced from centerline]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style H-2, 4 Ribs>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

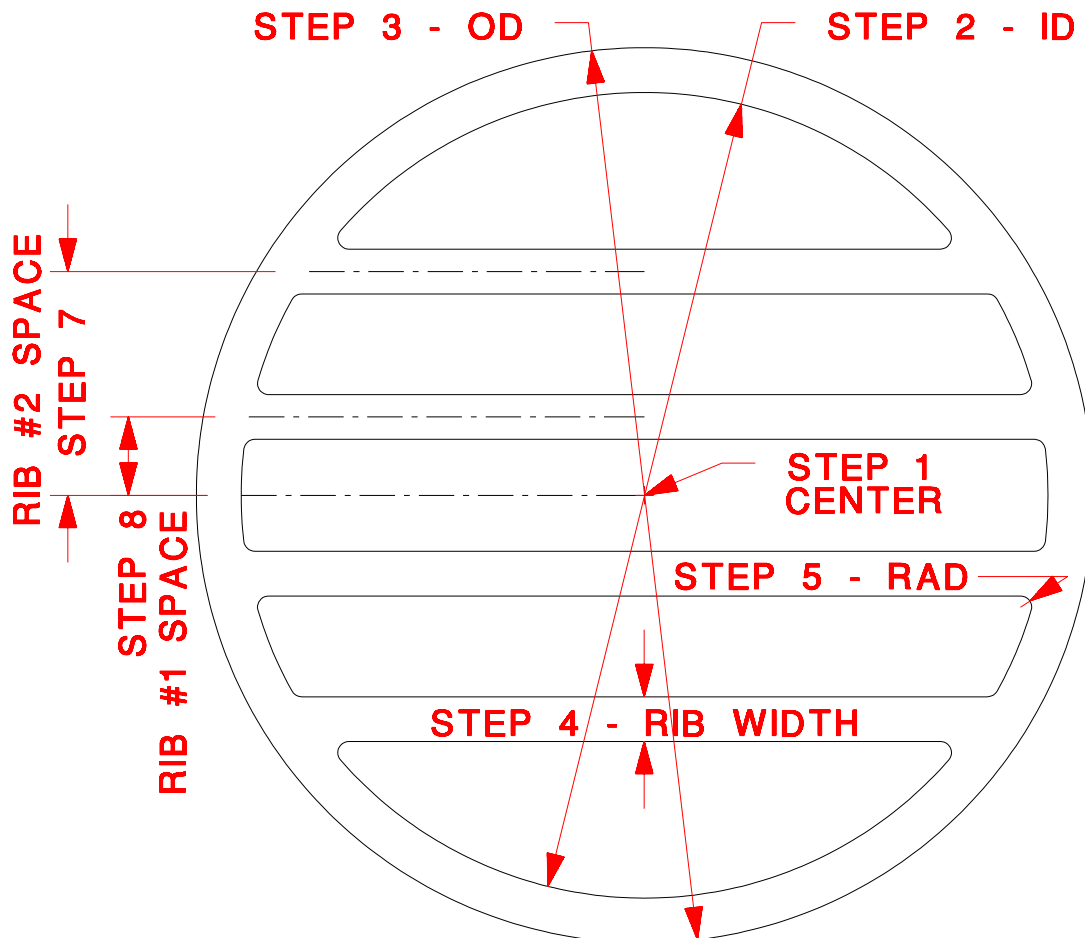
STEP 4 *Enter Width of Gasket Ribs :*

STEP 5 *Enter Fillet Radius :*

STEP 6 PROGRAM DRAWS INSIDE CIRCLE

STEP 7 *Enter Spacing from CL to Rib 2 :*
PROGRAM BREAKS CIRCLE INTO ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RINGS.

STEP 8 *Enter Spacing from CL to Rib 1 :*
PROGRAM BREAKS ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RINGS. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger H-4

FILE NAME H_FOUR.xxx

FUNCTION Program to create H-4 heat exchanger gaskets
[Partial Vertical Rib w/ Two Left Ribs & Two Right Ribs]

COMMENT This program is designed to place one (horizontal) rib in each of the four quarters of the completed gasket; the location for the lower right rib is mirrored from the upper left rib and the upper right from the lower left.

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style H-4>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

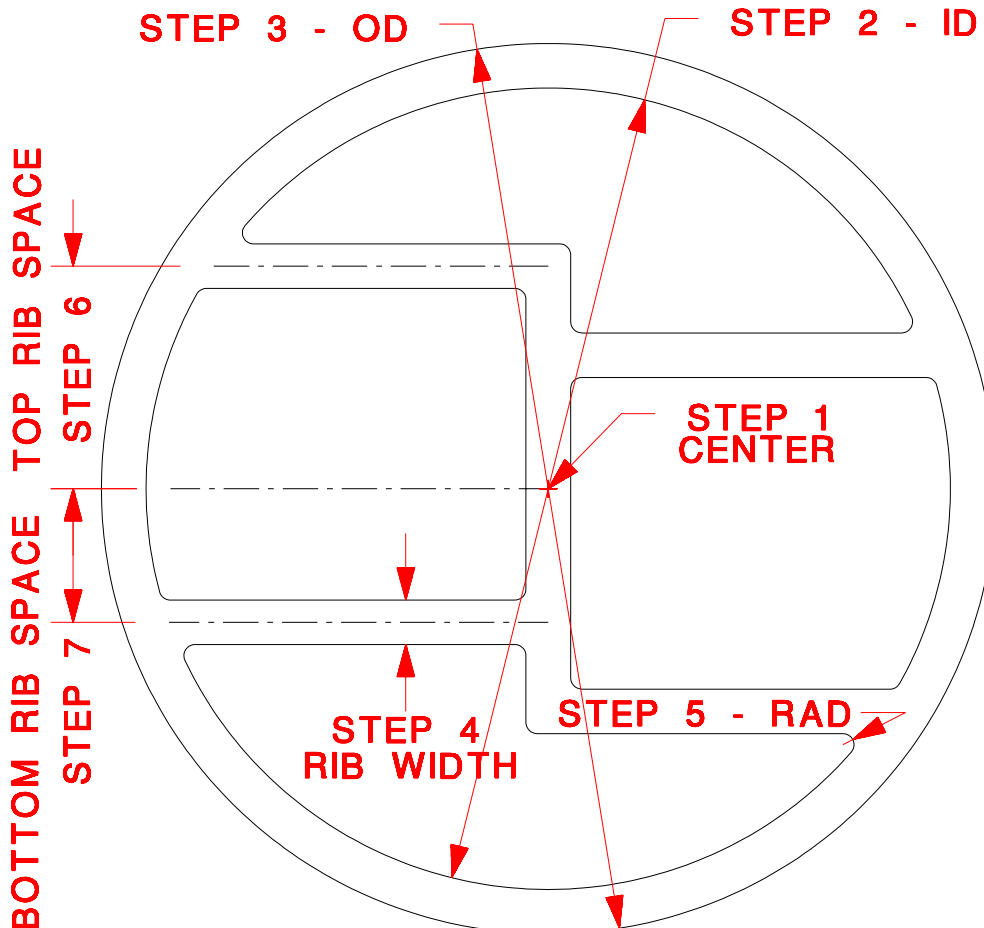
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Distance TOP left Rib CL is ABOVE Gasket Horizontal CL :*

STEP 7 *Enter Distance BOTTOM left Rib CL is BELOW Gasket Horizontal CL :*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HALF HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger H-5

FILE NAME H_FIVE.xxx

FUNCTION Program to create H-5 heat exchanger gaskets
[Partial Vertical Rib w/ Three Left Ribs & One Right Rib]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style H-5>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

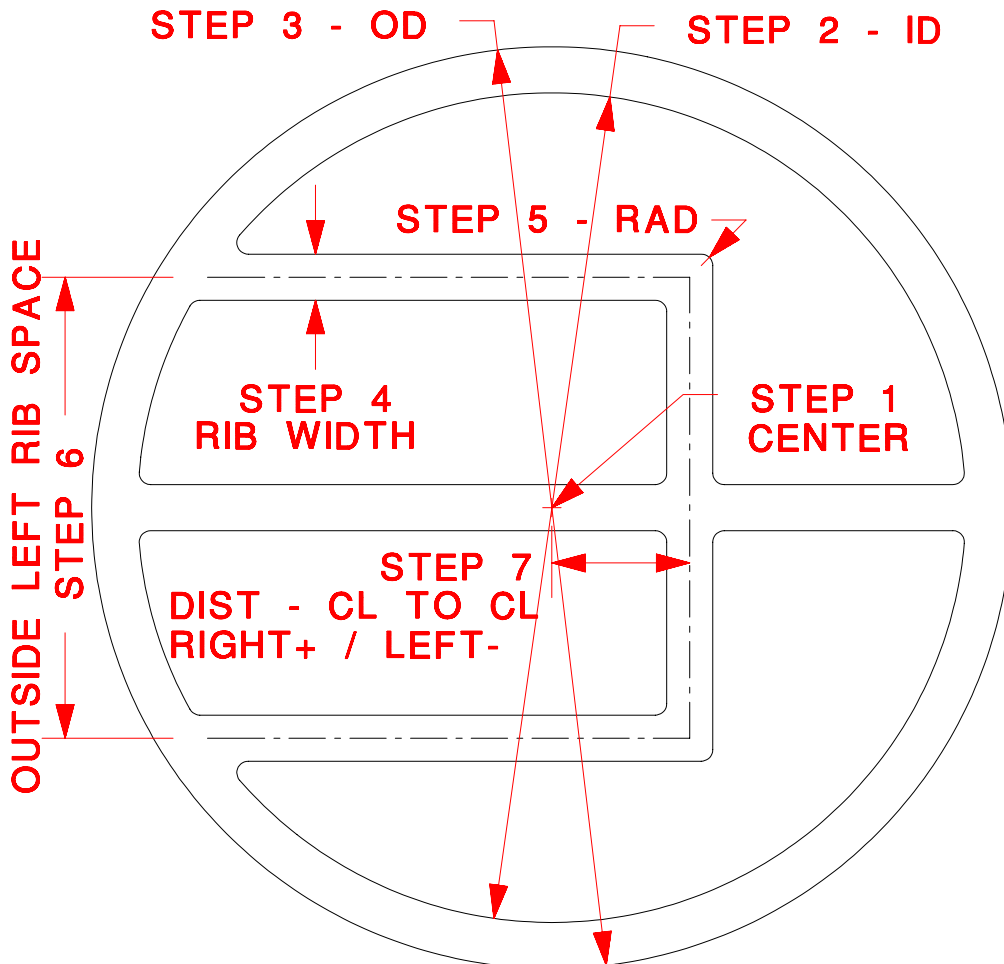
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter DIST between CL of OUTSIDE Left Ribs:*

