

MEEN 2250:
Computer Aided Engineering

Mondays and Wednesdays
2:00 – 3:20 pm NTDP F175

Lecture 02

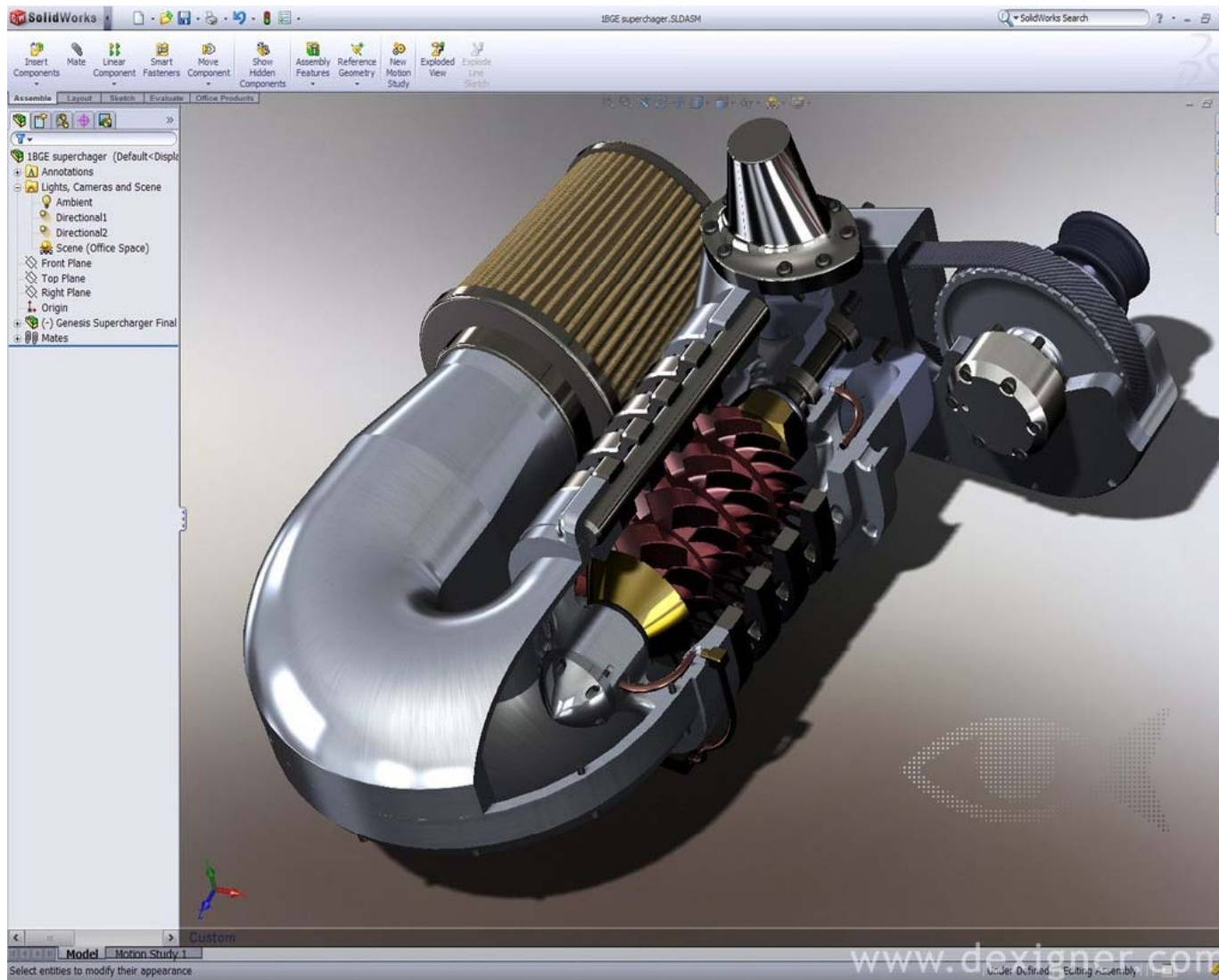
Hard Sketching: Using Lines

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now



Why learn about manual drafting?

- Legacy documents are still relevant to today.
- Some times it is faster to explain on a napkin then draw it out on a computer.
- To have yet another reason to complain about how the people who came before you were no good.

Alphabet of Lines

- This is what the American Society of Mechanical engineers have decided on.
- You must know all of the ones listed here.
- Lines come in 2 flavors, thick and thin.
Respectively they should be .6 mm <soft lead>
and .3 mm <hard lead>

Visible Line



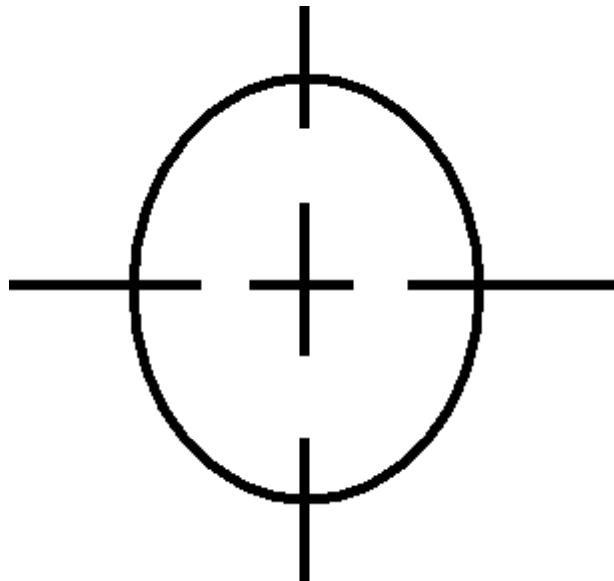
A thick line that is used for any lines that are directly visible on an object from the specific view being used.

Center Line



Thin

When you have a mirrored or revolved feature the center line represents the axis of definition. For a hole or a circle is represented by two center lines with the small dash being placed at the cross point



Short Break Line

- Short break lines are thick and signify where part of the object has been removed to gain a better view of a part



Dimension Lines



Not actually part of the object, but rather used to define features . Thin

Section Line



Shows cut surfaces. Can take on any pattern to signify different material.

Phantom line



Thin. Shows where an object has been or could be moved to. The “ghost image” of an object.

Stitch Line



Used to signify stitching. Thin.

Hidden Line



Thin. Represents physical edges that are obscured by other physical features.

Cutting Plain Line



Thick. Arrows are used to indicate the side the image will be created from.



Chain line



Technical Sketch

- Can vary from extremely detailed, to extremely simple.
- Helps in the design process.