

ME 24-688 – Week 6

Problem Set Assignment

1 Detailed Component Drawing Creation

The week six problem set assignment focuses on the drawing environment of Autodesk Inventor. The goal of the assignment is to construct an assembly drawing and a part drawing

1.1 Provided Items

To start the assignment you are provided 10 files consisting of Autodesk Inventor part and assembly files in a ZIP file. Using the provided files you can create and detail the part file and assembly.

Assembly Drawing

- Use the **ANSI (mm).dwg** template for the assembly drawing..



ANSI (mm).dwg

- **2012-2-9000.dwfx** has been provided for additional review

Part Drawing

- 2012-2-9003.dwg is the starting point for the part drawing for this problem set.

1.2 Final Deliverable

Once both drawing are complete submit a **DWF** file for each.

- Save each drawing using the following naming convention:

ps6_your_andrew_id_xxx
(xxx: descriptive name)

1.3 Grading

Grading for this problem set will be based on the following elements:

- 45% - Correctly completing the Assembly drawing
- 10% - iProperty population for BOM
- 15% - Completing Drawing Requirement 1
- 15% - Completing Drawing Requirement 2
- 15% - Completing Drawing Requirement 3

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1.4 Assembly Drawing Instructions

- Create an exact replica of the Assembly drawing shown below.

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	2012-2-9003	Right Gear Box
2	4	AS 1427 - M3 x 12	ISO metric machine screws
3	1	2012-2-9008	Worm
4	1	2012-2-9009	Worm Gear
5	1	2012-2-9001	BALL SCREW SHAFT
6	1	2012-2-9006	Wear Plate
7	1	2012-2-9005	Wear Plate
8	1	2012-2-9002	Left Gear Box

DRAWN Justin Rice		2/13/2012		TITLE	
CHECKED				SEAT HEIGHT ADJUSTMENT ASM	
QA				SIZE B	
MFG				DWG NO 2012-2-9000	
APPROVED				REV	
		SCALE		SHEET 1 OF 1	

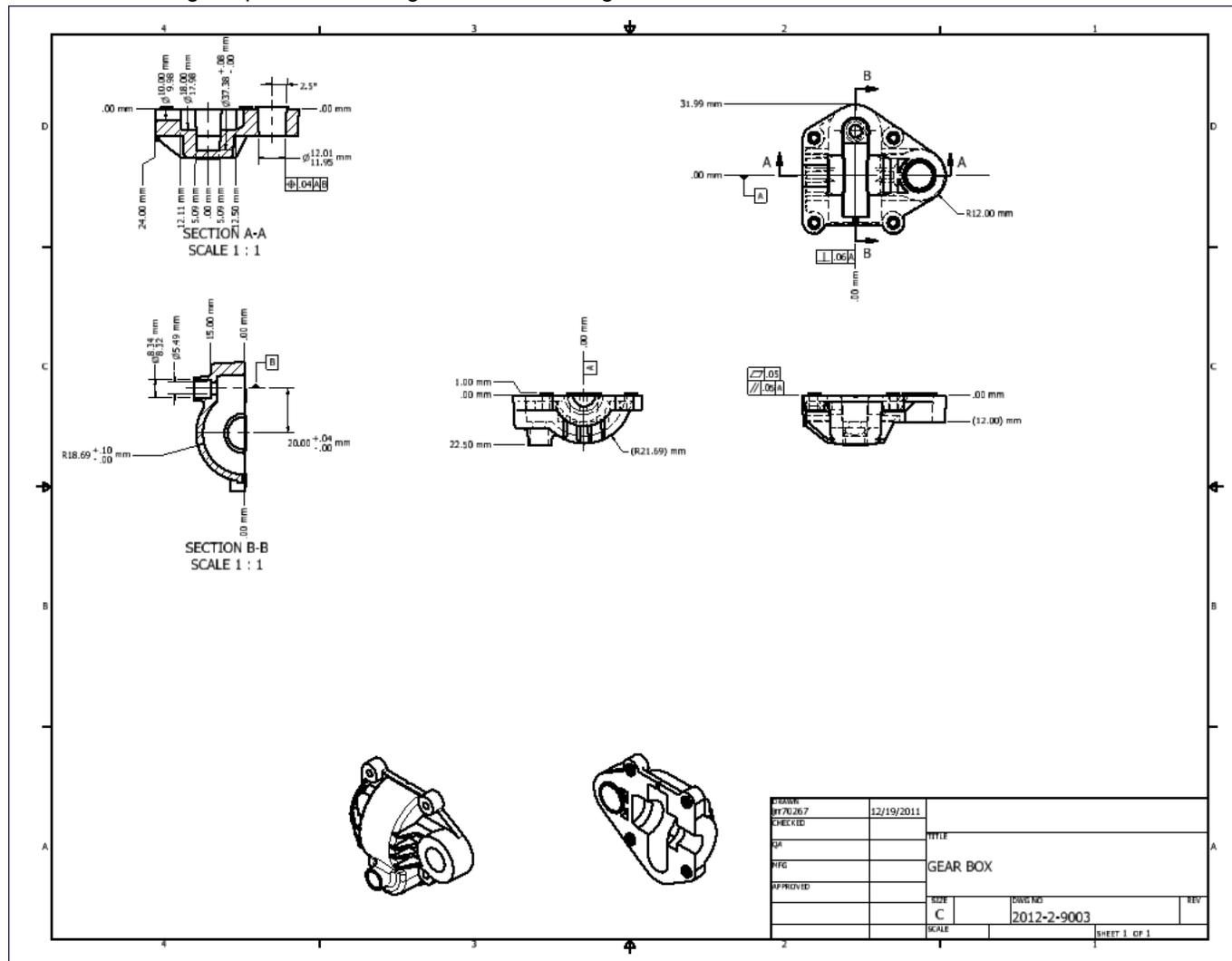
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1.5 Part Drawing Instructions

