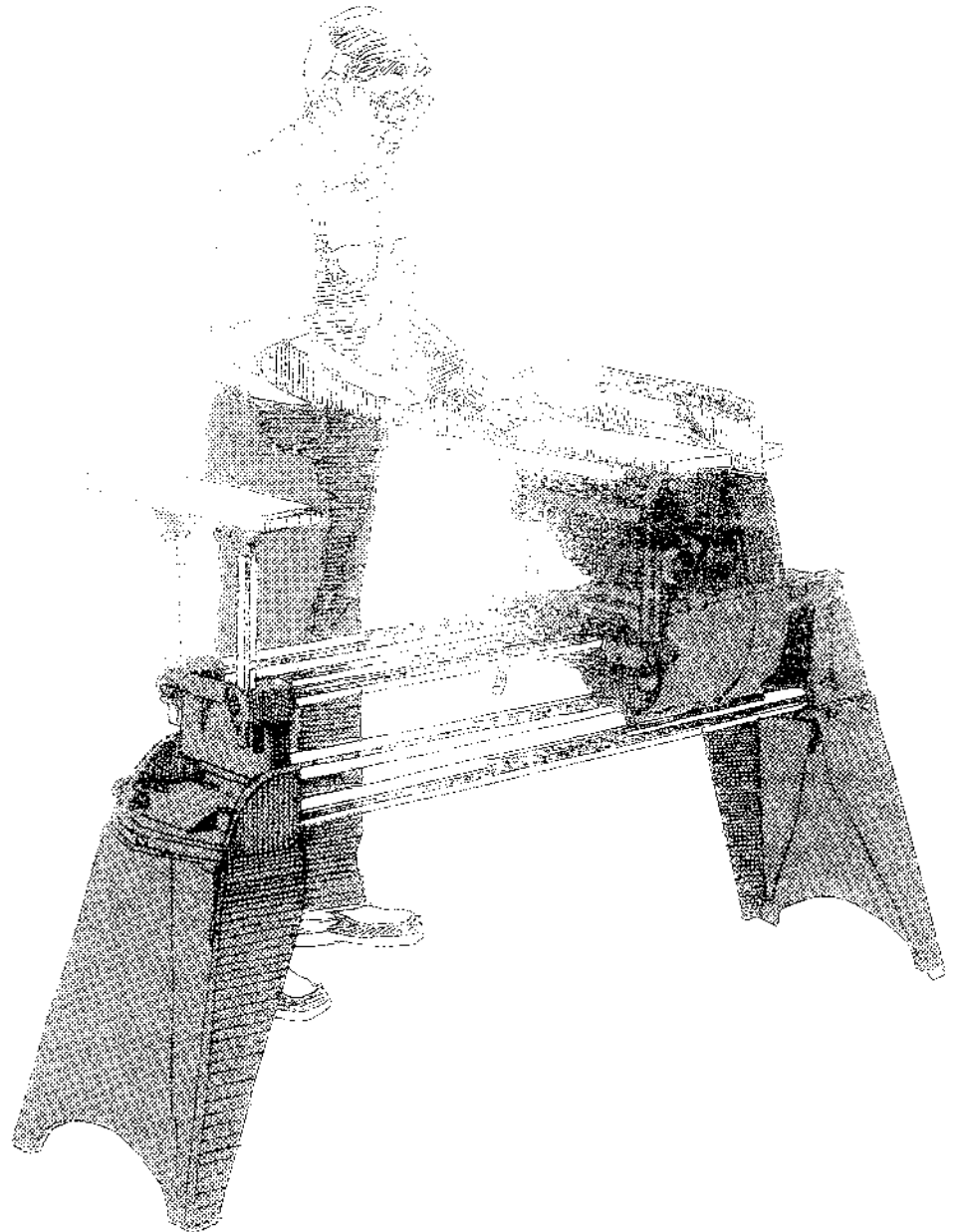




Introducing the THE SHOPSMITH® MARK V HOME WORKSHOP SYSTEM



Shopsmith Inc.

1931 Image Drive
Dayton, Ohio 45414

©1987, 1988 Shopsmith, Inc. All rights reserved.
Shopsmith is a registered trademark of Shopsmith, Inc.

505717 Rev. 10/87
Printed in U.S.A.



SELF STUDY COURSE CROSS-REFERENCE...



...between the "Revised" edition of Power Tool Woodworking for Everyone, and the newest "4th" edition. Keep this sheet next to you as you go through the Shopsmith Woodworking Self Study Course. This cross-reference sheet allows you to use the updated, expanded book as you work your way through the lessons.

Guide Page	Revised	4th Edition	Question	Revised	4th Edition
1-1	15-20	1-6, 315-18	19	56	23
1-5	52, 58-9	24-29	24	34	no ref. photo/text
1-6	53	22	25	77	45
1-8	55-6	22-3	27	80	17
	56	23	29	48	17
1-9	53	21-2	30	37	24-5
	54	22	Lesson 2		
1-10	79	45	8	69	37
1-16	63-4	31-2	13	67	34
2-7	62	29-30	17	69	37
3-1	81	47	19	68	36
	84	51	23	62	30
3-3	74	47	27	69	36
3-4	78	48-50	28	69	37
3-12	83	50-1	Lesson 3		
4-9	100	59-61	12	78	50
4-11	97	57-8	15	83	50
4-12	98	58	<i>Mult. Choice</i>		
4-17	94	44	7	85	51
5-1	125	83	Lesson 4		
5-2	132	88	5	101	61
5-3	130	85	7	97	58
5-4	132	88	10	71	40
5-6	132	88	16	58	27
5-12	136	92	24	97	57
6-4	141	103-6	Lesson 5		
6-5	141	103-4	<i>Mult. Choice</i>		
6-15	149	100	2	132	88
7-13	274	223	3	132	88
7-17	274	222	Lesson 6		
8-8	272	220	5	157	130
8-11	283	229	6	158	131
8-13	279-84	225-30	Lesson 7		
9-1	193	142-3	14	274	222
9-3	188	138	17	266	215
	193	142	Lesson 8		
9-5	188	139	7	272	220
	187, 189	138-9	19	280	226
9-6	187, 189	138-9	Lesson 9		
9-7	190, 191	140-1	11	195	144
9-8	197	139, 146	14	190	140
9-12	195	144-5	17	190	140
<hr/>					
TEST SECTION					
Question	Revised	4th Edition	Question	Revised	4th Edition
Lesson 1					
1	42	no ref. photo/text	1	185	143
5	56	23	2	184	141
6	45	15	3	185	137
9	64	32	4	195	144
12	49	18	5	190	140
13	48	17	Lesson 10		
15	50	19	3	179	148
			8	178	148
			9	200	149



