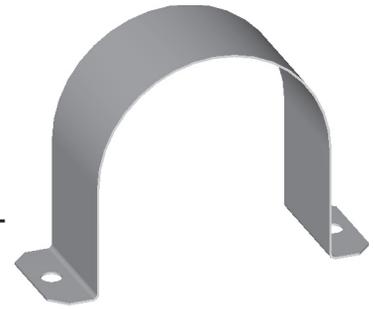


## Chapter 12

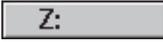
# MOTOR MOUNT



### A. Create Circle.

Step 1. Change the Level. Click the Level Button from the Secondary Menu and key-in **6** for Level Number and **motor mount geometry** for Name and click OK, **Fig. 1**.

Step 2. Change to the Side View. Use the green  or **ALT-6 S**.

Step 3. Change the depth of your drawing. Click the Z Button  from the Secondary Menu and key-in **1.55** and press ENTER. (**ALT-0**)

Step 4. MAIN MENU.

Step 5. Create.

Step 6. Arc.

Step 7. Circle Point and Diameter.

Step 8. Key-in **1** for diameter and press ENTER.

Step 9. Key-in **1.5, 1.4** and press ENTER, **Fig. 2**.

Step 10. Use **ALT-F1** or  to fit drawing on the screen..

Step 11. Save the drawing. Use: File, Save and **motormount** for a filename.

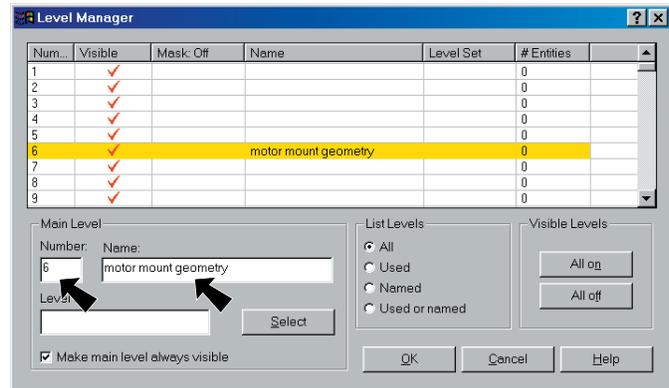


Fig. 1

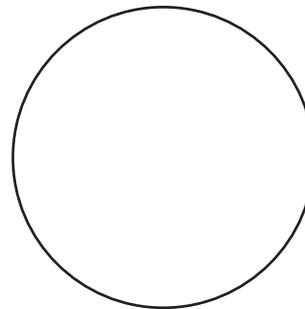


Fig. 2

### B. Set Grid And Snap.

Step 1. Change the Grid and Snap to **.1**. Use **ALT-G**. Hold down ALT and press G.

Step 2. Set: X and Y Spacing to **.1**, **Fig. 3**.

Step 3. Click OK.

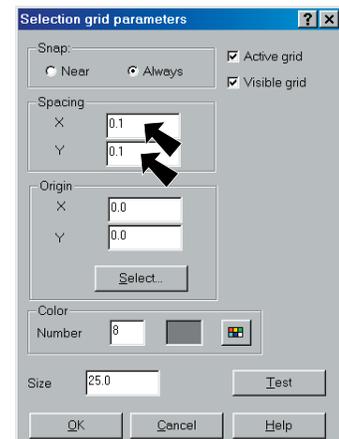


Fig. 3

### C. Create Lines.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Line.

Step 4. Endpoints.

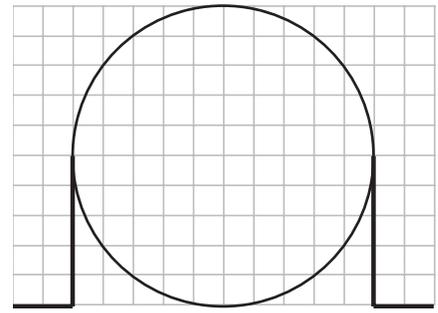


Fig. 4

Step 5. Use the **Page Down** key several times to zoom out and draw the lines in **Fig. 4**. Use the grid to determine the location of the lines.

### D. Trim Lines.

Step 1. MAIN MENU.

Step 2. Modify.