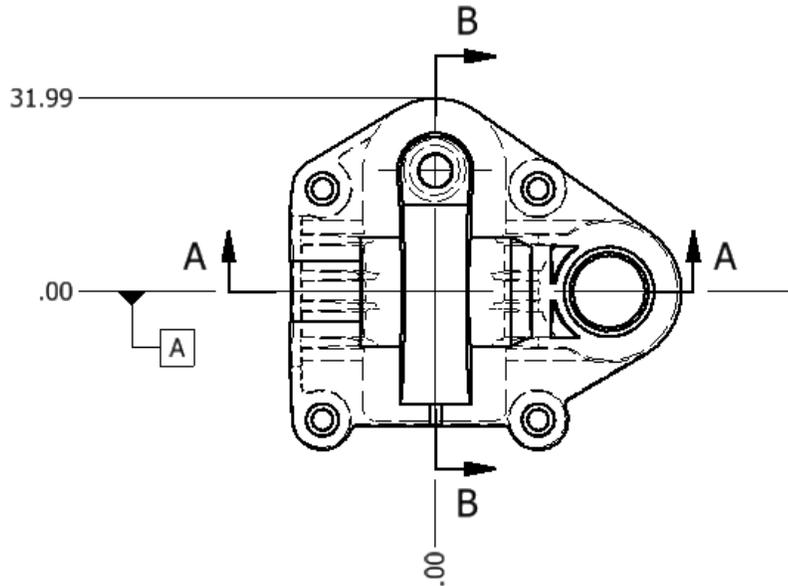
- Complete the Part Drawing Requirements using 2012-2-9003.dwg shown below:



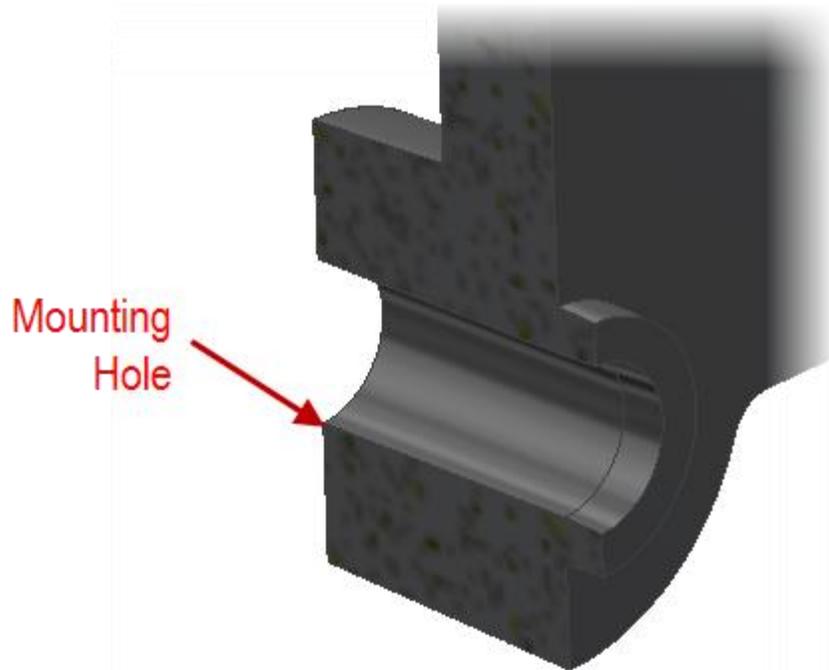
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Part Drawing Requirement 1