STEP 7 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]:*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB (CENTERED OR OFFSET) TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger H-8

FILE NAME H_EIGHT.xxx

FUNCTION Program to create H-8 heat exchanger gaskets
[Partial Vertical Rib w/ Two Left Ribs & Three Right Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style H-8>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

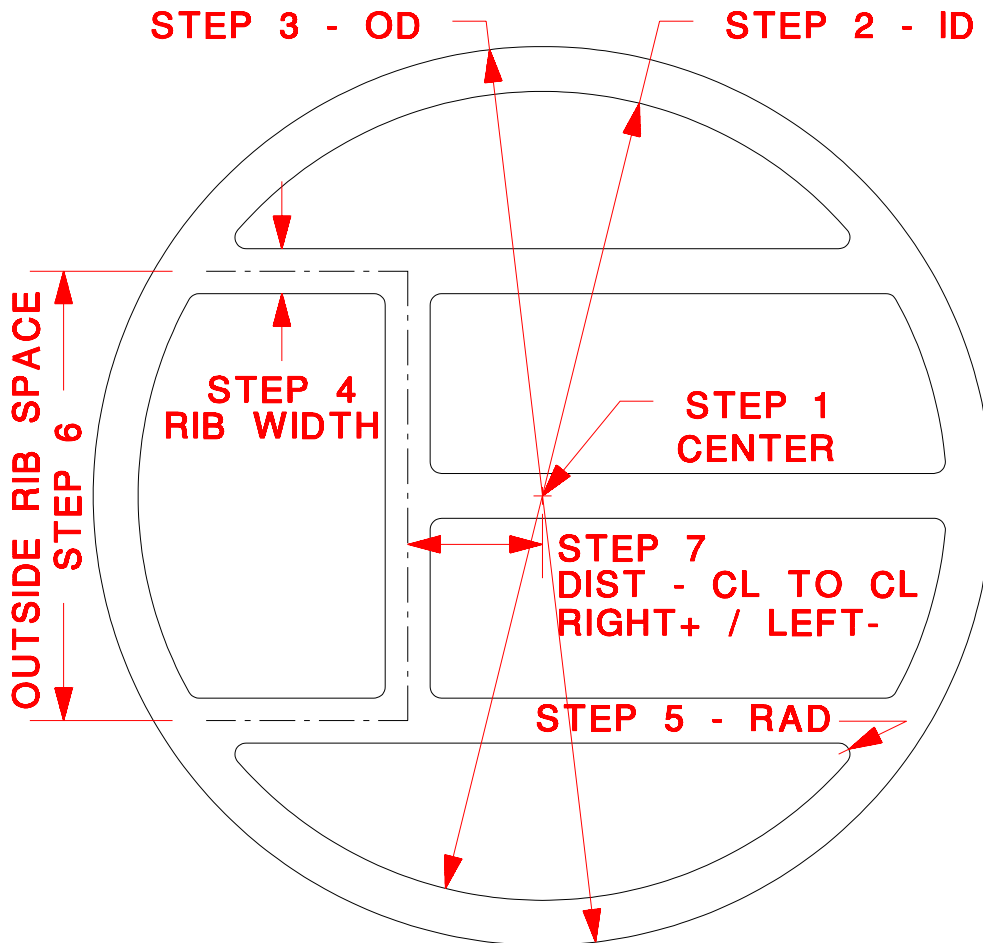
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter DIST between CL of OUTSIDE Horizontal Ribs:*

STEP 7 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]:*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB (CENTERED OR OFFSET) TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger I-1

FILE NAME I_ONE.xxx

FUNCTION Program to create I-1 heat exchanger gaskets
[Partial Vertical Rib w/ Three Left Ribs & Two Right Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style I-1>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Rib :*

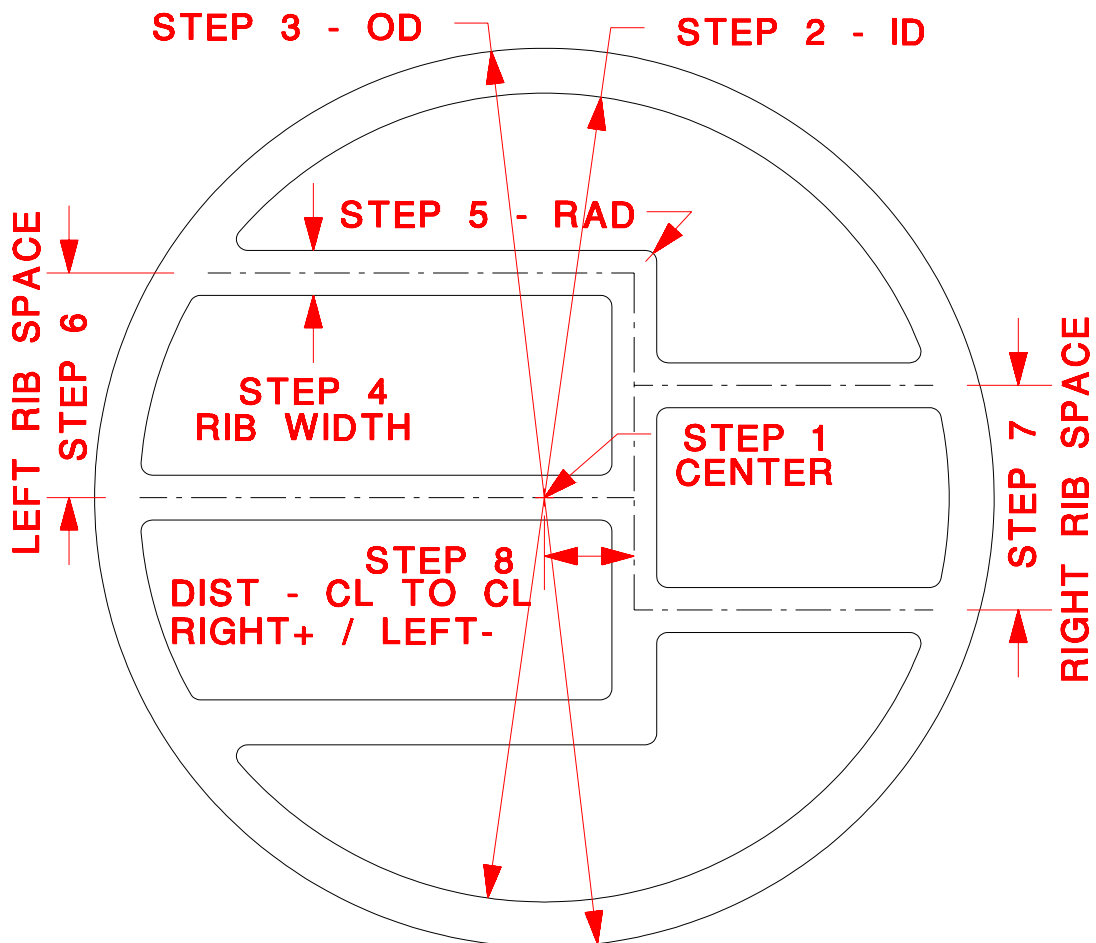
STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter DIST TOP LEFT Rib is above Horizontal CL of Gasket:*

STEP 7 *Enter DIST between CL of Right Ribs:*

STEP 8 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]:*

STEP 9 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB (CENTERED OR OFFSET) TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger I-6

FILE NAME I_SIX.xxx
FUNCTION Program to create I-6 heat exchanger gaskets
[Five Horizontal Ribs, spaced from centerline]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style I-6, 5 Ribs>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

STEP 4 *Enter Width of Gasket Ribs :*

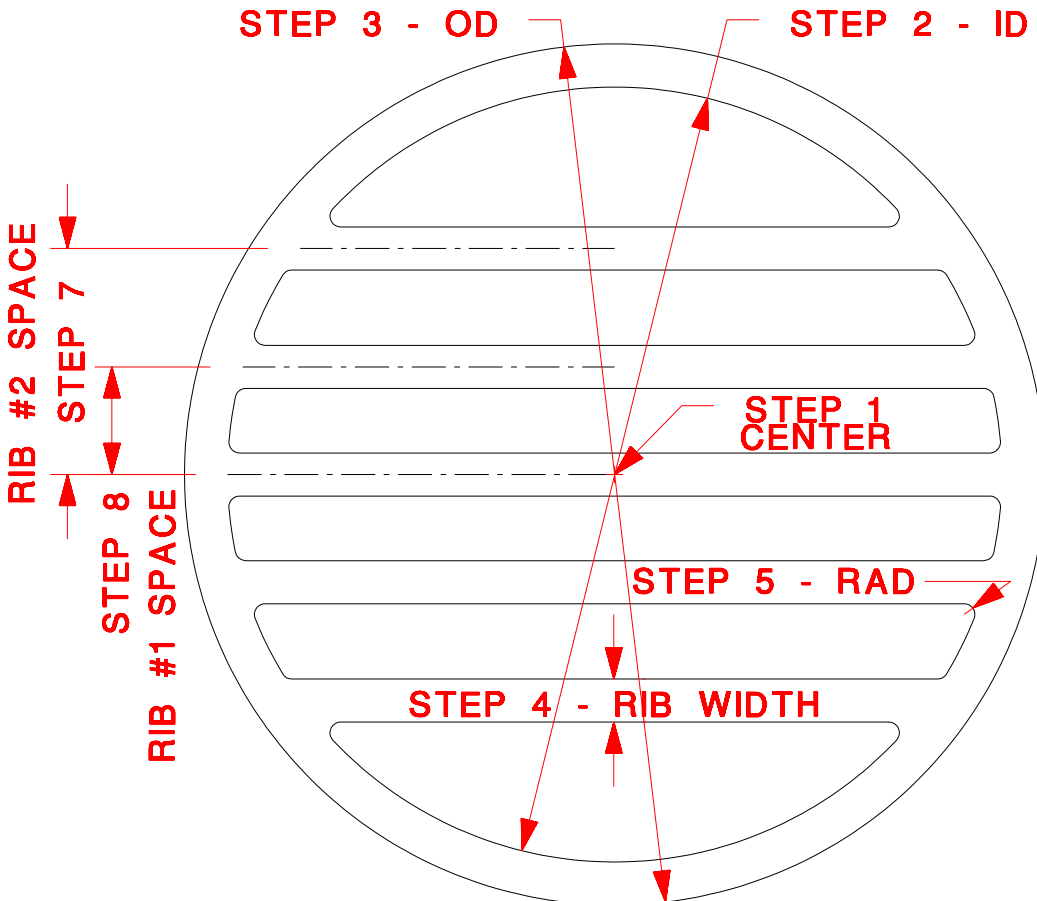
STEP 5 *Enter Fillet Radius :*

STEP 6 PROGRAM DRAWS INSIDE CIRCLE

STEP 7 *Enter Spacing from CL to Rib 2 :*
PROGRAM BREAKS CIRCLE INTO ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RING.

