Appendix B Casting Challenge 1

This sketch provides the data from our first advanced casting as described in Chapter 7 of the World Class CAD – Computer Aided Mechanical Design. Use the information provided to design a casting with the parting line placed so the large ribs are drafting one direction and the 4 hubs are drafting in the other. There should be rounded corners on all edges except at the intersection of the surfaces at the parting line. Add machining stock to the surfaces that need machining, such as the 2.00 diameter bore and the bottom of the hub.

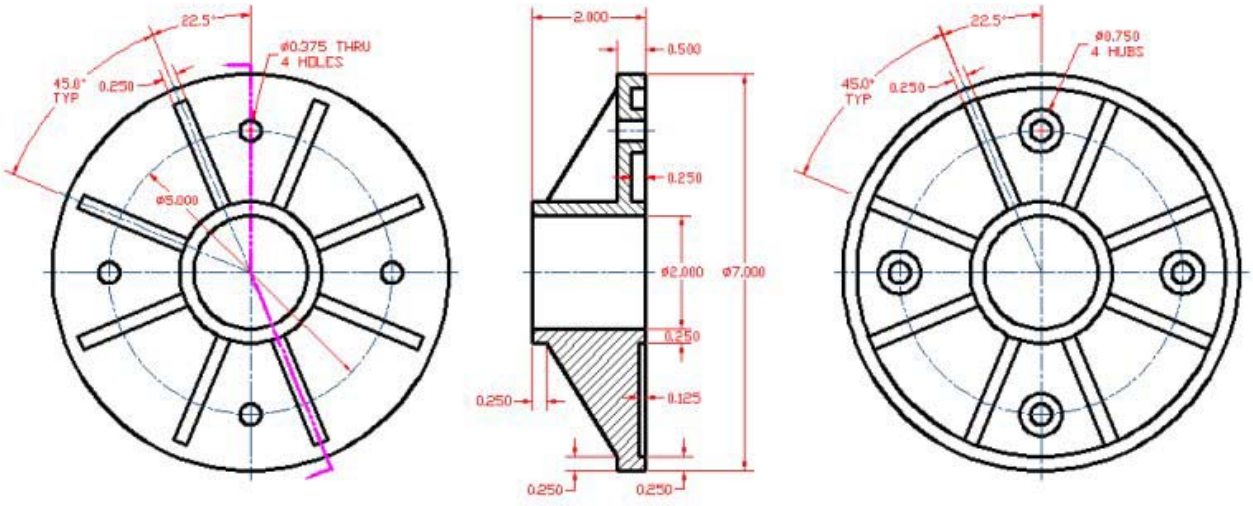

Figure B.1 – 2 Inch Hub

*** World Class CAD Challenge 08-16 * - Create a New file and draw the 2 Inch Hub solid using the techniques from Section 2, of the World Class CAD – Computer Aided Mechanical Design. Continue this drill four times, each time completing the drawing under 30 minutes to maintain your World Class ranking. Save the drawing as 2 Inch Hub.**

Send your best time and a copy of your drawing for verification to the authors of these problems to have your name, location and time posted. See the web site for instructions.
www.worldclasscad.com

Appendix B Casting Challenge 2

A company has been machining this bracket from 1-inch thick aluminum stock in the past, but now the manufacturer has an order for 1000 pieces and needs a casting designed. Hold the ¾ diameter hole and the 3/8 radius as minimum. Place the parting line at the bottom of the part. Fillets can be 1/8 radius maximum. Add machining stock to the surfaces that need machining, such as the 0.75 diameter hole and the bottom of the clamp. Design the casting and provide an orthographic drawing to manufacture the piece.