Step 3. Trim.

Step 4. 1 Entity.

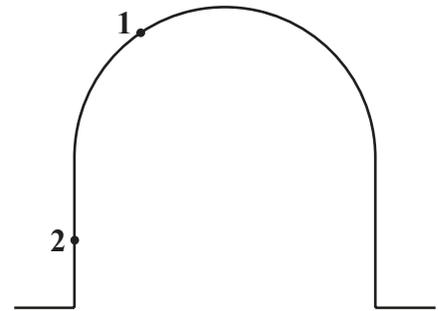


Fig. 5

Step 5. Trim the circle to remove the bottom. Click the circle at Position 1, **Fig. 5**. Then, click Position 2.

### E. Fillet.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Fillet.

Step 4. Radius.

Step 5. Key-in **.03** for the distance and press ENTER.

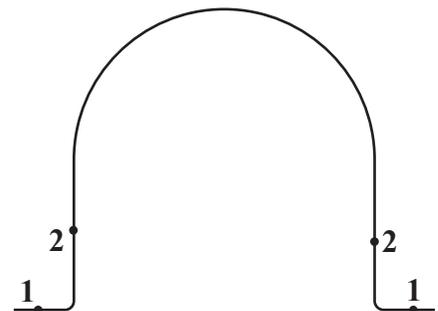


Fig. 6

Step 6. Click Position 1 and Position 2 at both corners, **Fig. 6**.

Step 7. Save your drawing. Use **Alt-A** and press ENTER.

### F. Offset Contour.

Step 1. MAIN MENU.

Step 2. Xform.

Step 3. Offset Contour.

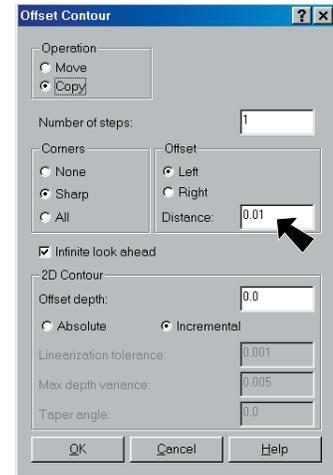
Step 4. Chain.

Step 5. Click the geometry.

Step 6. Done.

Step 7. Set: Distance = .01 and click OK, **Fig. 7.**

Step 8. Click the Clear Screen Colors Tool .



**Fig. 7**

## G. Draw Connecting Lines.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Line.

Step 4. Endpoints.

Step 5. Endpoints (again). Endpoints will perform a search and locate the exact end of the line you are connecting to.



**Fig. 8**

Step 6. Draw lines between the ends of the offset lines. Press E key to select Endpoints before your click to draw the line. **Remember to press the E key first** then click the end of the line. Draw both lines, **Fig. 8.**

## H. Create Circle.

Step 1. Change to the Top View. Use  or **ALT-6 T**. Hold down ALT and press 6. Key-in T.

Step 2. Use **ALT-F1** or  to fit drawing on the screen.

Step 3. Change the depth of your drawing. Click the Z Button  from the Secondary Menu and key-in .9 and press ENTER. (**ALT-0**)

Step 4. MAIN MENU.

Step 5. Create.

Step 6. Arc.

Step 7. Circle Point and Diameter.

Step 8. Key-in .09 for diameter and press ENTER.

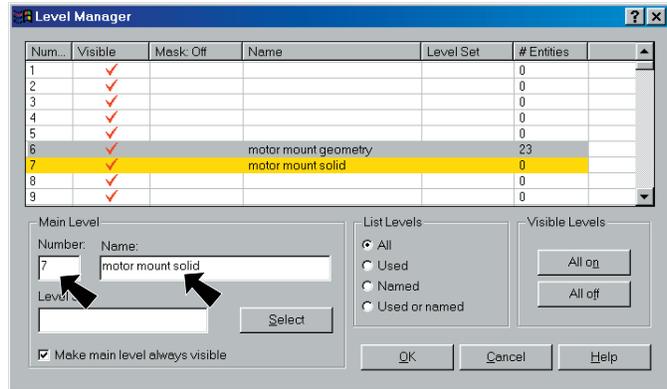
Step 9. Key-in 1.3, 2.11 and press ENTER and key-in 1.3, .89 and press ENTER, **Fig. 9.**



**Fig. 9**

## I. Add Level.

Step 1. Add a new Level. Click the Level Button from the Secondary Menu and key-in 7 for Level Number and **motor mount solid** for Name, **Fig. 10**.