INTRODUCTION

This self-study course has been designed to familiarize the new Shopsmith Mark V owner with the basic knowledge and woodworking skills necessary to be able to fully appreciate and utilize the SHOPSMITH MARK V HOME WORKSHOP SYSTEM.

The text for this course is *Power Tool Woodworking for Everyone* by R. J. DeCristoforo. This book will prove invaluable to the Mark V owner both in the utilization of this course and for many more advanced woodworking applications. Also, there are many references in this course to the Shopsmith Mark V Owner's Manual, a copy of which is included with all new Shopsmith Mark V's or can be purchased separately.

WARNING: Read and understand the Shopsmith Mark V Owner's Manual, particularly the Safety Section, before attempting procedure based on the Self Study Course for the Shopsmith Mark V Home Working System.

A WORD FROM THE AUTHOR

The work assignments or woodworking operations covered in these lessons represent, step by step, exactly what I have always tried to teach students in working with them face-to-face. Naturally, they are designed to train even the complete novice. Even though you may be a pretty experienced craftsman, I cannot urge you too strongly to perform all of the work assignments. See it through, all the way, so that you learn all operations on your own Mark V through experience. The reason for this is quite simple. All power tools differ somewhat in their operating characteristics. If you follow this entire course on your new Mark V, you will have mastered all of the basic woodworking operations and, at the same time, will have learned to handle your versatile new woodworking machine with complete facility and safety.

A WORD ABOUT THE AUTHOR

Until his death, Professor Benjamin W. Spaulding was truly the dean of America's woodworking teacher-instructors. When he designed and wrote this woodworking course, he was Professor Emeritus of Industrial Arts at San Jose State College with over 45 years experience in training many thousands of people to be not only just craftsmen but to be teachers of craftsmen.

We are proud to be able to bring you this instruction course written by Professor Spaulding specifically for the Mark V owner. To the best of our knowledge this is the first time an educational program of this magnitude has ever been attempted. Your woodworking lessons, representing a culmination of all of Professor Spaulding's experience, are the most complete and detailed woodworking course in existence. Study them carefully and follow the instructions.

CONTENTS

Lesson 1		
Assignment 1	--- HOW TO CHECK AND ALIGN YOUR SAW	1-1
Assignment 2	--- HOW TO RIP LUMBER	1-3
Assignment 3	--- HOW TO CROSSCUT LUMBER	1-5
Assignment 4	--- HOW TO CROSSCUT STOCK TO EQUAL LENGTHS	1-8
Assignment 5	--- HOW TO CUT PANELS	1-10
Assignment 6	--- HOW TO MAKE A TONGUE AND GROOVE JOINT	1-13
Assignment 7	--- HOW TO MAKE ANGULAR CURB	1-16
TEST QUESTIONS		1-18
Lesson 2		
Assignment 8	--- HOW TO CROSSCUT BESETS OF FLAT BOARD	2-1
Assignment 9	--- HOW TO MAKE A TAPERING LEG	2-4
Assignment 10	--- HOW TO RIP LONG TAPERS ON FLAT BOARD	2-5
Assignment 11	--- HOW TO CUT BEVELS	2-9
Assignment 12	--- HOW TO CUT CHAMFERS	2-10
Assignment 13	--- HOW TO MAKE A TAPERING ANGULAR CURB	2-12
Assignment 14	--- HOW TO MAKE TWO-DIMENSIONAL STOPSCREW JOINTS	2-14
TEST QUESTIONS		2-18
Lesson 3		
Assignment 15	--- HOW TO MAKE BELLIE JOINTS ON BEVELS	3-1
Assignment 16	--- HOW TO MAKE END JOINTS	3-3
Assignment 17	--- HOW TO MAKE A FLAT LAP WITH DADO	3-7
Assignment 18	--- HOW TO MAKE TENONS FOR NEWCAST	3-10
Assignment 19	--- HOW TO MAKE TENON FOR CHANGING MATERIALS AND TENON JOINT (Part 1)	3-15
TEST QUESTIONS		3-18
Lesson 4		
Assignment 20	--- HOW TO CUT DADOES	4-1
Assignment 21	--- HOW TO CUT A STOP DADO	4-5
Assignment 22	--- HOW TO CUT A COVE MOLDING	4-7
Assignment 23	--- HOW TO CUT SAW KERFS FOR BENDING	4-11
Assignment 24	--- HOW TO CUT 4' x 8' SHEETS OF BUILDING MATERIAL	4-13
Assignment 25	--- HOW TO RESAW LUMBER	4-15
Assignment 26	--- HOW TO USE THE MOLDING HEAD	4-16
TEST QUESTIONS		4-18
Lesson 5		
Assignment 27	--- HOW TO DRILL PILOT HOLES IN SOFTWOOD	5-1
Assignment 28	--- HOW TO DRILL HOLES FOR SCREWS IN HARDWOOD	5-4
Assignment 29	--- HOW TO COUNTERBORE FOR SCREWS	5-7
Assignment 30	--- HOW TO DRILL ANGULAR HOLES	5-9
Assignment 31	--- HOW TO DRILL HOLES AT COMPOUND ANGLES	5-12
Assignment 32	--- HOW TO MAKE A DOWEL JOINT ON A TABLE LEG	5-14
Assignment 33	--- HOW TO DRILL HOLES FOR DOWELLED TABLE TOP	5-16
TEST QUESTIONS		5-18