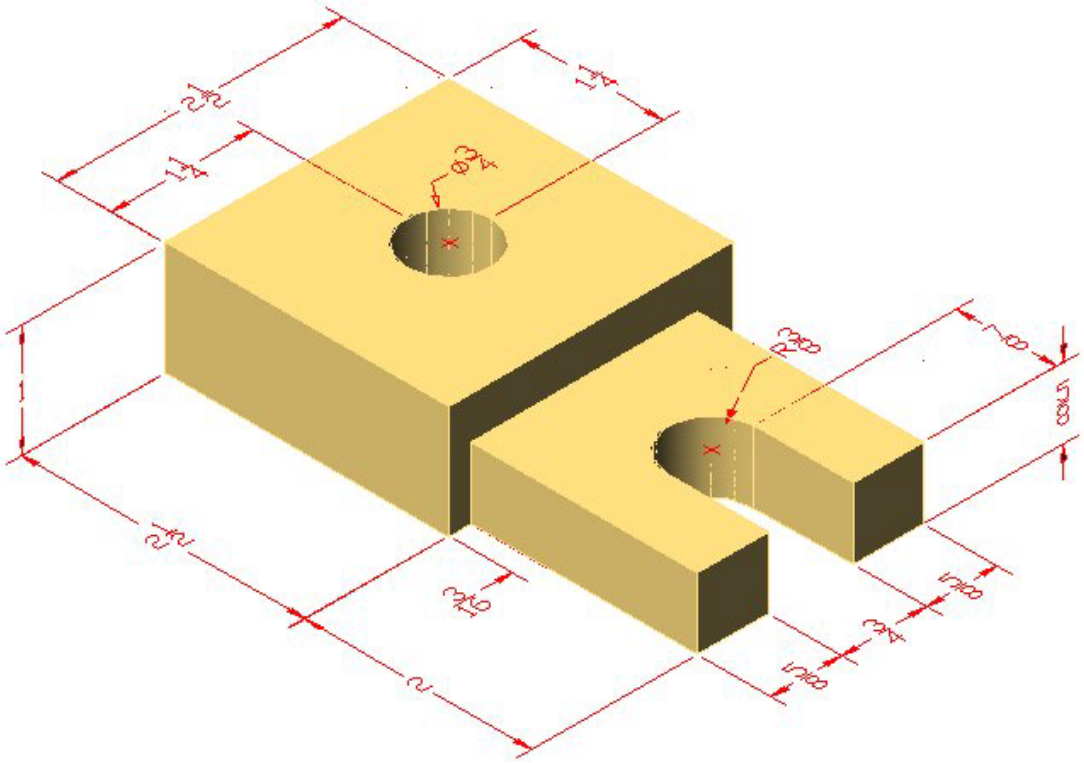

Figure B.2 – Aluminum Clamp

*** World Class CAD Challenge 08-17 * - Create a New file and draw the Aluminum Clamp solid using the techniques from Section 2, of the World Class CAD – Computer Aided Mechanical Design. Continue this drill four times, each time completing the drawing under 30 minutes to maintain your World Class ranking. Save the drawing as Aluminum Clamp.**

Send your best time and a copy of your drawing for verification to the authors of these problems to have your name, location and time posted. See the web site for instructions.
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Appendix B Casting Challenge 3

A company has been manufacturing this bracket from 1/2-inch thick steel stock in the past, but now the manufacturer has an order for 1000 pieces and needs a casting designed. Hold the 9/16 diameter hole and the 1 radius as minimum. Place the parting line at the bottom of the part. Fillets can be 1/8 radius. Add machining stock to the surfaces that need machining, such as the back of the bracket. Design the casting and provide an orthographic drawing to manufacture the piece.

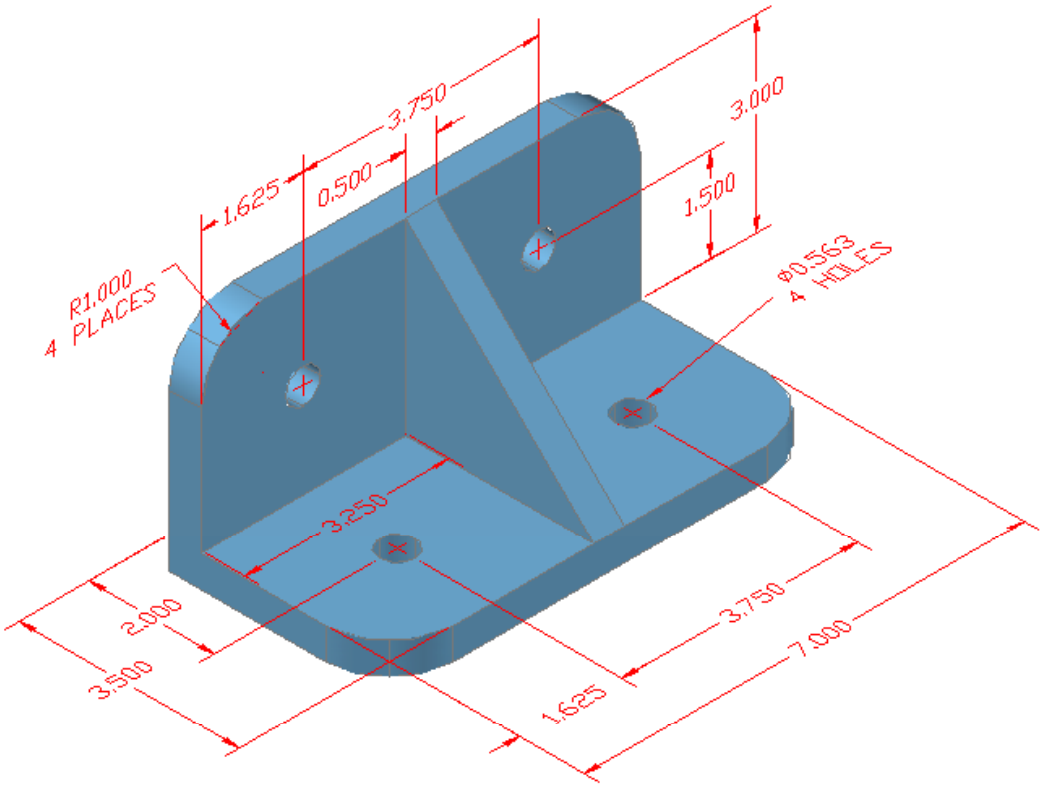

Figure B.3 – Bracket

*** World Class CAD Challenge 08-18 * - Create a New file and draw the Bracket Casting using the techniques from Section 2, of the World Class CAD – Computer Aided Mechanical Design. Continue this drill four times, each time completing the drawing under 30 minutes to maintain your World Class ranking. Save the drawing as Bracket Casting.**

Send your best time and a copy of your drawing for verification to the authors of these problems to have your name, location and time posted. See the web site for instructions.
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