- Add **Section C-C** using the top projected view shown below to provide all the necessary information for any **one** of the mounting holes,
 - Dimension the clearance hole's diameter, tapered lead in and the height of the lip.
 - The tolerance on the clearance hole diameter is $\frac{+.05}{-.00}$.



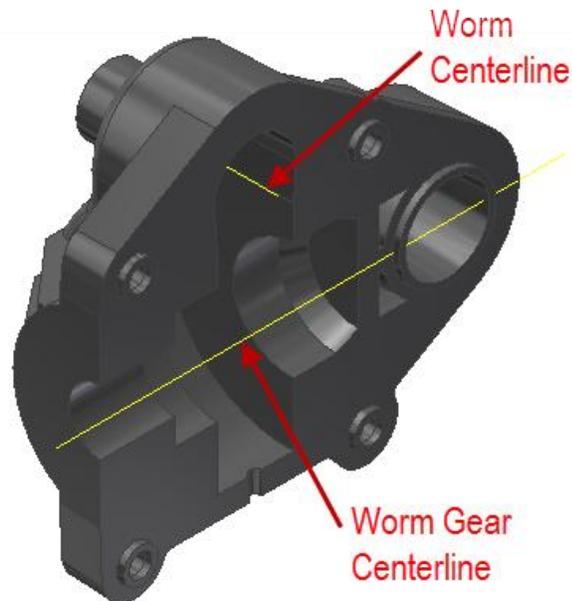
- Use the same origin from the base view for all ordinate dimensions



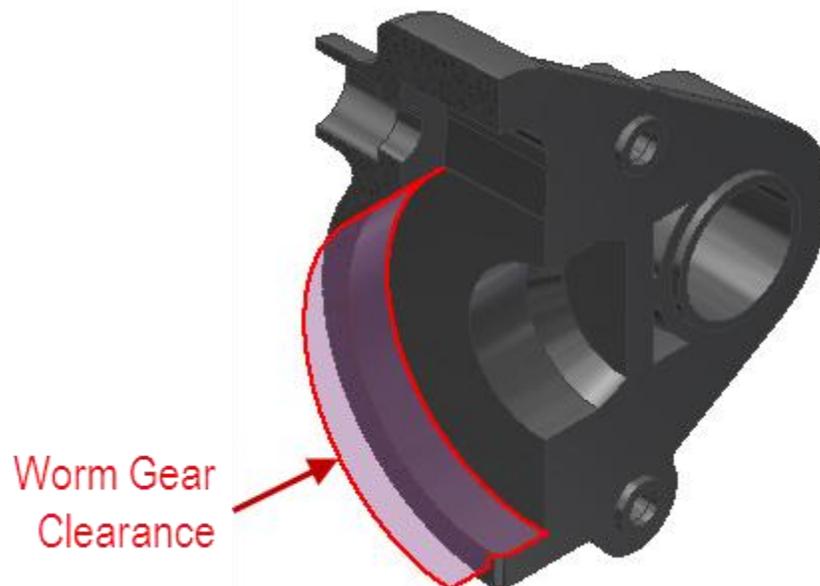
Problem Set Assignment

Part Drawing Requirement 2

- In **Section B-B** add the required feature control (GD&T) symbol to do the following
 - Hold the **Perpendicularity** of the Worm centerline and the centerline of the Worm Gear within **.05 mm**.