Lesson 6

Assignment 34	--- HOW TO MAKE A MORTISE	6-1
Assignment 35	--- HOW TO CUT A MORTISE FOR A LAUNCHED TENON	6-4
Assignment 36	--- HOW TO DRILL TONG- HOLES	6-7
Assignment 37	--- HOW TO DRILL HOLES FOR DOWELS IN MITERED CORNERS	6-9
Assignment 38	--- HOW TO DRILL HOLES FOR A PEGGED JOINT	6-12
Assignment 39	--- HOW TO USE ROUTER FOR CUTTING A STOP RABBIT	6-13
Assignment 40	--- HOW TO DRILL HOLES IN METAL	6-15
Assignment 41	--- HOW TO DRILL HOLES IN GLASS	6-17
TEST QUESTIONS		6-19

Lesson 7

Assignment 42	--- HOW TO GET READY FOR SANDING	7-1
Assignment 43	--- HOW TO SAND CROSSCUES	7-3
Assignment 44	--- HOW TO SAND TO EXACT LENGTH	7-5
Assignment 45	--- HOW TO DUPLICATE SHORT STOCK	7-7
Assignment 46	--- HOW TO SAND TO EXACT WIDTH	7-10
Assignment 47	--- HOW TO SAND ROUND CORNERS	7-12
Assignment 48	--- HOW TO SAND STOCK TO A CURVE	7-15
TEST QUESTIONS		7-18

Lesson 8

Assignment 49	--- HOW TO SAND LEADERS	8-1
Assignment 50	--- HOW TO SAND REVELS	8-4
Assignment 51	--- HOW TO SAND OUTSIDE CURVES	8-7
Assignment 52	--- HOW TO SAND INSIDE CURVES	8-9
Assignment 53	--- HOW TO SURFACE SAND FLAT BLOCK	8-12
Assignment 54	--- HOW TO SAND WITH PATTERN	8-14
TEST QUESTIONS		8-19

Lesson 9

Assignment 55	--- HOW TO CENTER STOCK ON THE LATHE	9-1
Assignment 56	--- HOW TO ROUGH TURN	9-3
Assignment 57	--- HOW TO TURN TO SIZE	9-5
Assignment 58	--- HOW TO MAKE PARTING CUTS	9-7
Assignment 59	--- HOW TO MAKE CONCAVE CUTS	9-9
Assignment 60	--- HOW TO MAKE CONVEX CUTS	9-11
Assignment 61	--- HOW TO ROUND OFF SQUARE CORNERS	9-13
Assignment 62	--- HOW TO TAPER	9-15
TEST QUESTIONS		9-17

Lesson 10

Assignment 63	--- HOW TO TURN A SHALLOW BOWL	10-1
Assignment 64	--- HOW TO MAKE A DEEP BOWL	10-6
Assignment 65	--- HOW TO MAKE A BOWL AND COVER	10-9
Assignment 66	--- HOW TO MAKE SANDING DRUMS	10-12
TEST QUESTIONS		10-17

LESSON 1

ASSIGNMENT 1

HOW TO CHECK AND ALIGN YOUR SAW

DESCRIPTION:

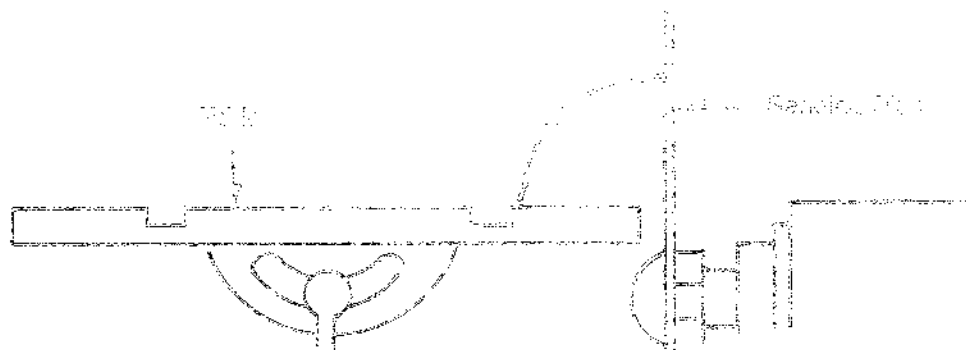
Any power tool is designed, in so far as possible, to supply all of the precision and all of the muscle required for the various operations. Therefore, the first thing to do is to "check out" your tool to be sure all important alignments and adjustments are correct. Only in this way can you be sure of performing accurate work.

WARNING: Read and understand the first 3 pages of Owner's Manual, paying particular attention to Safety, General Information and Alignment and Adjustment sections.

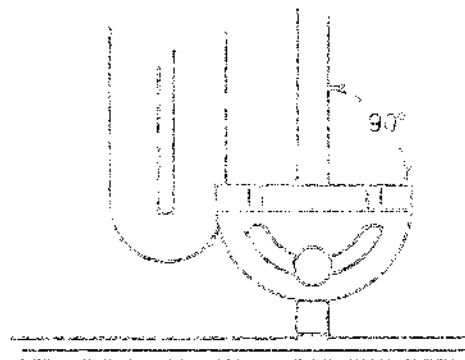
In addition, study carefully the material on pages 13 through 20 of this Note you should try to learn the proper tool's adjustment as many as possible of the parts of your saw.

OPERATIONS:

1. Check to see that your side surface, when turned, is at right angles to the sanding disc.



2. Check to be sure that the miter gauge slots in which the miter gauge bar slides are parallel to the sanding disc.
3. Check to see that the head of your miter gauge, when set at 90° is exactly at right angles to the miter gauge slots and/or sanding disc.

