



Industrial Technology Virtual Learning

**9-12/Advanced Metals/ Blue Print Reading
(Intro)**

April 15, 2020



Blue Print Reading(Intro): **April 15, 2020**

Objective/Learning Target:

Students will read the following PPT and learn about reading and understanding Blueprint Reading. Following the PPT information covering Blueprint Reading students will test their knowledge by answering Three questions.

Bell Ringer

There is one person alive in the world that does not know what a cell phone is.

Write a quick paragraph explaining to this one person what a cell phone is? Next, make a sketch of a cell phone for this one person.

Which best communicates what a cell phone is?

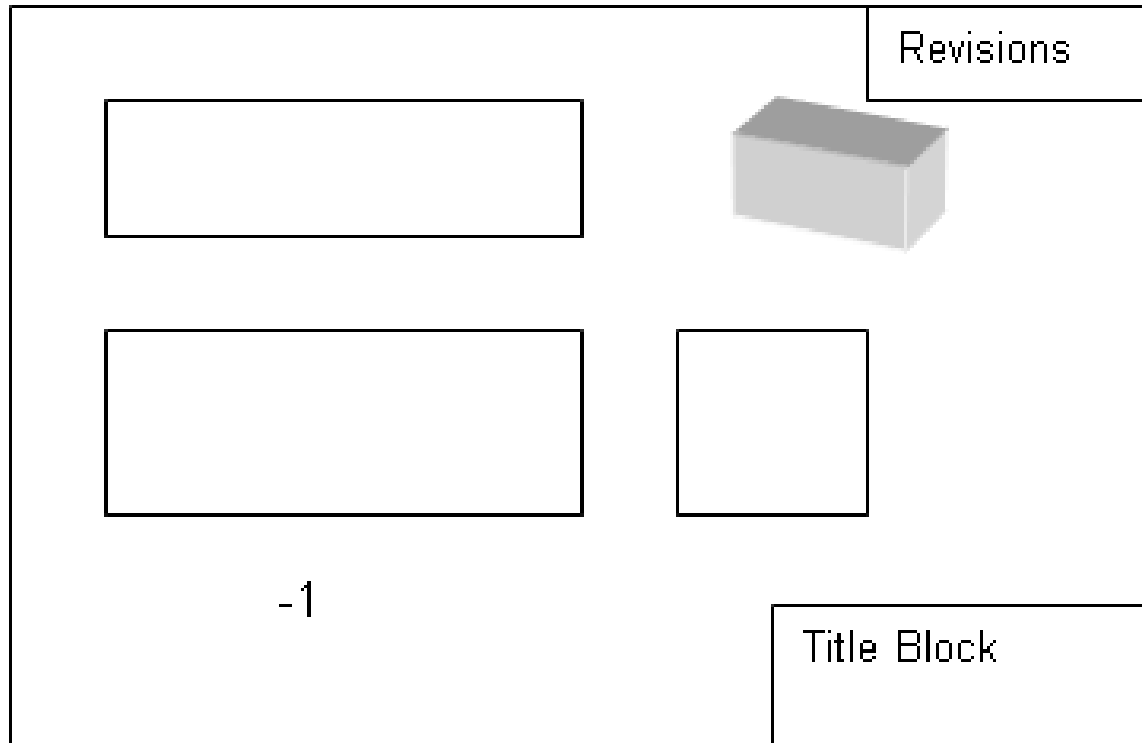
Blue Print Reading

“A picture is worth a thousand words”

It would be next to impossible for an engineer or designer to describe in words the shape, size, and relationship of the various parts of an airplane in enough detail for skilled workers to produce the part. Drawings are the **Universal Language** used by engineers, designers, and skilled workers to share quickly and accurately the necessary information to create parts, put together and service airplanes and other complex assemblies.

The original drawing that is created in an engineering department is kept in a vault, and paper and Mylar copies are made to be used on the shop floor. Drawings used to be done by hand on Mylar, a thin plastic sheet, but now are created on Catia, AutoCAD or other 3-D graphic system.