**Fig. 10**

## J. Extrude Solid.

Step 1. Change to the Isometric View. Use  or **ALT-6 I**. Hold down ALT and press 6. Key-in I.

Step 2. Use **ALT-F1** or  to fit drawing on the screen.

Step 3. MAIN MENU.

Step 4. Solids.

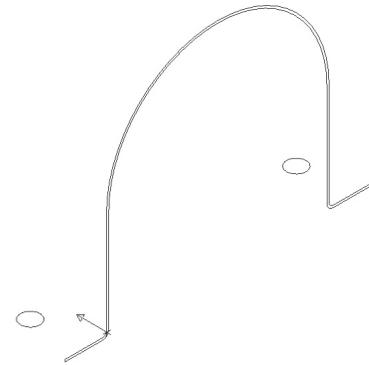
Step 5. Extrude.

Step 6. Chain.

Step 7. Click a line.

Step 8. Done.

Step 9. The direction arrow on the chain should **point back to the left, Fig. 11**. If the arrow points in the wrong direction, click Reverse It.



**Fig. 11**

Step 10. Done.

Step 11. Set: Distance = **.5** and click OK, **Fig. 12**.

Step 12. Use **ALT-S** to turn on the shading.

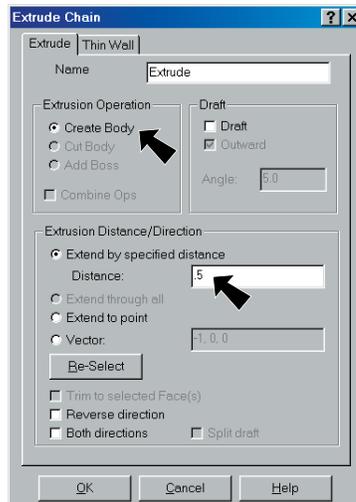
## K. Cut Out Holes.

Step 1. Use **ALT-S** to turn off the shading. Hold down ALT and press S.

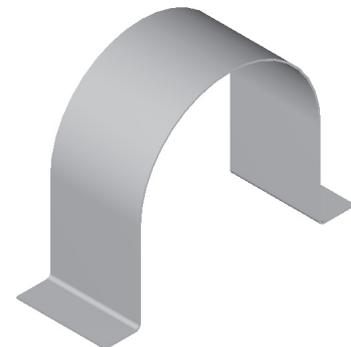
Step 2. MAIN MENU.

Step 3. Solids.

Step 4. Extrude.



**Fig. 12**



**Fig. 13**

Step 5. Single.

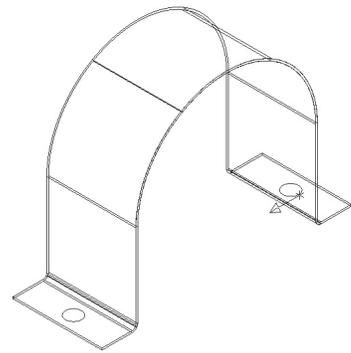
Step 6. Click both circles, **Fig. 14**.

Step 7. Done.

Step 8. The direction arrow on each chain should **point up**, **Fig. 15**. If both arrows point up go to the next step. If they don't point up, do one of the following:

If both arrows point in the wrong direction, click Reverse It.

If one arrow points in the wrong direction, click Reverse One, and click the chain whose arrow points in the wrong direction.



**Fig. 14**

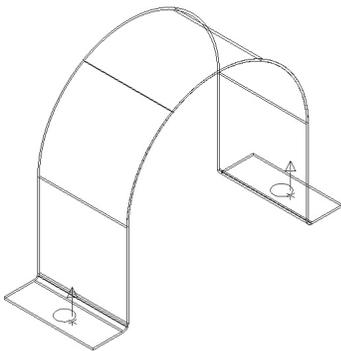
Step 9. Done.

Step 10. Set: **Cut Body**.