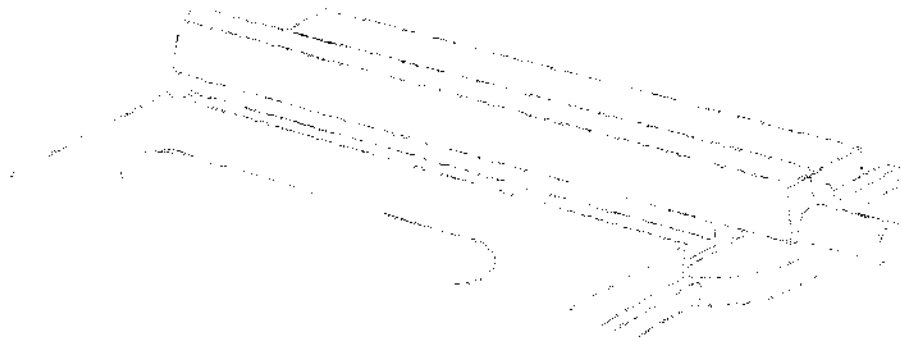


LESSON 1

ASSIGNMENT 1

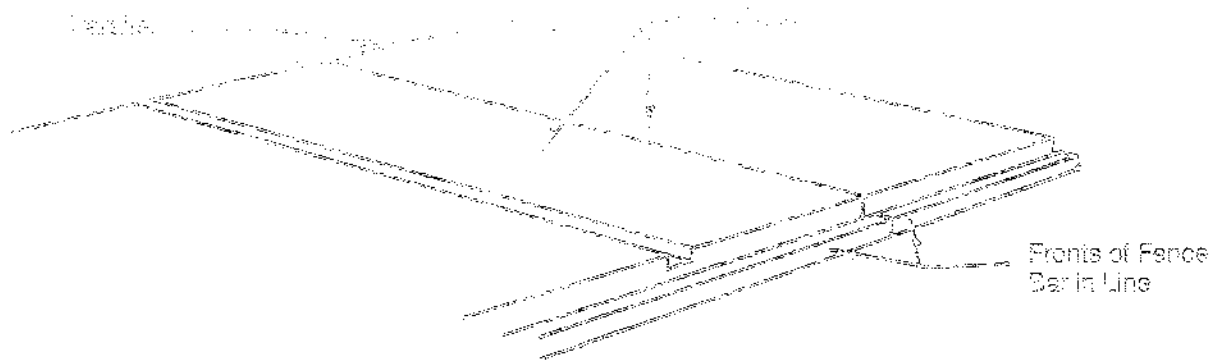
Copyright © 2010 by The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of The McGraw-Hill Companies, Inc.

4. Check to see that miter fence, when locked to the table, is parallel to the miter gauge slots and/or banding disc.



5. Check to be sure that your miter gauge is parallel to the new table saw that the front of the fence is to the table.

The following are some of the most common mistakes made by users of power tools. It is important to read the manual for each tool and to follow the instructions carefully.



When all of these points have been checked and any necessary adjustments made, your saw will give you true, accurate cuts. As is true of any piece of machinery, adjustments can slip slightly after many hours of use. It is wise to recheck all of these points after each 24 hours of actual use.

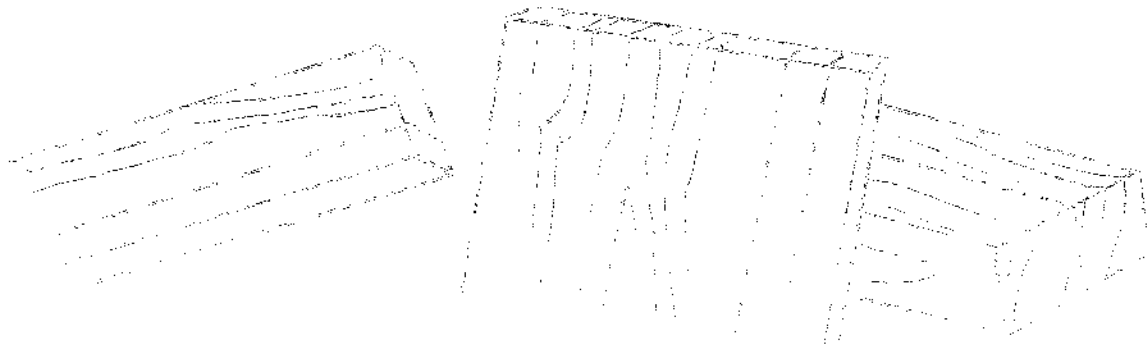
LESSON 1

ASSIGNMENT 2

HOW TO RIP LUMBER

DESCRIPTION:

Ripping (the popular contraction of rip sawing) is the sawing of lumber with the grain of the wood. This is normally referred to as the long way of the stock. The function of ripping is to reduce a given piece of stock to the desired width to be used in constructing a project. Ripping is one of the most basic woodworking operations. Normally lumber is available only in widths that increase in increments of two inches. This dimension is usually the size of the stock before it was dressed smooth. For this reason, it is extremely helpful to the craftsman to be able to reduce the stock to exactly the width desired. This also removes the limitation of designing all projects to fit only the stock widths of lumber.

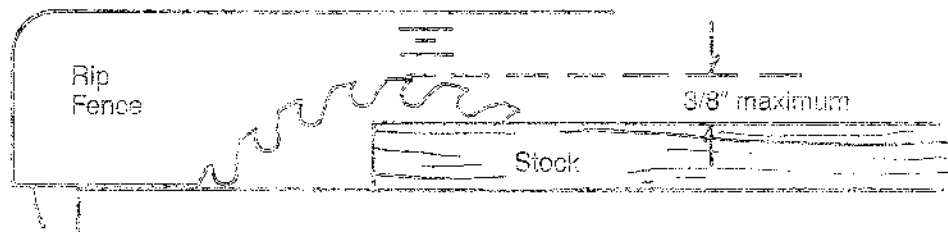


Preparation:

1. Select a piece of stock of a size that will allow you to use a hand saw such as pine.

WARNING: The stock should not be warped. Warped stock will bind and kickback.