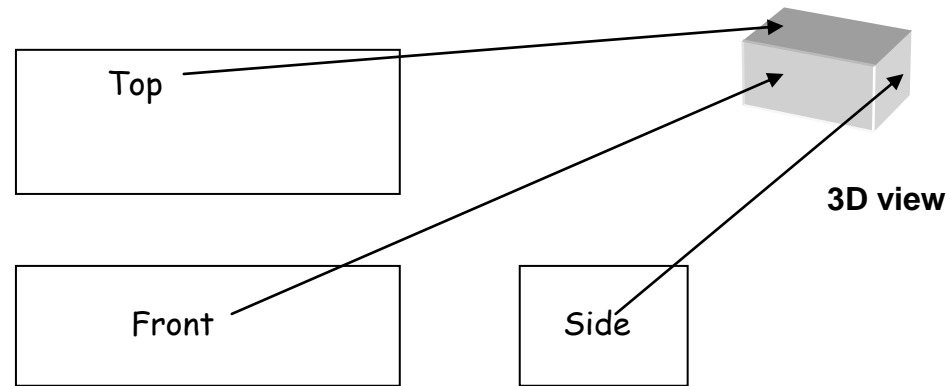
A print is a copy of the drawing that shows what the object will look like when it is completed. **Regardless of the color, the terms “drawing”, “print” and “blueprint” all mean the same thing when referring to copies of the engineering drawing.** Prints provide you with details like size and shape description, tolerances (allowable error) to be held, materials used, finish, and other treatments.



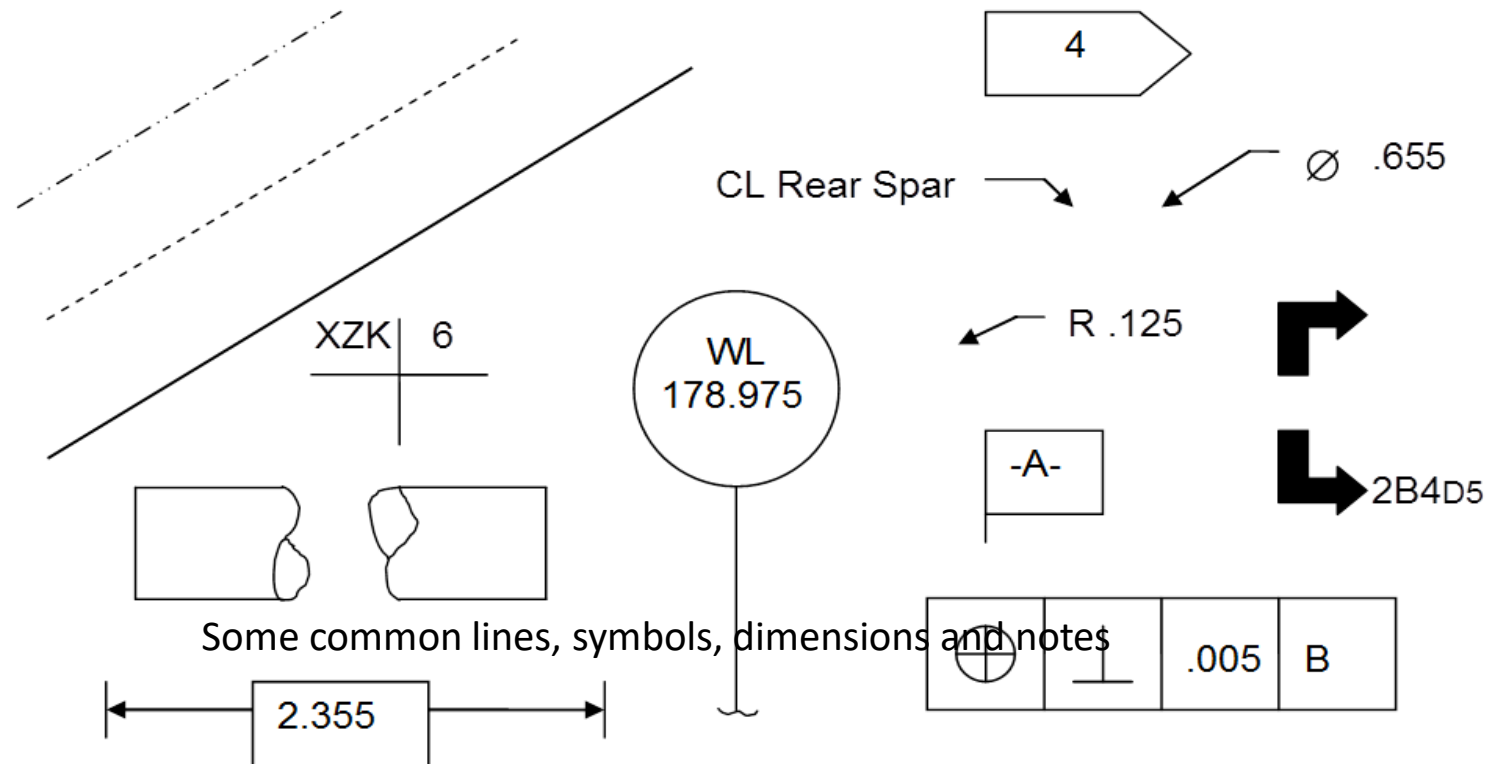
Typical Print

Print reading is getting information from a print. This task involves visualization and interpretation of the print.

Visualization is the ability to “see” or imagine the size and shape of the object from prints that show views.

