

UEECD0019 - Fabricate, assemble and dismantle utilities industry components

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- applying safety procedures when using holding and cutting tools	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices							
- cutting a thread on metallic components	Pethebridge, Electrical Wiring Practice 8e	18.7 Thread cutting and tapping	20			20	34, 35, 36, 37	1	
- demonstrating safe use of a bench drill	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling							
- dismantling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures									
- assembling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures									
- drilling metallic and non-metallic components	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling		4		15, 16, 17, 18, 19	30, 31, 32, 33		
- fabricating components using sheet metal and fabrication tools									
• following manufacturer guides and instructions									
• following work instructions	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices							
• holding and cutting materials accurately	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping							
• interpreting and completing workplace documentation	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning							
• interpreting mechanical drawings/diagrams and instructions used in the electrotechnology industry	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning		3					
• joining components using correct method and equipment	Pethebridge, Electrical Wiring Practice 8e	18.8 Joining components							
• laying out a drawing of mechanical components using engineering drawing convention	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping							
• marking out, cut, bend, drill and join sheet metal	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping							
• measuring, calculating and marking out a project accurately in accordance with workplace procedures	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping							
• selecting and using portable power tools correctly and safely	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work	22, 23, 24	8	5	21	38, 39, 40		
• selecting and using relevant hand tools correctly and safely	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work							
• tapping and threading metallic and/or non-metallic components	Pethebridge, Electrical Wiring Practice 8e	18.7 Thread cutting and tapping	21			20	34, 35, 36, 37	1	
• using vernier calipers and micrometers to measure components									
• maintaining a clean worksite and equipment									
• modifying metal enclosures									
• demonstrating safe drilling practices	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling							
• modifying plastic enclosures									
• performing quality checks									
• planning for dismantling, assembling and fabrication work.	Pethebridge, Electrical Wiring Practice 8e	18.9 Dismantling and assembling equipment							
Knowledge Evidence									
• mechanical drawing interpretation and sketching, including:									
- industry drawing standards of mechanical components	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning				1	2, 3, 4, 5, 6, 7		
- abbreviations and symbols used in drawing of mechanical components	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning	1			1	2, 3, 4, 5, 6, 7		
- interpretation of mechanical drawings commonly used in the electrotechnology industry (orthogonal projection, third angle - detail and assembly drawings, and pictorial views)	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning	2, 3	3		1	2, 3, 4, 5, 6, 7		
- laying out a drawing of mechanical components using engineering drawing convention	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning				1	2, 3, 4, 5, 6, 7		
- freehand drawings of mechanical components showing all information needed for its manufacture/fabrication	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning	4			1	2, 3, 4, 5, 6, 7		
• workshop planning and materials, including:									
- methods used to work safely in an industrial work environment	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices		4	1, 2, 3, 4, 5	2, 3	8, 9, 10, 11, 12, 13, 14, 15, 16	1	
- typical non-electrical hazards in the workplace	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices	6		1, 2, 3, 4, 5	2, 3	8, 9, 10, 11, 12, 13, 14, 15, 16	1	
- control measures for dealing with hazards identified	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices			1, 2, 3, 4, 5	2, 3	8, 9, 10, 11, 12, 13, 14, 15, 16	1	
- type of metallic and non-metallic materials used in the electrotechnology industry and application of the common materials	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices	5		1, 2, 3, 4, 5	2, 3	8, 9, 10, 11, 12, 13, 14, 15, 16	1	
- planning process	Pethebridge, Electrical Wiring Practice 8e	18.1 Workshop safety practices			1, 2, 3, 4, 5	2, 3	8, 9, 10, 11, 12, 13, 14, 15, 16	1	
• measuring and marking out, including:									
- reasons for measuring and marking out	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning	7	5	4, 5	4, 5, 6, 7, 8, 9, 10	2, 3, 4, 5, 6, 7, 17, 18, 19		