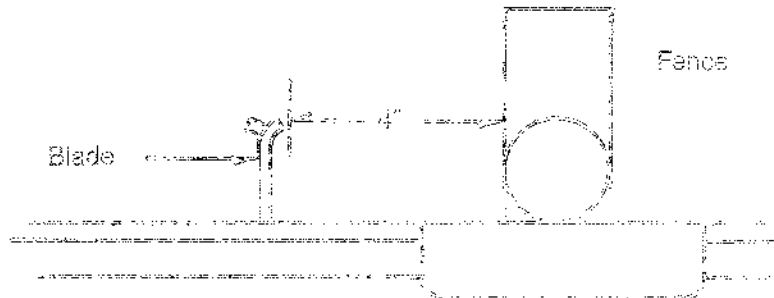
2. Put saw blade on saw arbor. See Owner's Manual if you need help.
3. Lower or raise the table until the saw blade projects $1/4"$ to $3/8"$ above the thickness of the stock (in this case $1"$ to $1-1/8"$).



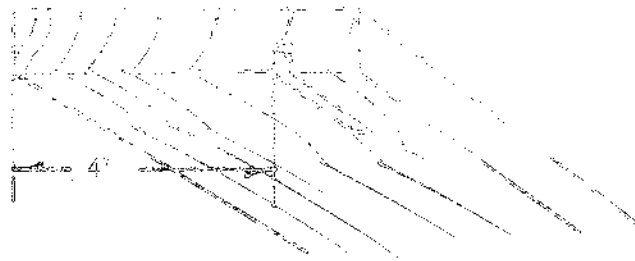
LESSON 1

ASSIGNMENT 2

- Adjust the rip fence so that it is very close to 4" from the point of a tooth band toward the fence.



- Lock the fence firmly in place.
- Using the quill feed, move the blade so it is exactly 4" from the fence and lock the blade securely.
- Start the saw, set the speed dial for sawing and make short trial cut on scrap stock. You need only make 1" and sufficiently to permit measurement. Turn off machine and let it come to a complete stop, reset the measuring dial.



- If not correct, readjust blade to exact width.
- Select the edge of the board that is straight.

Note: A crooked edge may cause binding. Also, do not use a board that is warped or has a wind (twist) in it for this first operation.

- Start saw.
- Place edge of board against rip fence standing to left of the line of saw cut.



1990-1991 AGRICULTURAL CENSUS

U.S. DEPARTMENT OF AGRICULTURE

The 1990-1991 Agricultural Census provides a comprehensive overview of the agricultural sector in the United States. It details the production of major crops and livestock, the number of farms, and the value of agricultural products. The census also includes information on farm income, expenses, and the use of farm machinery and equipment. This data is essential for understanding the economic and social structure of the agricultural industry.

The table area contains the primary data from the census, including statistics on farm production, income, and land use. Due to the low quality of the scan, the specific figures and labels are not legible.

QUESTIONNAIRE

Name: _____

1. Personal Information

1. How long have you been using the product? _____

2. How often do you use the product? _____

3. How satisfied are you with the product? _____

4. How do you rate the quality of the product? _____

5. How do you rate the value for money? _____

6. How do you rate the customer service? _____

2. Product Usage

7. How do you rate the ease of use? _____

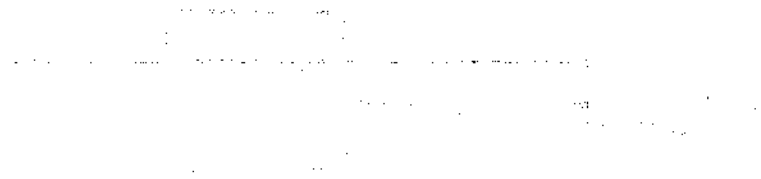
8. How do you rate the reliability of the product? _____

9. How do you rate the overall performance? _____

PHYSICS ASSIGNMENT 2

DATE: _____

1. A particle of mass m is moving in a circular path of radius r with a constant speed v . Find the change in its momentum when it moves from one end of a diameter to the other end of the same diameter.



2. A particle of mass m is moving in a circular path of radius r with a constant speed v . Find the change in its momentum when it moves from one end of a diameter to the other end of the same diameter.



3. A particle of mass m is moving in a circular path of radius r with a constant speed v . Find the change in its momentum when it moves from one end of a diameter to the other end of the same diameter.

10/1/2014

Abstract

Abstract is a short summary of the main points of the paper. It should be written in a clear and concise manner.

1. Introduction

1.1. Background

The background of the research is the need for a more efficient way to handle data. The current methods are slow and expensive. This paper proposes a new method that is faster and cheaper.

1.2. Objectives

The objectives of this research are to develop a new method that is faster and cheaper than the current methods. The method should be able to handle large amounts of data and be easy to use.



1.3. Methodology

1. Data Collection: Collect data from various sources.
2. Data Processing: Clean and preprocess the data.
3. Data Analysis: Analyze the data using different methods.
4. Method A: Apply the proposed method to the data.
5. Method B: Apply the current method to the data.
6. Result A: Obtain the results from Method A.
7. Result B: Obtain the results from Method B.
8. Conclusion: Compare the results and draw conclusions.



DECLASSIFICATION
AUTHORITY: 25 CFR 171.104

1. This document contains information that is exempt from automatic declassification under 25 CFR 171.104.

2. This information is exempt from automatic declassification under 25 CFR 171.104 because it is information that is

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

information that is exempt from automatic declassification under 25 CFR 171.104.

3. This information is exempt from automatic declassification under 25 CFR 171.104 because it is information that is exempt from automatic declassification under 25 CFR 171.104.

Chapter 10 ASSIGNMENT 5

HOW TO CUT HABRETS

Recesses consist of an L-shaped groove in the edge or end of a piece of stock. There are two general types of recess—edge and end.