STEP 8 *Enter Spacing from CL to Rib 1 :*
PROGRAM BREAKS ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RING.

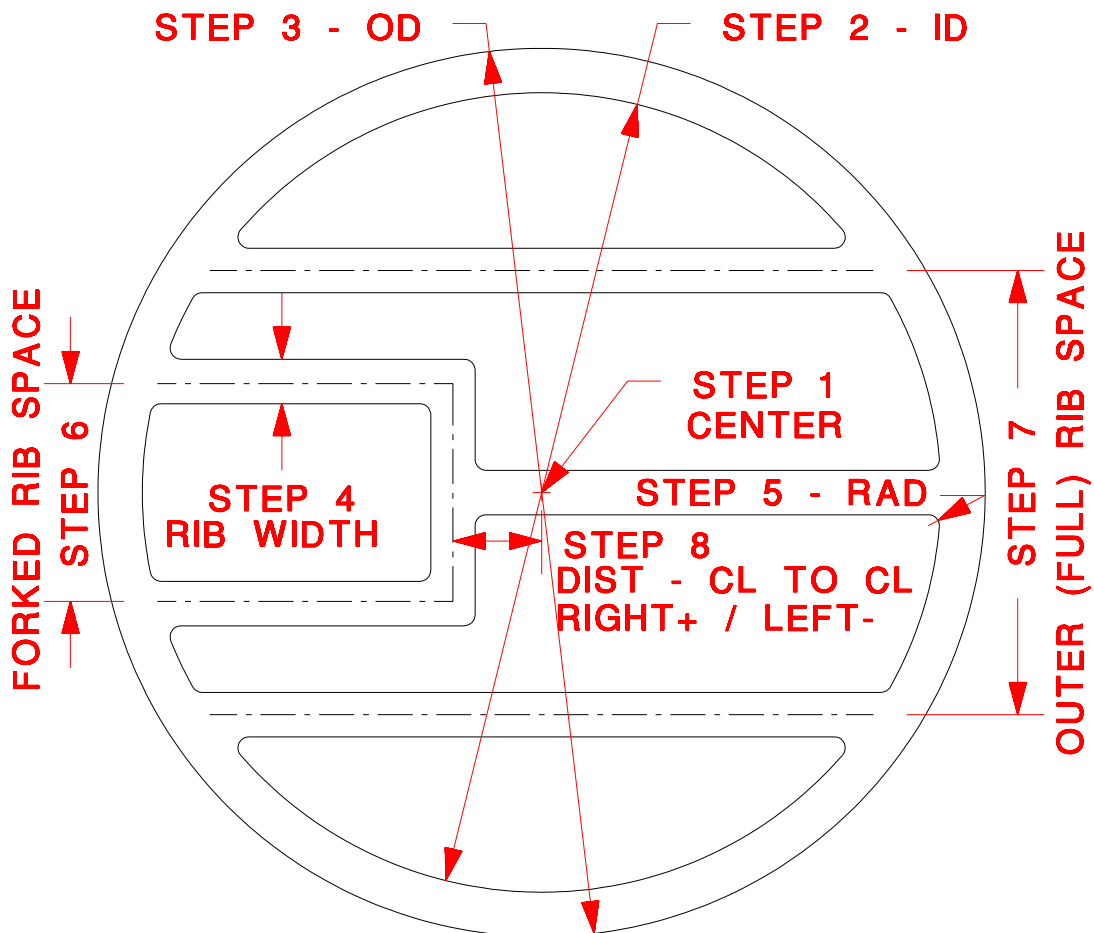
STEP 9 PROGRAM BREAKS ARCS, DRAWS HORIZONTAL RIB ON CENTERLINE & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger I-7

FILE NAME I_SEVEN.xxx
 FUNCTION Program to create I-7 heat exchanger gaskets
 [Partial Vertical Rib w/ 2 Left Ribs & 1 Right Rib + 2 Full Ribs]

- NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style I-7>>
- STEP 1 *Select Center of Gasket with Mouse or Key Enter :*
- STEP 2 *Enter Inside Diameter of Gasket :*
- STEP 3 *Enter Outside Diameter of Gasket :*
- STEP 4 *Enter Width of Gasket Rib :*
- STEP 5 *Enter Fillet Radius :*
- STEP 6 *Enter DIST between CL of INNER (forked) Ribs:*
- STEP 7 *Enter DIST between CL of OUTER (full) Ribs:*
- STEP 8 *Enter DIST from Gasket CL to CL of Vertical Rib [Right + / Left -]:*
- STEP 9 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN PARTIAL VERTICAL RIB (CENTERED OR OFFSET) TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger I-8

FILE NAME I_EIGHT.xxx

FUNCTION Program to create I-8 heat exchanger gaskets
[Full Vertical Rib w/ Two Left Ribs & Two Right Ribs]

COMMENT This program is designed to place one (horizontal) rib in each of the four quarters of the completed gasket; the location for the lower right rib is mirrored from the upper left rib and the upper right from the lower left.

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style I-8>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

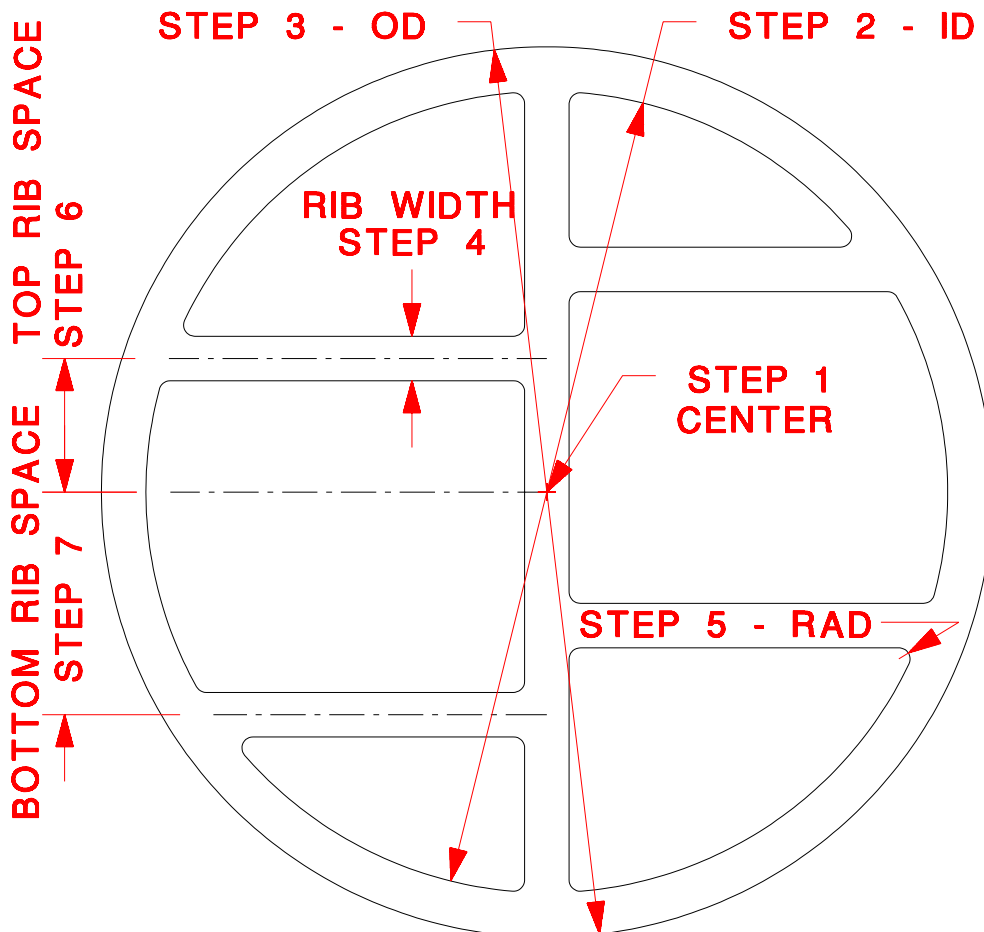
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter Distance TOP left Rib CL is ABOVE Gasket Horizontal CL :*

STEP 7 *Enter Distance BOTTOM left Rib CL is BELOW Gasket Horizontal CL :*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, DRAWS FULL VERTICAL RIB & THEN HALF HORIZONTAL RIBS TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger J-4

FILE NAME J_FOUR.xxx

FUNCTION Program to create J-4 heat exchanger gaskets
[Full Vertical Rib w/ Three Left Ribs & Two Right Ribs]

NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style J-4>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter Inside Diameter of Gasket :*