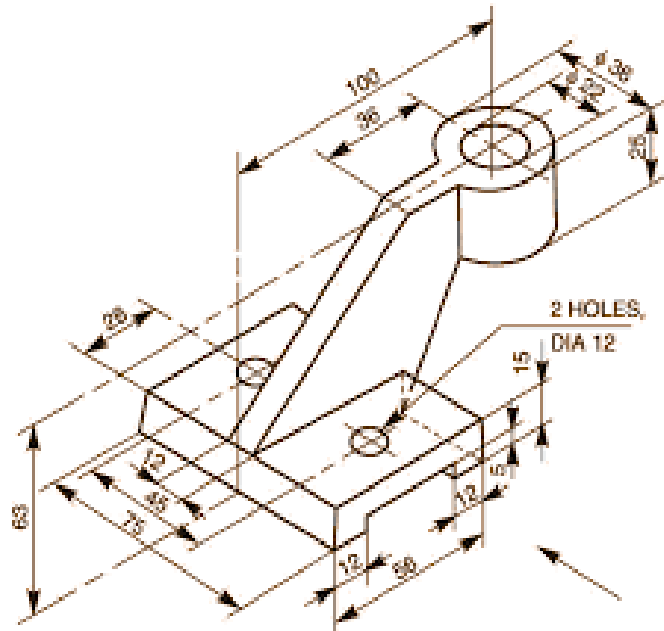


The ability to interpret, or understand, the lines, symbols, dimensions, notes and other information on the part is the other important part of print reading.



Pictorial Drawing/Print

A Pictorial Drawing is 3D drawing of an object, but there is not enough information on a print to accurately create the part.



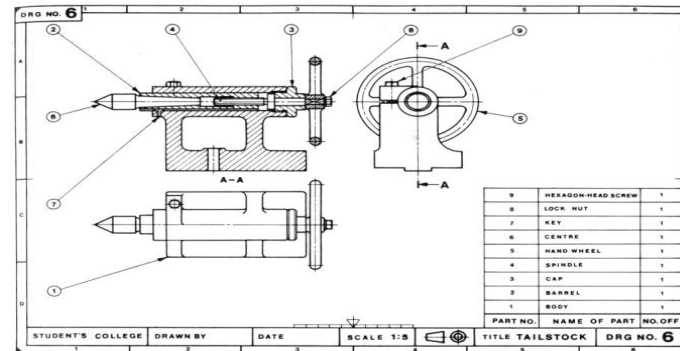
Assembly Drawing/Print

(Picture Sheet)

The Assembly Drawing shows the part with enough views to completely describe the part. The part is shown in a two dimensional (flat) view. Picture sheets contain dimensions, symbols, and tolerances.

The Assembly Drawing shows:

- What the part looks like
- Size and shape of the parts
- How the parts and assemblies fit together
- Where the parts and assemblies are installed



Parts List

The parts list contains:

- List of material- what you need to build the part
- General notes/Flag notes – more information on how to build the part
- Part marking and finishing information flag note 3
- List of specifications- other documents that tell you how to install fasteners, paint, part mark, etc...

Reference Information:

Reference information includes:

Work order/traveler

Customer specifications

Making a part list, finding funding,
and ordering parts

ITEMS	QTY	PRICES	Subtotal
Power Switch	1	4.11	4.11
Mode Select Switch	1	2.98	2.98
Mute Switch	1	5.13	5.13
PIC	2	7.71	15.42
ISD	2	16.68	33.36
Volt Regulator	1	1.31	1.31
Volt Regulator	1	1.58	1.58
Audio Amp	2	2.11	4.22
Depth Finder	1	72.95	72.95
Personal Monitor	1	119.99	119.99
Aquarium	1	7.88	7.88
PCB	4	68.97	275.88
Misc. Parts		60.00	60.00
Total	371.40		604.79

References

- <https://www.construct-ed.com/beginners-guide-how-to-read-construction-plans/>
- <https://www.letsbuild.com/blog/blueprints>
- <https://craftjack.com/toolbox/how-to-read-blueprints/>

Blueprint Reading Quiz

Question #One

1. A Drawing/Print that shows the part with enough views to completely describe the part?
 - A. Pictorial Drawing
 - B. Assembly Drawing
 - C. Orthographic Projection
 - D. Sketch

Answer

Assembly Drawing

Question #Two

2. What are Three things that are on a Parts List?
 - A. Cliff Notes, Grocery List, Materials.
 - B. General Notes. Volt Meter, Flex Capacitor.
 - C. Materials, General Notes, List of Specifics.

Answer

Materials, General Notes, List of Specifics

Question #Three

3. Drawings are called the **Universal Language** used by engineers, designers, and skilled workers around the world. In your own words, please explain this is.