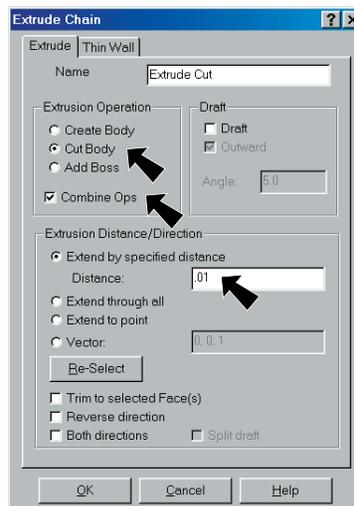
**Combine Ops.**

Distance = **.01** and click OK, **Fig. 16**.

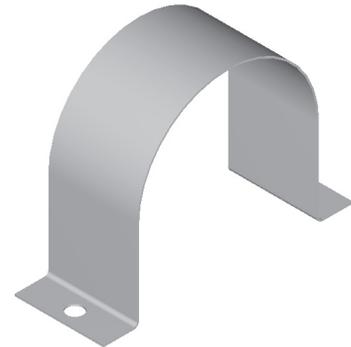
Step 11. Use **ALT-S** to turn on the shading, **Fig. 17**.



**Fig. 15**



**Fig. 16**



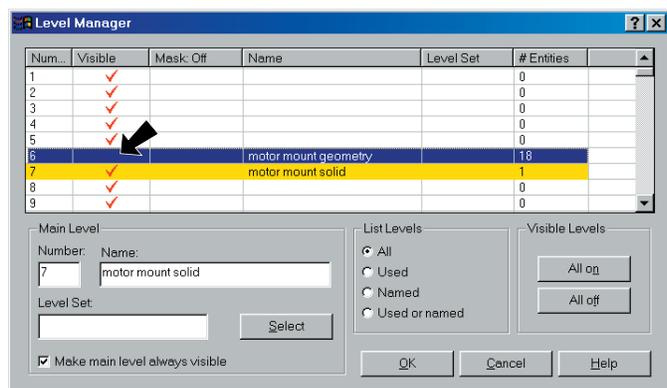
**Fig. 17**

## L. Turn Off Level.

Step 1. Turn off the geometry level, Level 6. Click the Level Button from the Secondary Menu.

Step 2. Uncheck the red check in Visible column of the **motor mount geometry** level and click OK, **Fig. 18**.

Step 3. Use **F3** to repaint display.



**Fig. 18**

## M. Chamfer Corners.

Step 1. MAIN MENU.

Step 2. Solids.

Step 3. Chamfer.

Step 4. 1 Distance.

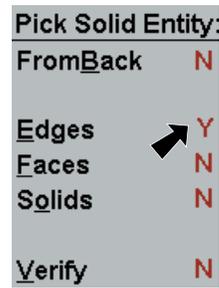


Fig. 19



Fig. 20

Step 5. Click Edges to Y and others N, Fig. 19.

Step 6. Zoom-in on the corner of the flange. Use F1 and make a selection window around the flange, Fig. 20.

Step 7. Click the corner edge, Fig. 21.

Step 8. Done.

Step 9. Set Distance .07 and click OK, Fig. 22 and Fig. 23.

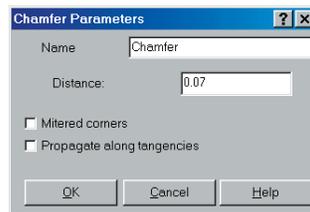
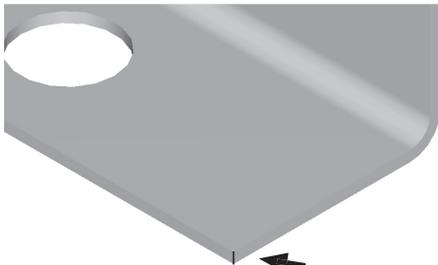
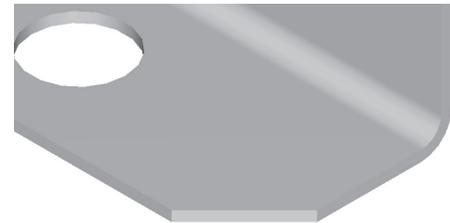


Fig. 22



Step 10. Use Alt-F1 to zoom out and F1 to zoom-in on the other corner, Fig. 24.