STEP 3 *Enter Outside Diameter of Gasket :*

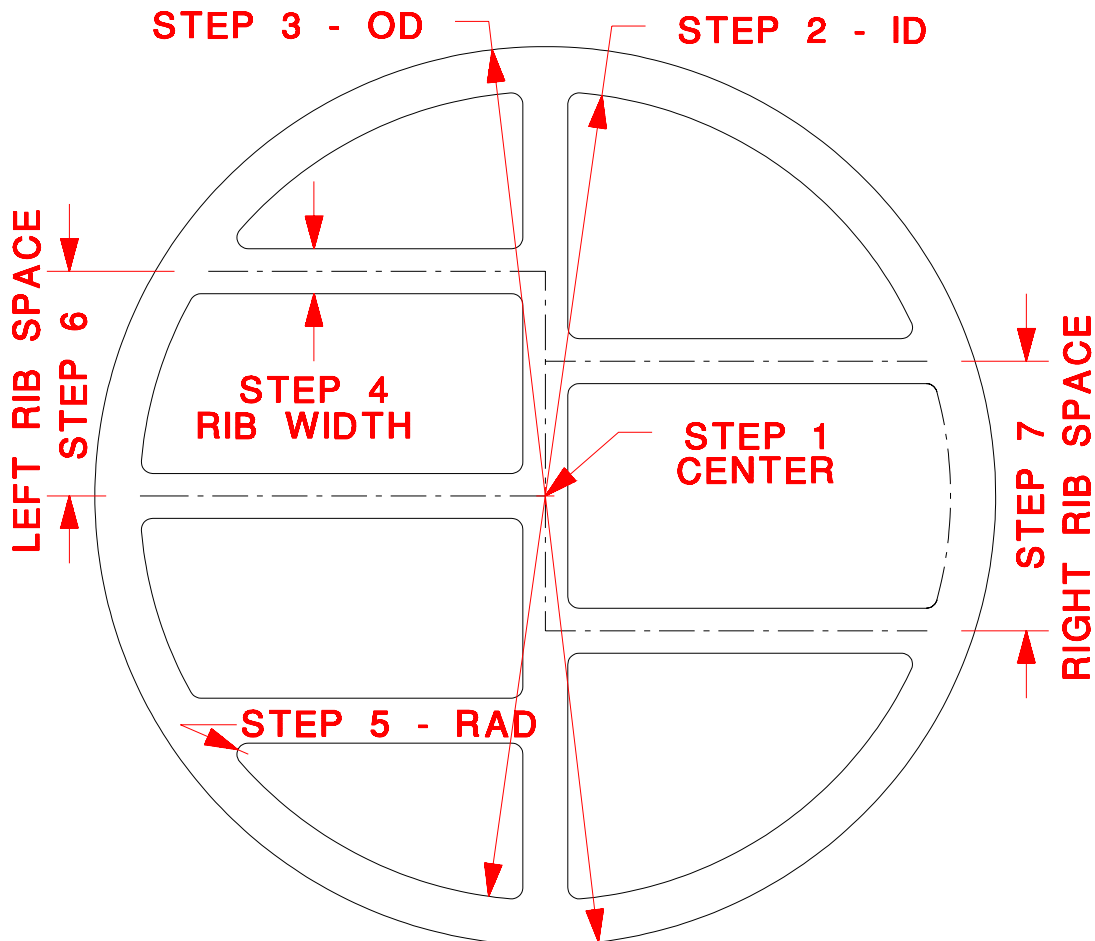
STEP 4 *Enter Width of Gasket Rib :*

STEP 5 *Enter Fillet Radius :*

STEP 6 *Enter DIST TOP LEFT Rib is above Horizontal CL of Gasket:*

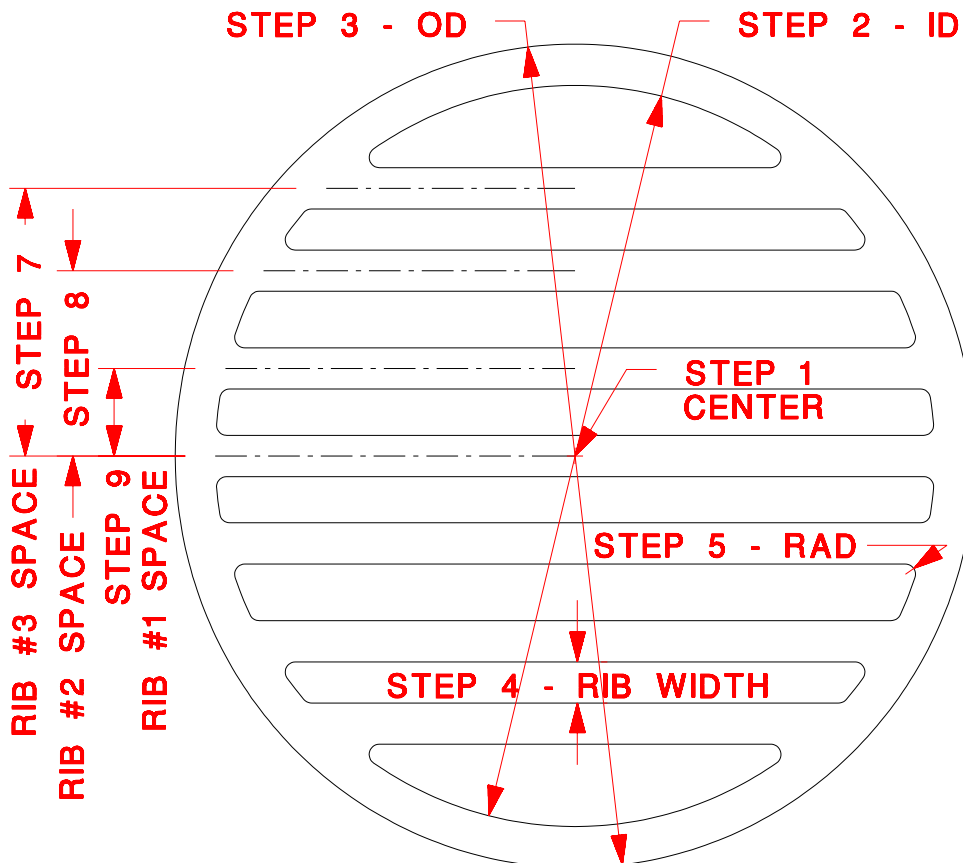
STEP 7 *Enter DIST between CL of Right Ribs:*

STEP 8 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN FULL VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



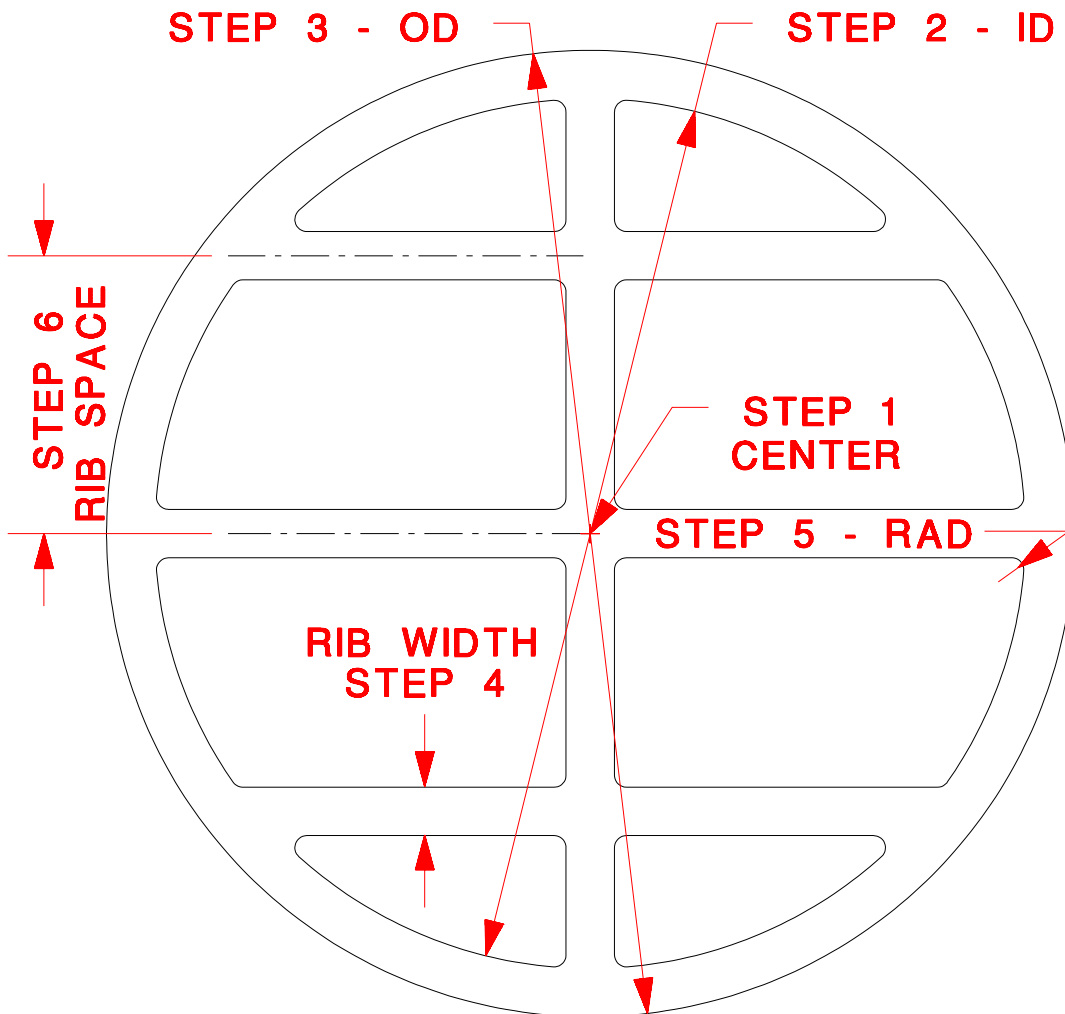
Heat Exchanger K-1

- FILE NAME K_ONE.xxx
 FUNCTION Program to create K-1 heat exchanger gaskets
 [Seven Horizontal Ribs, spaced from centerline]
 NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style K-1, 7 Ribs>>
 STEP 1 *Select Center of Gasket with Mouse or Key Enter :*
 STEP 2 *Enter Inside Diameter of Gasket :*
 STEP 3 *Enter Outside Diameter of Gasket :*
 STEP 4 *Enter Width of Gasket Ribs :*
 STEP 5 *Enter Fillet Radius :*
 STEP 6 PROGRAM DRAWS INSIDE CIRCLE
 STEP 7 *Enter Spacing from CL to Rib 3 :*
 PROGRAM BREAKS CIRCLE INTO ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RING.
 STEP 8 *Enter Spacing from CL to Rib 2 :*
 PROGRAM BREAKS ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RING.
 STEP 9 *Enter Spacing from CL to Rib 1 :*
 PROGRAM BREAKS ARCS, DRAWS TWO HORIZONTAL RIBS & FILLETS RIBS TO INSIDE RING.
 STEP 10 PROGRAM BREAKS ARCS, DRAWS HORIZONTAL RIB ON CENTERLINE & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