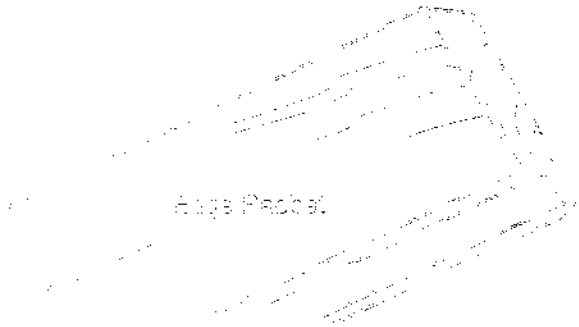


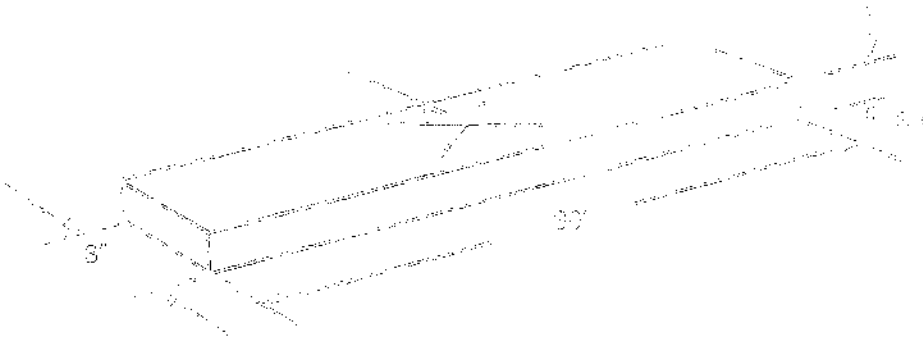
FIG. 10-15

When cutting a recess, the work should be held in a vise, and the work should be supported at the end of the recess. The work should be held in a vise, and the work should be supported at the end of the recess.

When cutting a recess, the work should be held in a vise, and the work should be supported at the end of the recess. The work should be held in a vise, and the work should be supported at the end of the recess.

EXERCISES

1. Cut a recess in a piece of stock 8" x 4" by 3".
2. Repeat and mark one of the flat surfaces. Mark one face for reference.



THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

PHYSICAL CHEMISTRY LABORATORY

1. The following data were obtained for the reaction of hydrogen peroxide with iodide ion in the presence of ceric sulfate as a catalyst:

[H ₂ O ₂] (M)	[I ⁻] (M)	[Ce ⁴⁺] (M)	Rate (M s ⁻¹)
0.010	0.010	0.001	1.0 × 10 ⁻⁴
0.020	0.010	0.001	2.0 × 10 ⁻⁴
0.010	0.020	0.001	2.0 × 10 ⁻⁴
0.010	0.010	0.002	2.0 × 10 ⁻⁴
0.010	0.010	0.001	1.0 × 10 ⁻⁴
0.010	0.010	0.001	1.0 × 10 ⁻⁴

2. Propose a mechanism for the reaction of hydrogen peroxide with iodide ion in the presence of ceric sulfate as a catalyst.

3. The following data were obtained for the reaction of hydrogen peroxide with iodide ion in the presence of ceric sulfate as a catalyst:

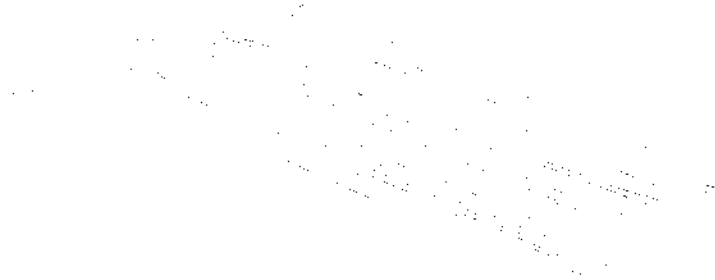
Quest 1

QUESTION 1

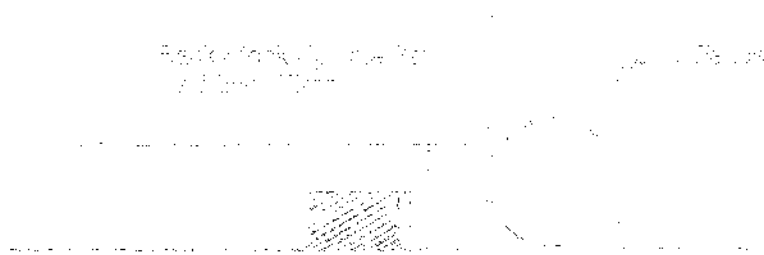
1.1. The following is a list of the first 10 terms of a sequence:

- (i) $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$
- (ii) $1, 2, 4, 8, 16, 32, 64, 128, 256, 512$
- (iii) $1, 2, 4, 8, 16, 32, 64, 128, 256, 512$

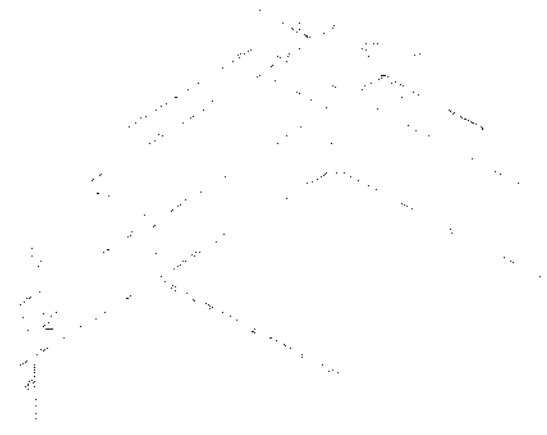
1.2



- (i) The graph shows a sequence of points $(1,1), (2,4), (3,9), (4,16), (5,25), (6,36), (7,49), (8,64), (9,81), (10,100)$. The points are connected by a smooth curve, representing the function $y = x^2$. The x-axis is labeled from 1 to 10, and the y-axis is labeled from 1 to 100.
- (ii) The graph shows a sequence of points $(1,1), (2,2), (3,3), (4,4), (5,5), (6,6), (7,7), (8,8), (9,9), (10,10)$. The points are connected by a straight line, representing the function $y = x$. The x-axis is labeled from 1 to 10, and the y-axis is labeled from 1 to 10.
- (iii) The graph shows a sequence of points $(1,1), (2,2), (3,3), (4,4), (5,5), (6,6), (7,7), (8,8), (9,9), (10,10)$. The points are connected by a straight line, representing the function $y = x$. The x-axis is labeled from 1 to 10, and the y-axis is labeled from 1 to 10.