Step 11. 1 Distance.

Step 12. Click the other corner edge, Fig. 25.

Step 13. Done.

Step 14. Click OK to use .07 for Distance, Fig. 26.

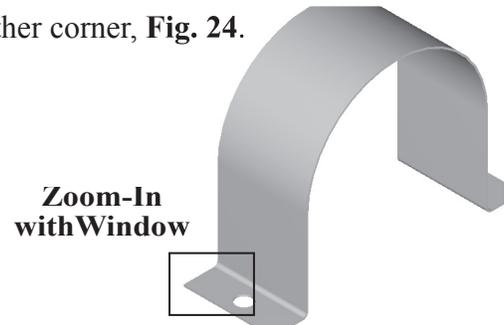
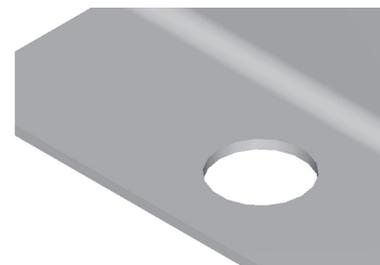
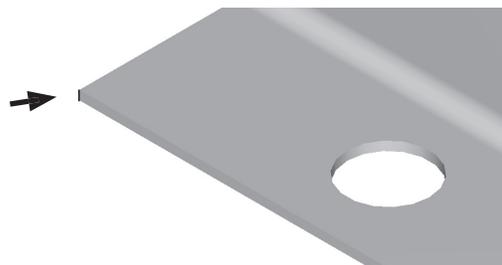


Fig. 24



Step 15. Zoom out . Use Dynamic View  to swing the around to view the other flange, **Fig. 27**.

Step 16. Zoom-in on the flange. Use **F1**, **Fig. 27**.

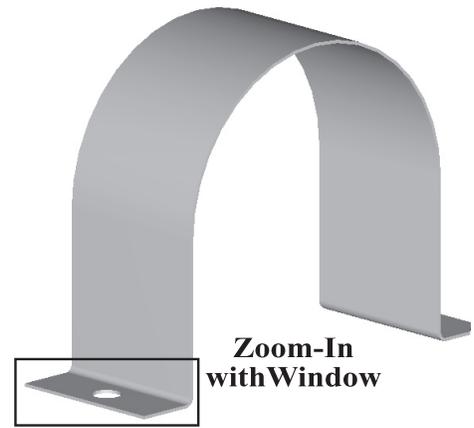
Step 17. 1 Distance.

Step 18. This time click both corner edges, **Fig. 28**.

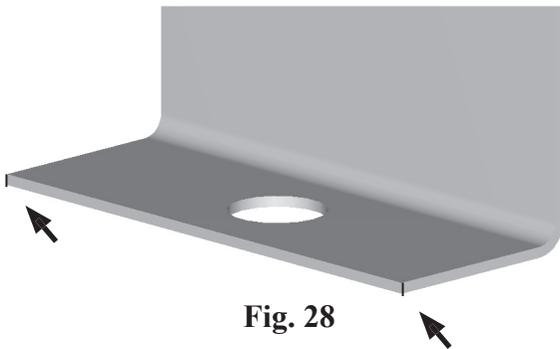
Step 19. Done.

Step 20. Click OK to use **.07** for Distance, **Fig. 29**.

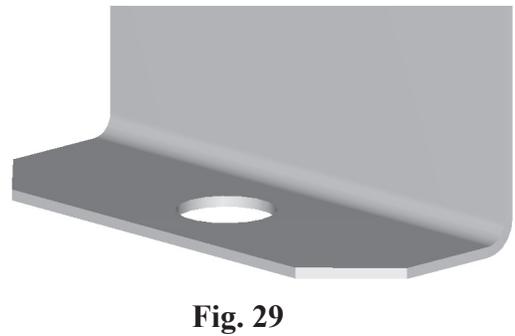
Step 21. Use **Alt-F1** to fit the drawing on the screen and save **Alt-A**.



**Fig. 27**



**Fig. 28**



**Fig. 29**