Heat Exchanger K-2

- FILE NAME K_TWO.xxx
FUNCTION Program to create K-2 heat exchanger gaskets
[Full Vertical Rib w/ Three Horizontal Ribs]
- NOTE PROGRAM VERIFIES STYLE CHOSEN <<HX Gasket Style K-2>>
- STEP 1 *Select Center of Gasket with Mouse or Key Enter :*
- STEP 2 *Enter Inside Diameter of Gasket :*
- STEP 3 *Enter Outside Diameter of Gasket :*
- STEP 4 *Enter Width of Gasket Ribs :*
- STEP 5 *Enter Fillet Radius :*
- STEP 6 *Enter Rib Spacing - CL to CL:*
- STEP 7 PROGRAM DRAWS INSIDE CIRCLE, BREAKS INTO ARCS, THEN DRAWS HORIZONTAL RIBS, & THEN VERTICAL RIB TO INTERSECT & FILLETS TO INSIDE RING. OUTSIDE CIRCLE IS DRAWN CONCENTRIC TO FORM RING & COMPLETE SHAPE.



STANDARD GASKETS

FUNCTION Menu selection to draw any of the 400+ 'nonmetallic flat gaskets for pipe flanges' per ASME STD B16.21.

COMMENT The drawings for standard gaskets supplied with *GASKCADD®* are stored as *General CADD Pro* components. If editing of a 'standard gasket' is required, the component must first be 'exploded' with the *General CADD Pro* command **CE** (Component Explode). The gaskets are drawn with values listed in ASME STD B16.21; tolerances for these values are given in Paragraph 6 of the standard.

STEP 1 *Select STD-GASKETS from GASKCADD® menu :*

STEP 2 *Select Flange Type from list of choices :*

STEP 3 *Select Facing (FF or Ring) and Class from list of choices for selected flange type:*

B16.5 (Dimensions per ASME B16.21, Tables 4 & 5)
B16.5-150F (20 sizes - from 1/2" to 24" NPS)
B16.5-150R (20 sizes - from 1/2" to 24" NPS)
B16.5-300R (20 sizes - from 1/2" to 24" NPS)
B16.5-400R (20 sizes - from 1/2" to 24" NPS)
B16.5-600R (20 sizes - from 1/2" to 24" NPS)
B16.5-900R (19 sizes - from 1/2" to 24" NPS)

B16.47A [MSS SP-44] (Dimensions per ASME B16.21, Table 7)
B16.47A-150R (19 sizes - 22" & 26" to 60" NPS)
B16.47A-300R (19 sizes - 22" & 26" to 60" NPS)
B16.47A-400R (19 sizes - 22" & 26" to 60" NPS)
B16.47A-600R (19 sizes - 22" & 26" to 60" NPS)

B16.47B [API 605] (Dimensions per ASME B16.21, Table 8)
B16.47B-075R (18 sizes - from 26" to 60" NPS)
B16.47B-150R (18 sizes - from 26" to 60" NPS)
B16.47B-300R (18 sizes - from 26" to 60" NPS)
B16.47B-400R (6 sizes - from 26" to 36" NPS)
B16.47B-600R (6 sizes - from 26" to 36" NPS)

B16.1 [Cast Iron] (Dimensions per B16.21, Tables 1 2 & 3)
B16.1-025F (20 sizes - from 4" to 96" NPS)
B16.1-025R (20 sizes - from 4" to 96" NPS)
B16.1-125F (22 sizes - from 1" to 48" NPS)
B16.1-125R (22 sizes - from 1" to 48" NPS)
B16.1-250R (22 sizes - from 1" to 48" NPS)

B16.24 [Cast Copper Alloy] (Dimensions per B16.21, Table 6)
B16.24-150F (15 sizes - from 1/2" to 12" NPS)
B16.24-300F (15 sizes - from 1/2" to 12" NPS)

MSS SP-51 (Dimensions per ASME B16.21, Table 9)
SP-51-150LWF (21 sizes - from 1/4" to 24" NPS)

STEP 4 *Select Size from list of sizes :*

STEP 5 *Select Placement Location with Mouse or Key Enter :*

STEP 6 PROGRAM DRAWS GASKET FOR FLANGE TYPE, FACING STYLE, CLASS AND SIZE SELECTED.

STEP 7 *Enter **ZA** command (Zoom All) at prompt line*

Miscellaneous Shapes - VALVE BONNET

FILE NAME VBONNET1.xxx

FUNCTION Program to create valve bonnet gaskets per description in Kitz Corp. catalogue.

NOTE PROGRAM VERIFIES STYLE CHOSEN <<Valve Bonnet Gasket>>

STEP 1 *Select Center of Gasket with Mouse or Key Enter :*

STEP 2 *Enter INSIDE Gasket Width :*

STEP 3 *Enter INSIDE Gasket Height :*

STEP 4 *Enter INSIDE Top/Bottom Arc Radius :*

STEP 5 *Enter INSIDE Right/Left Arc Radius :*

STEP 6 *Enter INSIDE Corner Radius :*

STEP 7 *Specify OUTSIDE Dimensions by: Face Width -OR- Outside Dimensions*

IF FACE WIDTH IS SELECTED THEN:

STEP 8F *Enter Gasket Face Width :*

STEP 9F PROGRAM COMPLETES DRAWING OF VALVE BONNET GASKET

IF OUTSIDE DIMENSIONS IS SELECTED THEN:

STEP 8O *Enter OUTSIDE Gasket Width :*

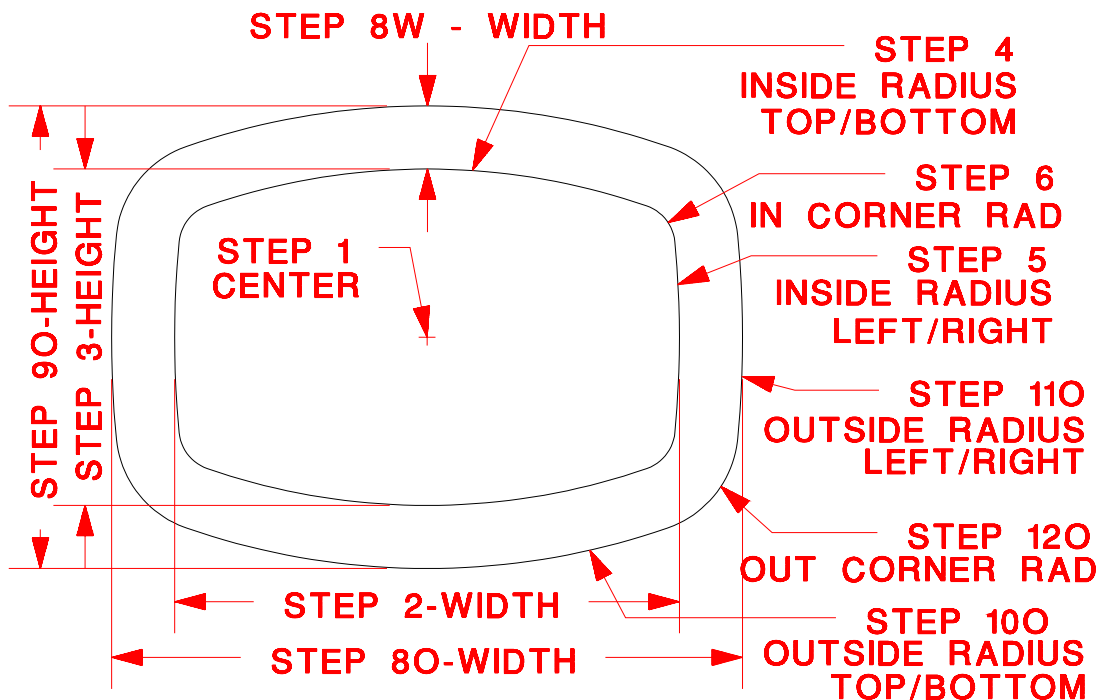
STEP 9O *Enter OUTSIDE Gasket Height :*

STEP 10O *Enter OUTSIDE Top/Bottom Arc Radius :*

STEP 11O *Enter OUTSIDE Right/Left Arc Radius :*

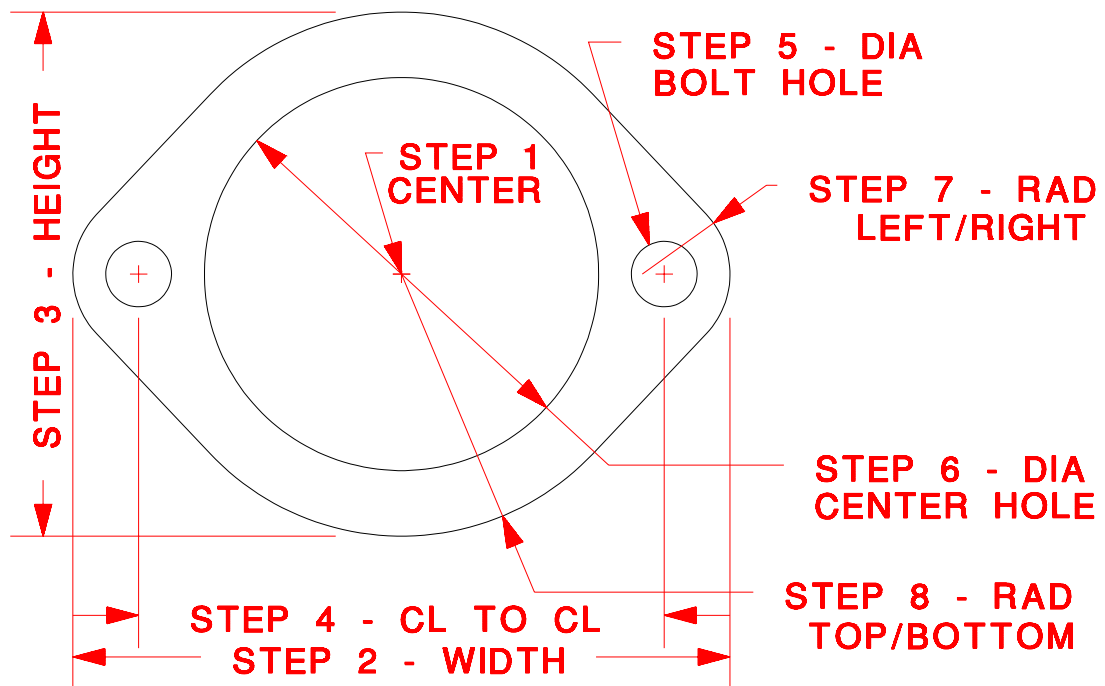
STEP 12O *Enter OUTSIDE Corner Radius :*