1.3. The following is a list of the first 10 terms of a sequence:



A. 4444444444444444

1. The first part of the assignment is to be completed in a notebook. The second part is to be completed in a separate sheet of paper.

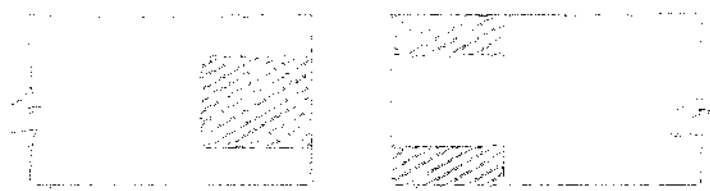
DESIGNING

1. The first part of the assignment is to be completed in a notebook. The second part is to be completed in a separate sheet of paper.

2. The first part of the assignment is to be completed in a notebook. The second part is to be completed in a separate sheet of paper.



3. The first part of the assignment is to be completed in a notebook. The second part is to be completed in a separate sheet of paper.



- a. Adjust the level in 1/2" increments.
- b. Refer to the level in 1/2" from the top of the side of the stock.
- c. The stock by holding stock in the hole down.



10/1/16

ADDITIONAL PAGES

1. The diagram below shows a right-angled triangle with a hypotenuse of length 10 cm and one of the other sides of length 6 cm.

Find the length of the other side of the triangle.

Area = $\frac{1}{2} \times \text{base} \times \text{height}$

Area = $\frac{1}{2} \times 6 \times 8$

= 24

Area = 24

Area = 24

Area = $\frac{1}{2} \times \text{base} \times \text{height}$

$24 = \frac{1}{2} \times 10 \times \text{height}$

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

Area = 24

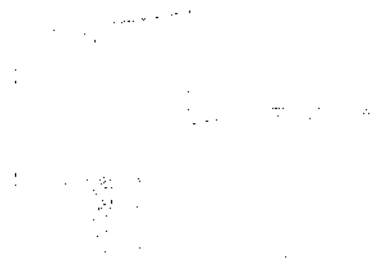
Area = 24

Area = 24

ASSIGNMENT 6

1. Form a group of 3-4 people and assign each person a role (e.g., manager, worker, investor, etc.)

- (i) Form a corporation and end for and end make out from other bids.
- (ii) Drop assets into some but compare other and the difference, and also make out from other bids from.
- (iii) Make repeating out during stock end for end each time.



- 1. Form a corporation and end for and end make out from other bids.
- 2. Drop assets into some but compare other and the difference, and also make out from other bids from.
- 3. Make repeating out during stock end for end each time.

Unit 10

ANSWERS

Answers to the exercises are given in this section. All the answers are given in the correct order.

UNIT 10: ANSWERS TO EXERCISES

EXERCISE 1

England and Wales are the only countries in the world where you can still find a common law system. In the rest of Europe there are civil law systems.

EXERCISE 2

1. The system is based on the decisions of the judges in previous cases. The law is based on what the judges have said in previous cases.



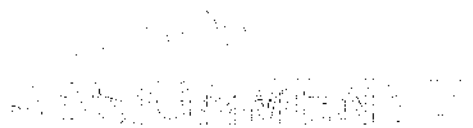
EXERCISE 3: THE COMMON LAW SYSTEM

1. The common law system is based on the decisions of the judges in previous cases.

EXERCISE 4: THE CIVIL LAW SYSTEM

1. Roman Law
2. The King's Court (17th century) and the Court of Chancery (15th century) were the two highest courts in the common law system. They were the two highest courts in the common law system.
3. The King's Bench (17th century) and the Court of Common Pleas (15th century) were the two highest courts in the civil law system. They were the two highest courts in the civil law system.
4. The King's Bench (17th century) and the Court of Common Pleas (15th century) were the two highest courts in the civil law system. They were the two highest courts in the civil law system.
5. The King's Bench (17th century) and the Court of Common Pleas (15th century) were the two highest courts in the civil law system. They were the two highest courts in the civil law system.
6. Holding firmly, make out slowly.
7. Turn off saw, wait for blade to stop and remove scrap, clear.
8. With a saw, wait for saw to stop and remove scrap, clear. With a saw, wait for saw to stop and remove scrap, clear.





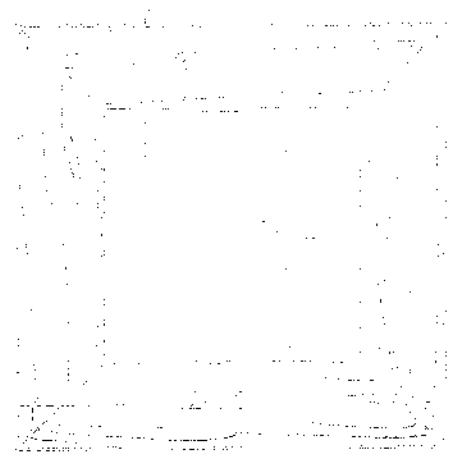
1. The area of the square is 100 cm^2 . The side length is 10 cm .