- sustainable energy work practices related to reducing waste when marking out									
• holding and cutting materials, including:	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping	10, 11, 12, 13, 14, 15, 16		3	11, 12, 13, 14	23, 24, 25, 26, 27, 28, 29		
- procedures for using a range of tools for cutting, shaping, and finishing metallic and non-metallic materials	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping		4, 6	3	11, 12, 13, 14	23, 24, 25, 26, 27, 28, 29		
- safety procedures when using holding and cutting tools	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping			3	11, 12, 13, 14	23, 24, 25, 26, 27, 28, 29		
• drills and drilling, including:									
- types of drills used in the electrotechnology industry	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling	17, 18, 19, 32			15, 16, 17, 18, 19	30, 31, 32, 33		
- drilling metallic and non-metallic components	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling		4		15, 16, 17, 18, 19	30, 31, 32, 33		
- safe use of a bench drill	Pethebridge, Electrical Wiring Practice 8e	18.6 Drills and drilling				15, 16, 17, 18, 19	30, 31, 32, 33		
• tapping and threading including type and size of commonly used threads used in electrotechnology work	Pethebridge, Electrical Wiring Practice 8e	18.7 Thread cutting and tapping	20			20	34, 35, 36, 37	1	
• general hand tools used in electrotechnology work	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work	22, 23, 24	8	5	21	38, 39, 40		
• joining techniques, including:									
- machine screws	Pethebridge, Electrical Wiring Practice 8e	18.8 Joining components	27		1	22	41, 42, 43, 44		
- welding, brazing or soldering techniques	Pethebridge, Electrical Wiring Practice 8e	18.8 Joining components	25, 26		1	22	41, 42, 43, 44		
• portable power tools in electrotechnology work, including:									
- applications of portable power tools	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work	28, 29	2		23	38, 39, 40		
- using portable power tools	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work				23	38, 39, 40		
- fabricating components using power tools	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work				23	38, 39, 40		
- requirements for testing and tagging cord connected electrical equipment									
• compressed gas operated tools in electrotechnology work									
• sheet metal work, including:									
- types of sheet metal materials used in the electrotechnology work	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping				24, 25, 26	11, 12, 13, 14		
- names and applications of the types of fabrication materials	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping				24, 25, 26	11, 12, 13, 14		
- techniques used in fabricating sheet metal, including cutting, bending, drilling/punching, joining and cutting mitres	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping				24, 25, 26	11, 12, 13, 14		
- marking out, cutting, bending, drilling and/or cutting and/or punching holes, joining and cutting mitred joints using sheet metal	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping	31			24, 25, 26	11, 12, 13, 14		
- sustainable energy work practices to reducing waste when fabricating using sheet metal	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping				24, 25, 26	11, 12, 13, 14		
• low tolerance measurement, including:									
- tolerance	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning				27, 28, 29	2, 3, 4, 5, 6, 7		
- techniques in using vernier callipers and micrometers	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning				27, 28, 29	2, 3, 4, 5, 6, 7, 21		
• dismantling and assembly techniques, including procedures for ensuring the safe treatment of dismantled components	Pethebridge, Electrical Wiring Practice 8e	18.9 Dismantling and assembling equipment	34, 35, 36, 37, 38		1, 2, 4, 5	30, 31	46		
• relevant tools for specific tasks, including:									
- tapping and threading	Pethebridge, Electrical Wiring Practice 8e	18.7 Thread cutting and tapping	21			20	34, 35, 36, 37	1	
- general hand tools used in electrotechnology work	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work	22, 23, 24	8	5	21	38, 39, 40		
- joining									
- portable electric power tools	Pethebridge, Electrical Wiring Practice 8e	18.2 Tools used in electrical work	28, 29	2		23	38, 39, 40		
- dismantling and assembly techniques	Pethebridge, Electrical Wiring Practice 8e	18.9 Dismantling and assembling equipment	34, 35, 36, 37, 38		1, 2, 4, 5	30, 31	46		
- measuring and marking out	Pethebridge, Electrical Wiring Practice 8e	18.4 Job planning	8		4, 5	4, 5, 6, 7, 8, 9, 10	2, 3, 4, 5, 6, 7, 17, 18, 19		
- holding and cutting metallic and non-metallic materials	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping	10, 11, 12, 13, 14, 15, 16		3	11, 12, 13, 14	23, 24, 25, 26, 27, 28, 29		
- sheet metal work	Pethebridge, Electrical Wiring Practice 8e	18.5 Cutting and shaping	30, 31	9		24, 25, 26	11, 12, 13, 14		