STEP 13O PROGRAM COMPLETES DRAWING OF VALVE BONNET GASKET



Miscellaneous Shapes - THERMOSTAT

- FILE NAME THERMOST.xxx
FUNCTION Program to create 'thermostat' gasket, diamond shape with one center hole and two bolt holes.
- NOTE PROGRAM PROMPTS STYLE TYPE <<'Thermostat' Gasket>>
- STEP 1 *Select Center of Gasket with Mouse or Key Enter :*
- STEP 2 *Enter Overall Width of Gasket :*
- STEP 3 *Enter Overall Height of Gasket :*
- STEP 4 *Enter Center Distance of Bolt Holes :*
- STEP 5 *Enter Diameter of Bolt Holes :*
- STEP 6 *Enter Diameter of Center Hole :*
- STEP 7 *Enter Radius of Left/Right Ends :*
- STEP 8 *Enter Radius of Top/Bottom :*
- STEP 9 PROGRAM COMPLETES DRAWING OF 'THERMOSTAT' GASKET



Utility-RESET

- FILE NAME RESET.xxx
FUNCTION Program to 'reset' *General CADD Pro* defaults for **GASKADD®**
- COMMENT During the course of using **GASKADD®**, the user may inadvertently set the status of *General CADD Pro* functions differently than is expected. This utility provides an easy means to restore all of these settings.
- STEP 1 *Select RESET from GASKADD®->UTILITY sub-menu.*
- STEP 2 Program restores settings and does an 'environment' save. The program automatically returns control to the command prompt.

Utility-AUTOTEXT

- FILE NAME AUTOTEXT.xxx
FUNCTION Program to automatically set text (and dimension) size based on drawing size.
- COMMENT This utility program provides a way to automatically set text size and dimension size (arrows, offset, etc.) based on the drawing size.
- STEP 1 Complete gasket design using **GASKADD®**. *Select AUTOTEXT from GASKADD®->UTILITY sub-menu.*
- STEP 2 PROGRAM PROMPTS << *AUTO TEXT SIZE PROGRAM* >>. Program calculates a text size based on the drawing 'extents' encountered in the current design file. PROGRAM PROMPTS *CALCULATED TEXT SIZE = __*
- STEP 3 *Specify: Continue Automatic -OR- User Specified Size?*
- IF AUTOMATIC IS SELECTED THEN:
- STEP 4A Program assigns sizes to text and dimension values, based on calculated size.
- STEP 5A PROGRAM PROMPTS *TEXT SIZE NOW = __*
- STEP 6A PROGRAM PROMPTS *PRESS <ESC> TO CONTINUE*
- IF USER SPECIFIED SIZE IS SELECTED THEN:
- STEP 4U PROGRAM PROMPTS *ENTER USER TEXT SIZE : __*
- STEP 5U Program assigns sizes to text and dimension values, based on user input size.
- STEP 6U PROGRAM PROMPTS *TEXT SIZE NOW = __*
- STEP 7U PROGRAM PROMPTS *PRESS <ESC> TO CONTINUE*

Utility-CUT LENGTH

- FILE NAME CUTLNGTH.xxx
FUNCTION Program to calculate the total cut length required for a gasket design.
- COMMENT This utility program provides a way to automatically calculate the total length of all the entities (lines, arcs, circles and ellipses) that comprise a complete gasket design. This will be useful in cost estimating for gaskets cut with automated cutting equipment as well as gaskets cut 'by hand'. The maximum number of entities whose length can be totalled in a single operation is 4096.
- STEP 1 Complete gasket design using *GASKCADD®*. Select CUT LENGTH from *GASKCADD®->UTILITY* sub-menu.
- STEP 2 PROGRAM PROMPTS [*SE*] Selection (built-in *General CADD Pro* Selection Utility). User would normally choose Drawing, to select all the entities within the current gasket design. If a cut length calculation not including all drawing entities is wanted, use either the deselect feature of one of the other methods, such as Window select.
- STEP 3 As the calculation of the total cut length proceeds, a status display indicates the number of entities processed and the percentage completed. This calculation can take some time, depending on the gasket complexity and the processor speed of your computer.
- STEP 4 PROGRAM PROMPTS << TOTAL CUT LENGTH = __ >>. The program also displays the number of lines, circles, arcs & ellipses in the calculation.
- STEP 5 PROGRAM PROMPTS <PRESS ANY KEY> when complete.

Utility-SHEET LAYOUT

- FILE NAME SHEETLAY.xxx
FUNCTION Program to make estimate of sheet yield for a gasket design
- COMMENT This utility program **does not nest** the gasket design, but instead, is designed to give quick estimates of the **minimum** sheet yield.
- STEP 1 Complete gasket design using *GASKCADD®*. Select SHEET LAYOUT from *GASKCADD®->UTILITY* sub-menu.
- STEP 2 PROGRAM PROMPTS << SHEET LAYOUT PROGRAM >>
- STEP 3 Enter Side 1 (Horizontal) Dimension of Sheet :
- STEP 4 Enter Side 2 (Vertical) Dimension of Sheet :
- STEP 5 Enter Clearance between parts & around outside :
- STEP 6 PROGRAM DRAWS TOTAL NUMBER OF GASKETS DESIGNS THAT WILL FIT ON SHEET SIZE SPECIFIED AND DISPLAYS:
Total Items Fit on (Horiz) x (Vert) sheet = xx
- STEP 7 Press any key to return control to Command prompt.

Utility-MOVE POINTS

- FILE NAME MVPTSLYR.xxx
- FUNCTION Program to move points to another layer automatically for automated cutting compatibility.
- COMMENT This utility program provides a way to automatically move STANDARD POINTS to another layer. For manual cutting and die making operations, these points are displayed and plotted. They are not required for automated cutting equipment; this utility provides an easy method to move them to an inactive layer of the user's choice.
- STEP 1 Complete gasket design using GASKADD®. Select MOVE POINTS from GASKADD®->UTILITY sub-menu.
- STEP 2 PROGRAM PROMPTS *Enter LAYER # to MOVE ALL POINTS TO (between 0 and 255):*
- STEP 3 PROGRAM PROMPTS *POINTS NOW ON LAYER _#.*
- STEP 4 PROGRAM PROMPTS *<PRESS ANY KEY>* when complete.

Utility-LABEL COORDS

FILE NAME LBLCOORD.xxx

FUNCTION Program to label the X/Y coordinates of a location on a drawing relative to the ABSOLUTE ORIGIN (X=0,Y=0) of the drawing space.

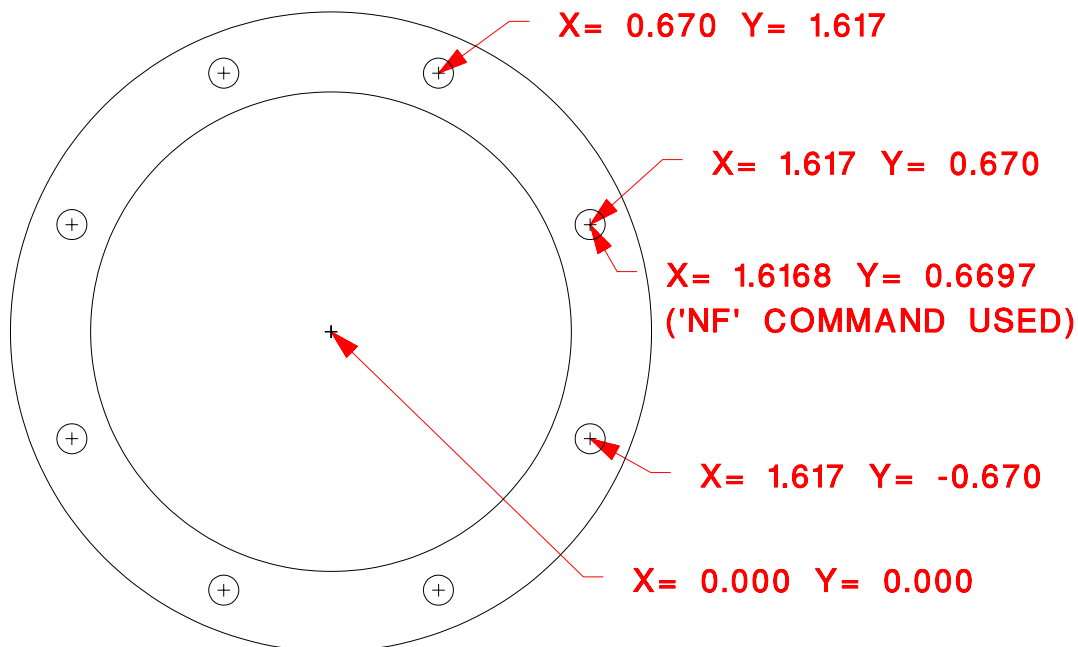
COMMENT This is useful for passing along precision coordinates to a machine shop or anyone requiring this information. The numeric format of the coordinate label is determined by the current settings available via the NF or Numerical Format command in GeneralCadd. If necessary, move the drawing such that the desired origin is located at 0,0 as shown in the example below.

STEP 1 PROGRAM PROMPTS "Select Point to Label with cursor."
(USE SNAPS TO ASSURE PRECISION POINT SELECTION SUCH AS RIGHT MOUSE BUTTON (NEAR POINT) or NP from KEYBOARD with cursor near point to select.

