

Print Reading eLearning | Print Dimensioning, Assembly Drawings, and GD&T Training

Sectional Drawings and Fasteners - WX12218-XX02XEN-E1

Objective 10: List and Describe Two Types of Assembly Drawings

Types of Assembly Drawings

An assembly drawing shows how a group of parts fit together to perform one function. There are two basic types of assembly drawings:

- Basic Assembly Drawing
- Exploded Assembly Drawing

AREA	QUANTITY	MATERIAL	DESCRIPTION	QTY	UNIT	REMARKS
1	1	STEEL	FLAT FLANGE	1	1	
2	1	STEEL	WASHER	1	1	
3	1	STEEL	WASHER	1	1	
4	1	STEEL	WASHER	1	1	
5	1	STEEL	WASHER	1	1	
6	1	STEEL	WASHER	1	1	
7	1	STEEL	WASHER	1	1	
8	1	STEEL	WASHER	1	1	
9	1	STEEL	WASHER	1	1	
10	1	STEEL	WASHER	1	1	
11	1	STEEL	WASHER	1	1	
12	1	STEEL	WASHER	1	1	
13	1	STEEL	WASHER	1	1	
14	1	STEEL	WASHER	1	1	
15	1	STEEL	WASHER	1	1	
16	1	STEEL	WASHER	1	1	
17	1	STEEL	WASHER	1	1	
18	1	STEEL	WASHER	1	1	
19	1	STEEL	WASHER	1	1	
20	1	STEEL	WASHER	1	1	

SECTION A-A

GENERAL NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
3. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

VOICE/SOUNDS: Turn Off for Fastest Speeds

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eLearning Course: M12207

Print Reading is a foundational skill used throughout many industries. Amatrol's Print Reading eLearning Courseware (M12207) covers topics like print dimensioning, assembly drawings and fasteners, and geometric dimensioning & tolerancing (GD&T). Learners using Amatrol's print reading training course will study sketching, multiview drawings, dimensioning rules, first-angle projection, holes and fasteners, assembly drawings, assembly tolerances, and feature control frames. From this building block, learners can practice industry-relevant skills like selecting the appropriate number of views for an object, interpreting information blocks on a print, and calculating the limits of a dimension given its tolerance.

Print Reading eLearning

Amatrol's eLearning curriculum is unique in that it thoughtfully combines in-depth theoretical knowledge with practical, hands-on skills. This powerful combination of knowledge and skills solidifies understanding and creates a strong foundation for pursuing more advanced skills.

For example, the print reading eLearning course covers important topics, such as:

Introduction to Print Reading

This Print Reading eLearning course begins by discussing the function of a print, methods of creating a technical drawing, methods used to draw an object, and principal dimensions of an object. Learners will then study how to sketch vertical lines, horizontal lines, curved lines, circles, and irregular shapes. The course continues by addressing how views are arranged in a multiview drawing, methods used to visualize the views of an object based on third-angle projection, the alphabet of lines, line types used in a Multiview drawing, and the function of line precedence.

Print Dimensioning

This course begins with how to choose the views for a multiview drawing and when to use 2-view or 1-view drawings, and continues the function of print dimensions, how to dimension a linear surface and the location of a point, and how to dimension circular and angular features. Students will then learn rules to dimension multiview

prints and the function of dual dimensioning. The course concludes with methods used to visualize the views of an object based on first-angle projection and ISO symbols used with first-angle projection.

Assembly Drawings and Fasteners

The course begins by discussing key areas of information on a print, as well as the function of title blocks, change blocks, materials lists, tolerance blocks, and the body of the drawing. Students then learn the function of a drawing scale, how to determine the appropriate drawing scale, and the functions of sectional views, cutting planes, cutting plane lines, and section lines. The course continues by covering the dimensioning of different hole types and the function, basic parts, and identification of threaded fasteners, as well as threaded representations, common thread forms, and types of threads. It also discusses types of assembly drawings and how to interpret an assembly drawing.

Introduction to Geometric Dimensioning and Tolerancing

This course covers conventional tolerances and how they're shown on the drawing, maximum material condition, least material condition, and how tolerance notes are used, and then moves on to types of fits, baseline dimensioning, what a feature is, and feature of size. The course then discusses geometric dimensioning and tolerancing, geometric feature types, datum, datum features, and datum references, and how to place a datum feature symbol on a drawing. Student will then study the function of feature control frame parts, placing a feature control frame on a part drawing, and reasons why GD&T is used.

Address

**Amatrol
2400 Centennial Blvd
Jeffersonville, IN 47130**

Contacts

**email: contact@amatrol.com
phone: (800) 264 8285**