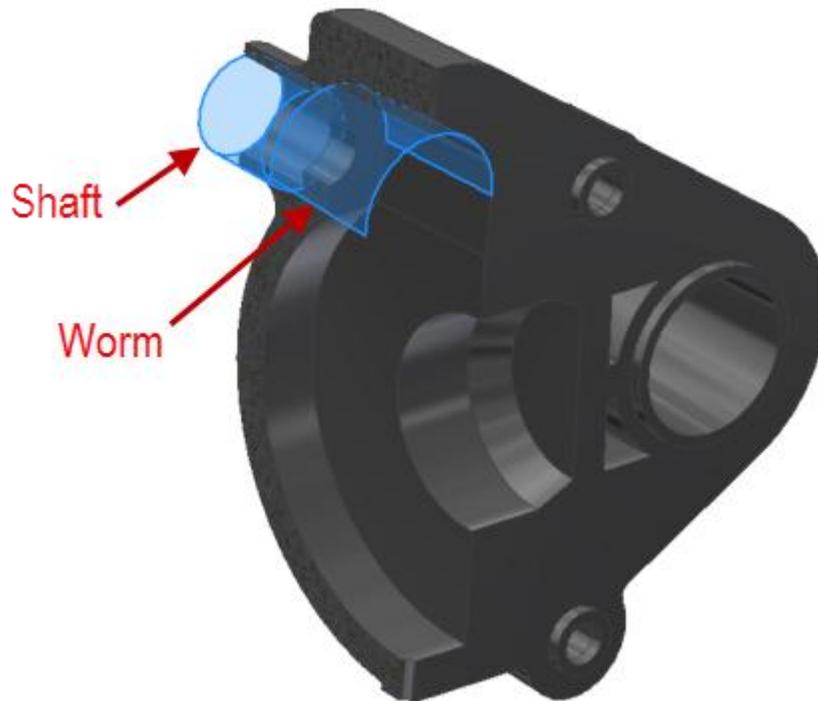


- Hold the **Concentricity** of the clearance for the worm gear with respect to the Worm Gear driven shaft's centerline within **.08 mm**.



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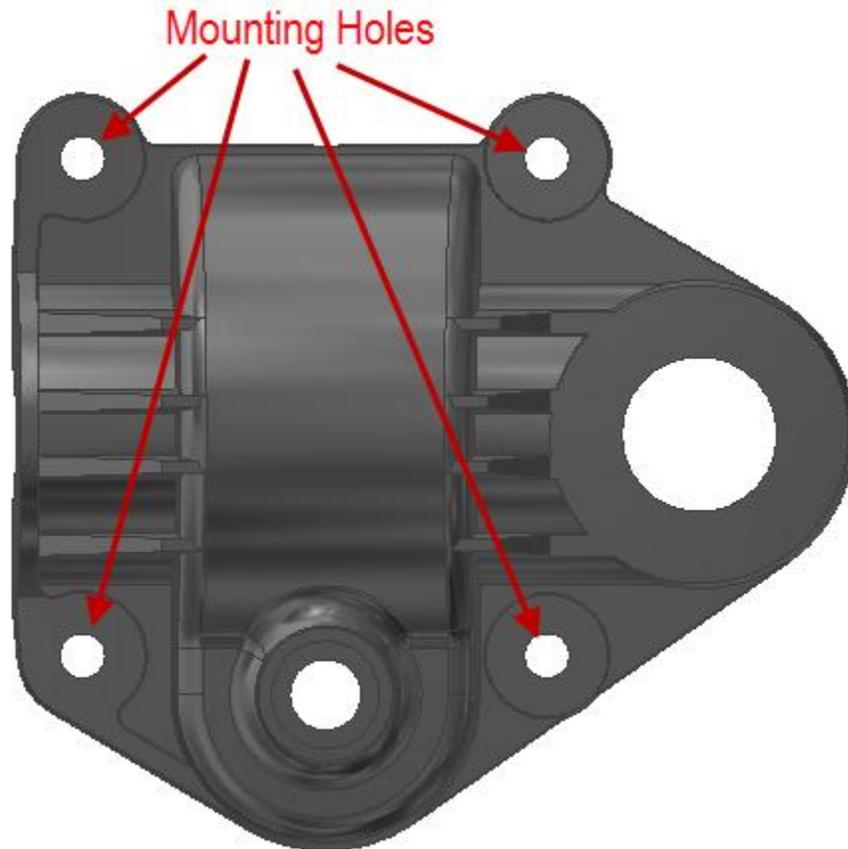
- Hold the **Position** of the centerline of the shaft in relation to the centerline of the worm within **.02 mm**.



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Part Drawing Requirement 3

- Add a projected view below the base view
 - Ordinate dimension for all the mounting holes



- Add an "A" datum identifier symbol