STEP 2 Stretch 'knee' of leader to desired location and set with LEFT MOUSE BUTTON.

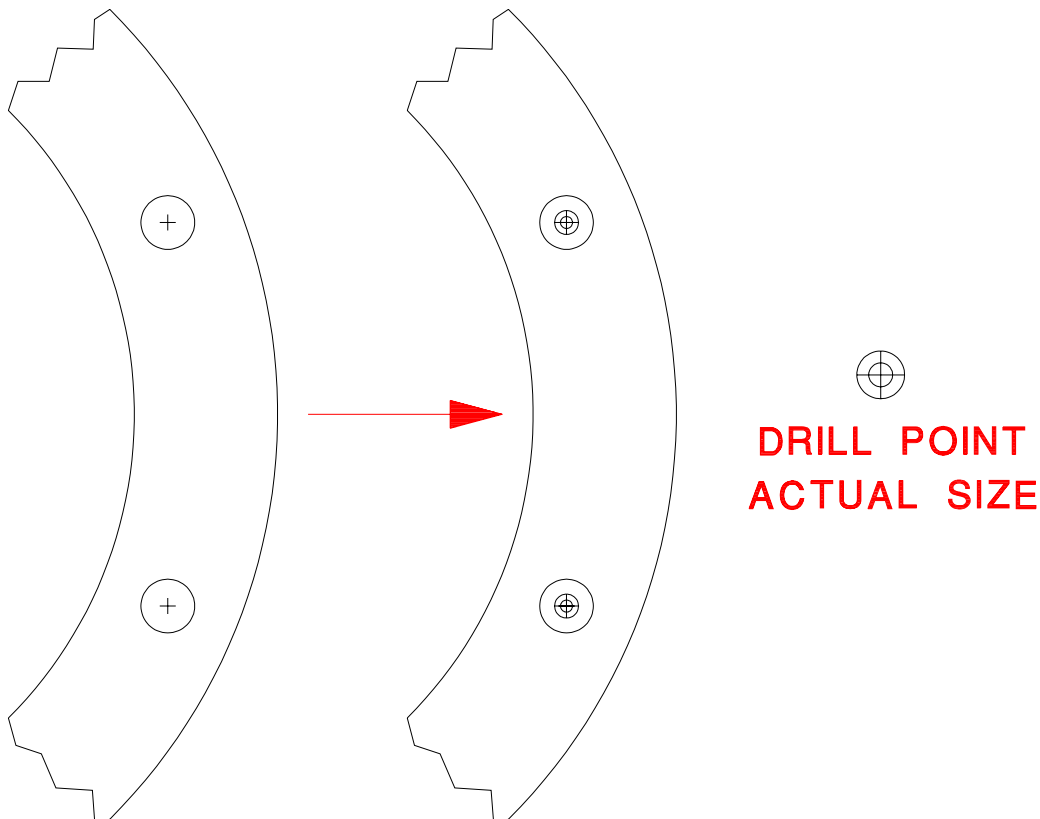
STEP 3 Designate whether leader text will be on LEFT or RIGHT of 'knee' and set with LEFT MOUSE BUTTON.

NOTE: This program can be aborted at any time by pressing <ESCAPE>.



Utility-DRILL POINT

- FILE NAME DRILLPNT.xxx
- FUNCTION Program places a convenient visual alignment symbol at the location of all POINT entities in the drawing.
- COMMENT When using a printed drawing as a full-scale drilling template, a POINT entity is destroyed when the drill bit first touches the paper, removing any further assistance in aligning the piece if it is clear that the center was missed. A DRILL POINT symbol is a larger crosshair with a 1/8" and 1/4" circle aligned with the center. When a drill bit first touches the paper, the small circle may be wiped out but the larger one will provide some guidance in minor corrections to location before proceeding. (THIS WAS A SUGGESTED ADDITION TO GASKCADD BY A LOYAL USER WHO USES THIS FEATURE WHEN DRILLING PLYWOOD FOR PNEUMATICALLY PRESSED "STEEL - RULED" GASKET DIES.)
- STEP 1 SELECT "LABEL COORDS" from UTILITY MENU AND DRILL POINT SYMBOLS ARE CREATED AT THE LOCATION OF ALL POINT ENTITIES. THEY ARE PLACED ON LAYER #250.
- NOTE: To REVERSE the effects of this program, simply erase layer #250 with the following command sequence (no commas)
ER,Y,250,<ENTER>,<ENTER>



Utility-ATOM PREP

FILE NAME ATOMPREP.xxx
FUNCTION Assists Atom Flashcutter users in organizing drawing entities according to 'layers' as is required by the software that runs the Atom machine. This program also presents a menu option to create the DXF file that is required to be read by the DXF-to-DIE converter program included with the Atom machine.

COMMENT ATOMPREP creates layer names in the drawing according to the defaults set up by the Atom software. "CONTOUR" and "HOLES" are the most commonly used.

The program also deletes all GeneralCadd POINT entities as they have no meaning to the Atom Flashcutter and will create file conversion errors.

STEP 1 Select "ATOM PREP" from the GASKADD© UTILITY menu and the following COMMAND LINE menu will appear. Menu selections are made by pressing the highlighted key on your keyboard.

```
<< ATOM FLASHCUTTER PREP (Rev 09/02/19) >> < CHECK LAYERS > < DXFOUT > < EXIT >  
MOVE TO LAYER: CONTOUR HOLES MARKS CUTS ALTCUTS NOTCHES DRILL 1 DRILL 2 PRICKER LABELS
```

Typical flow for using this program:

1. Place drawing entities on appropriate layer(s) by selecting the desired layer from the menu then selecting entities using the standard selection menu that appears or simply clicking on each entity with your mouse. (Note changes in the 'Selection Count' on the bottom line as you do.) After all entities for that layer are selected, pressing <ENTER> will change the color of the entities to a specific color for that layer and return to the Main Menu. REPEAT FOR EACH LAYER DESIRED.
2. To verify that entities have been placed on the correct layer(s), select "CHECK LAYERS" by pressing "Y" on your keyboard and following the prompts, pressing "N" for Next or "R" to Return to the Main Menu.
3. Once satisfied that all entities are on appropriate layers, select DXFOut by pressing "D" and saving the DXF file for further use by the Atom DXF-to-DIE converter program.
4. EXIT ATOM PREP by pressing "X".

USER TIPS

- (1) For optimum use of the *GASKCADD®* software, we recommend that the user become familiar with the *General CADD Pro* two letter keyboard commands. This will minimize the need to leave the *GASKCADD®* menu, because virtually all *General CADD Pro* commands are accessible in this manner.
- (2) When using the *GASKCADD®* software, the user may inadvertently set the status of *General CADD Pro* functions differently than is expected. Use the utility command **RESET** to restore all of settings, and update the working environment for your current design.
- (3) When starting any *GASKCADD®* design 'macro' that requests that the center be entered by the keyboard or cursor selected, we recommend that the values **0,0** be entered by the keyboard. If you select a center for a gasket pattern and then have to select a center for its bolt pattern, the use of **0,0** will ensure that they are coincident.
- (4) After a gasket layout is complete, you may wish to verify that all keyboard entries are correct. The *General Cadd* command **OI** can be used to obtain Object Information. When this command is entered, the *General Cadd* selection command is started up, allowing the user to select an object or group of objects based on their location, type, and/or characteristics. Select the object or objects which you wish to verify; a text screen will be displayed with the characteristics of the entities selected. Use of TIP (3) above will make the object information easier to read, as points will all be referenced to a **0,0** reference.
- (5) The default *GASKCADD®* dimensions are inches, displayed as a 3 place decimal. If you wish to design/layout a gasket in other units, for example, follow these steps: Enter the *General CADD Pro* command **UN** (UNit Display) to obtain a list of options. Press **I** for inches, **F** for feet/inches, **T** for feet, **M** for millimeters, **C** for centimeters or **S** for meters. The format of the numbers (fractions or decimals) is controlled by the **NF** (Numeric Display Format) command. If you select a metric unit, however, the value is always displayed in decimal format. We do not recommend mixing English and metric units in a drawing, as rounding errors can occur.
- (6) Large gaskets are often made of segments joined by dovetails, to either facilitate installation or fabrication. The general shape and details, as well as the number of segments dictates the method used to place the dovetails.
 - (6A) **RECTANGLES:**

Dovetails for these designs are generally placed based on available sheet size and utilization. Natural center lines may be selected so that segments are mirror images, if desired.
 - (6B) **RINGS WITH NO BOLT HOLES:**

Based on the ring size, decide on the number of segments 'N' desired. After placing one dovetail, make sure that any construction lines are removed. Then use *General CADD Pro* command **RC** (Radial Copy) to place the dovetails around the ring gasket:
 - (6B1) *Enter **RC** (Radial Copy) at prompt line.*
 - (6B2) *Window select dovetail objects.*

NOTE - Quantity should be 5 objects for a *GASKCADD®* Dovetail.
 - (6B3) *Enter an axis for rotation.*

NOTE - If you have used **0,0** as recommended in User Tip #3, then you may enter that value at the prompt line. Another method would be to use the *General Cadd* command **SN** (Snap to ceNter) to select the center of the gasket ring.

- (6B4) *Enter the total number of degrees to span: 360*
- (6B5) *Enter the total number of items: N*
NOTE - The value entered is equal to the number of segments chosen.
- (6B6) PROGRAM DRAWS 'N' DOVETAILS EQUALLY SPACED AROUND RING GASKET.
- (6B7) After you have determined that you now have created a gasket design with the number of segments desired, it is only necessary to plot one segment for a pattern.
- (6C) RINGS WITH BOLT HOLES -> #HOLES/#SEGMENTS=INTEGER
This discussion is for the case when you will be producing a segmented gasket with 'N' identical segments (i.e., the number of bolt holes divided by the number of gasket segments is an integer value). Because the dovetail is offset from the construction line, it will not be centered between bolt hoels if the construction line is centered between two bolt holes. Adjust as required to center the dovetail, then follow the steps outlined in (6B) above.
- (6D) RINGS WITH BOLT HOLES -> #HOLES/#SEGMENTS=FRACTION
This discussion is for the case when you will be producing a segmented gasket with two different segments, 'N-1' identical segments plus an odd segment (i.e., the number of bolt holes divided by the number of gasket segments is not an integer value). Because the dovetail is offset from the construction line, it will not be centered between bolt hoels if the construction line is centered between two bolt holes. Adjust as required to center the dovetail, then follow the steps outlined in below:
- (6D1) Calculate the number of bolt holes in 'N-1' segments, # Bolt Holes / # Segments rounded up/down to integer value 'YY'. With this method, there will be 'N-1' segments with 'YY' (calculated number) holes plus one segment with a different number of holes (# Bolt Holes - [(N-1)*YY]).
- (6D2) *Enter RC (Radial Copy) at prompt line.*
- (6D3) *Window select dovetail objects.*
NOTE - Quantity should be 5 objects for a GASKADD® Dovetail.
- (6D4) *Enter an axis for rotation.*
NOTE - If you have used **0,0** as recommended in User Tip #3, then you may enter that value at the prompt lien. Another method would be to use the *General Cadd* command **SN** (Snap to ceNter) to select the center of the gasket ring.
- (6D5) *Enter the total number of degrees to span: [(360/# Bolt Holes) * YY* (N-1)]*
NOTE - Enter the numerical values of the items as described on the *General CADD Pro* prompt line. The calculation will be completed, supplying the span angle required.
- (6D6) *Enter the total number of items: N-1*
NOTE - The value entered is equal to the number of segments chosen minus one.
- (6D7) PROGRAM DRAWS 'N-1' DOVETAILS SPACED AROUND RING GASKET.
- (6B8) After you have determined that you now have created a gasket design with the number and arrangement of segments desired, it is only necessary to plot two segments for a pattern, one of the 'N-1' identical segments and the odd segment.

Commonly Used Commands by Category

- GASKCADD
 - ALT-N → Select General CADD Menu
 - ALT-M → Select GASKCADD Menu

- General Cadd
 - System
 - DX - Remove current drawing, no save.
 - File
 - DL - Drawing Load
 - DS - Drawing Save
 - DP - Drawing Print
 - Display
 - ZA - Zoom All
 - PA – Pan
 - Draw
 - C2 – Circle by 2 points
 - A2 – Arc by 2 points
 - A3 – Arc by 3 points
 - Draw Settings
 - LT – Line Type
 - LC – Line Color
 - LW – Line Width
 - YC – Current Layer
 - Snaps
 - NP - Near Point (Right Mouse Button)
 - Snap & Draw
 - ST - Snap Tangent
 - SP - Snap Perpendicular
 - SL - Snap Parallel
 - Cursor Snaps
 - SM - Snap Midpoint
 - SN - Snap Center (Arc/Circle)
 - SI - Snap Intersection
 - SO - Snap Object
 - Text
 - TL – Text Line
 - TA – Text Append
 - TE – Text Edit
 - Trims
 - RM - Trim/Extend to another entity
 - FI - Fillet
 - FR – Fillet Radius
 - Utilities
 - OI – Object Information

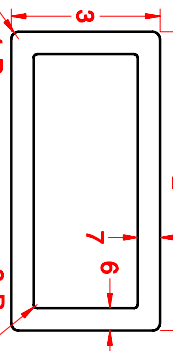


REFERENCE CARD

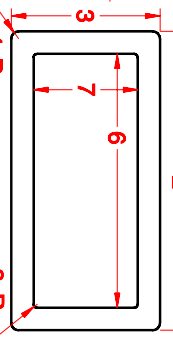
INPUT VALUE REQUIRED FOR STEP 1 IS THE SAME FOR ALL SHAPES. ENTER 0,0 BY KEYBOARD.

VALUES FOR OTHER STEPS ARE DISTANCES AS ILLUSTRATED, OR: (R/RAD.), D(DIA.), #(NUM.) OR Y/N.

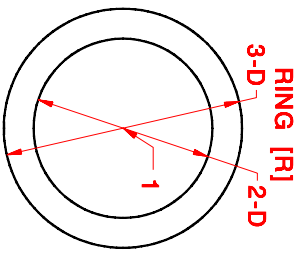
BASIC SHAPES



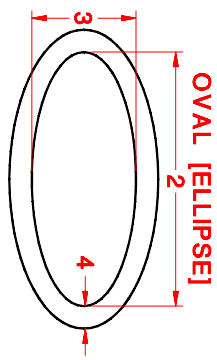
RECTANGLE (RIB WIDTH)



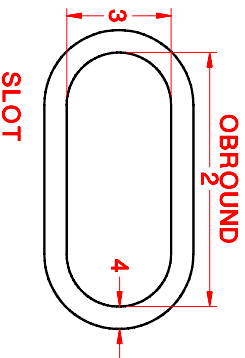
RECTANGLE (HOLE)



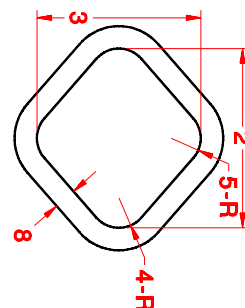
RING [R]



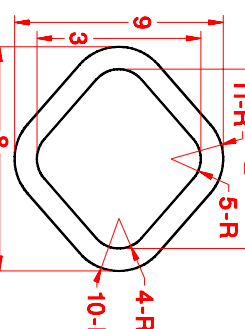
OVAL [ELLIPSE]



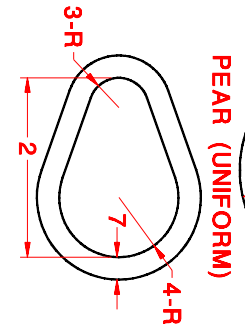
OBRROUND



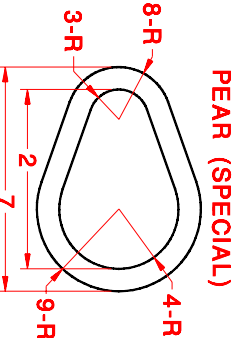
DIAMOND (UNIFORM)



DIAMOND (SPECIAL)



PEAR (UNIFORM)



PEAR (SPECIAL)



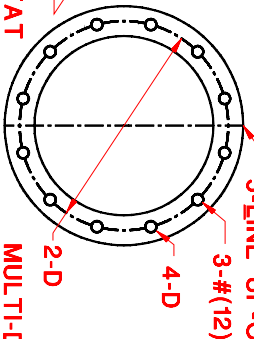
SLOT



CTR OF ARC
SLOT END 2
STEP 2



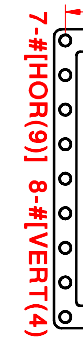
CONSTRUCT - BOLTING PATTERNS
RECT BOLT (UNIFORM)
RECT BOLT (SPECIAL)



BOLT CIRCLE



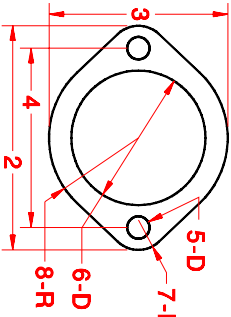
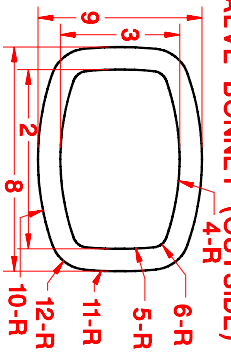
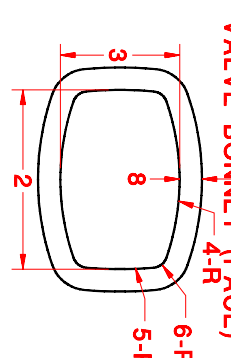
STEP 1
CTR OF ARC
SLOT END 1



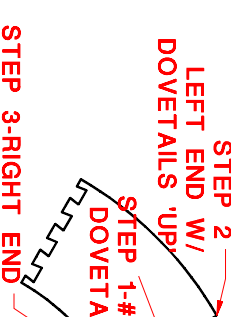
MISCELLANEOUS SHAPES
VALVE BONNET (FACE)
VALVE BONNET (OUTSIDE)



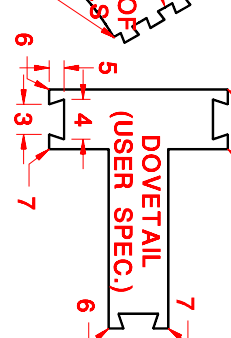
RECT BOLT (SPECIAL)



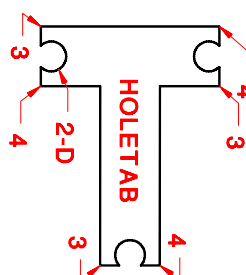
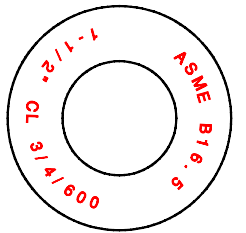
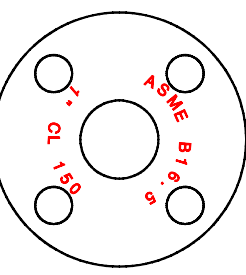
STANDARD GASKETS
TO DRAW SHEET GASKETS PER ASME
B16.21 STANDARD DIMENSIONS CHOOSE
FLANGE TYPE FROM LIST:



THEN SELECT FLANGE FACE
(FULL FACE OR RING) AND
CLASS FOR SELECTED TYPE.
CHOOSE FROM LIST OF
AVAILABLE SIZES FOR CLASS
AND FACING TYPE.



ASME B16.5 CL 150 F-F
ASME B16.5 CL 3/4/600 RING



ASME B16.5
ASME B16.5
ASME B16.5

- B16:5 (TABLES 4 & 5)
- B16:47A (MSS SP-44) (TABLE 7)
- B16:47B (API 605) (TABLE 8)
- B16:1 (TABLES 1, 2 & 3)
- B16:24 (TABLE 8)
- MSS SP-51 (TABLE 9)

HEAT EXCHANGER SHAPES

REFERENCE CARD

INPUT VALUES REQUIRED FOR STEPS 1 - 5 ARE THE SAME FOR ALL HEAT EXCHANGER SHAPES (SEE C-1). IF SHAPE INCLUDES VARIABLE LOCATION OF RIB (STEP 6, 7 OR 8), THEN VERTICAL/HORIZONTAL = RIGHT/UP +, LEFT/DOWN -, CENTERED 0.