2. The area of the rectangle is 100 cm^2 . The length is 10 cm and the width is 10 cm .



3. The area of the square is 100 cm^2 . The side length is 10 cm .

1. The area of the square is 100 cm^2 .
2. The area of the square is 100 cm^2 .
3. The area of the square is 100 cm^2 .
4. The area of the square is 100 cm^2 .
5. The area of the square is 100 cm^2 .
6. The area of the square is 100 cm^2 .
7. The area of the square is 100 cm^2 .
8. The area of the square is 100 cm^2 .
9. The area of the square is 100 cm^2 .
10. The area of the square is 100 cm^2 .
11. The area of the square is 100 cm^2 .
12. The area of the square is 100 cm^2 .
13. The area of the square is 100 cm^2 .
14. The area of the square is 100 cm^2 .
15. The area of the square is 100 cm^2 .
16. The area of the square is 100 cm^2 .
17. The area of the square is 100 cm^2 .
18. The area of the square is 100 cm^2 .
19. The area of the square is 100 cm^2 .
20. The area of the square is 100 cm^2 .



Final Project Assignment

1. [Download the data](#) and save it to your computer. You will need to use the following link to download the data.

2. Use the following code to load the data into R and create a data frame using Step 4 in coding tutorial.

```
data <- read.csv("http://www.ks.uiowa.edu/ksnode/index/page/view/ksnode:2014-10-16-15.11.11", as.is=T)  
data <- data[,c(1:10)]
```

3. Use the following code to create a plot of the data. You will need to use the following code to create a plot of the data. You will need to use the following code to create a plot of the data. You will need to use the following code to create a plot of the data.



CHAPTER 10
CUTTING AND JOINING

10.1. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.2. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.3. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.4. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.5. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.6. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.7. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.8. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.9. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

10.10. The clearance block is used to cut the bevel on the end of a rod. The clearance block is placed in the lathe and the rod is run against it. The bevel is cut by the clearance block.

- 10.11. For accurate work, a board on which the work must be a perfect cylinder.
- 10.12. In cutting several small length pieces, the clearance block can be used for over the end of the rod.
- 10.13. The clearance block can be used to cut the bevel on the end of a rod.
- 10.14. In cutting short pieces, the clearance block can be used for over the end of the rod.
- 10.15. In cutting a rod, the clearance block can be used to cut the bevel on the end of the rod.
- 10.16. With a single slide, the work is supported on the lathe bed.
- 10.17. In cutting a long piece, the clearance block can be used to cut the bevel on the end of the rod.
- 10.18. In cutting a long piece, the clearance block can be used to cut the bevel on the end of the rod.
- 10.19. In cutting a long piece, the clearance block can be used to cut the bevel on the end of the rod.
- 10.20. In cutting a long piece, the clearance block can be used to cut the bevel on the end of the rod.

If you have difficulty in understanding any of the questions, please refer to the work book on this chapter in your textbook.

LESSON 2

INTRODUCTION

WELCOME FROM THE AUTHOR

By now, after a year or more of learning to use your table saw, the staff of your Owner's Manual is performed by the staff of the table saw. If you have learned the most basic saw operations and the most basic safety.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

The author of this manual is a professional woodworker with many years of experience in the field. He has written many books on the subject of woodwork. He has also written a book on the subject of the table saw. He has also written a book on the subject of the table saw. He has also written a book on the subject of the table saw.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

By now, you should be able to use the table saw to cut a square end to a log as we did in the last lesson. You are expected to know the spelling of the words and whether they are spelled out or not.

Note: When tilting the saw table, use the quill feed to keep the saw blade centered in the insert slot while tilting.

Get the depth lock on the quill feed. It is located on the table saw. You merely unlock the depth lock, set the depth lock. When the depth lock reaches the point, the quill is stopped.

When you adjust the depth lock, the depth lock will adjust toward the pencil mark being used or away from the pencil measurement (for the fence).

While the table saw is running, the depth lock will adjust toward the point of measurement (such as the pencil mark) when you use the fence. It is always the tip of the tooth bent toward the fence.

LESSON 2

ASSIGNMENT 8

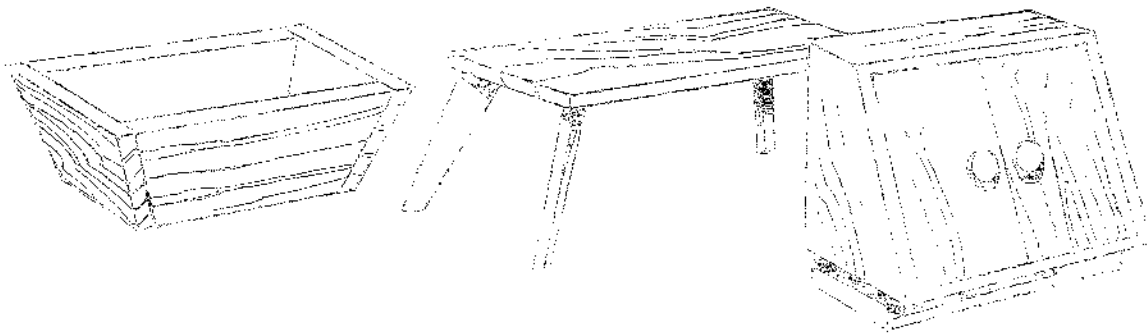
HOW TO CROSSCUT TAPERS ON FLAT BOARDS

DESCRIPTION:

Taper cutting is reducing stock by making a continuous straight cut which produces progressive variation in width. Taper cuts in small stock can be made with only miter gauge support.

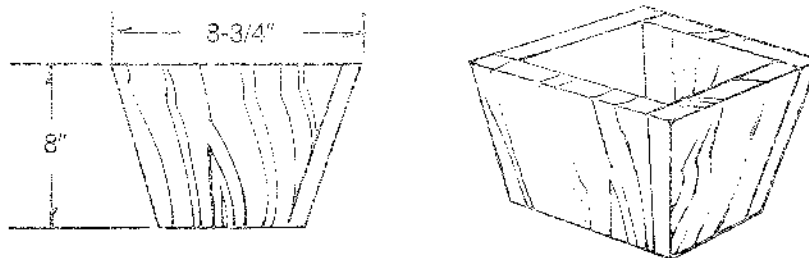
USE:

Taper cuts in flat boards are used in planter boxes, window boxes, waste baskets, and similar objects that have top and bottoms of unequal size. Long taper cuts requiring the use of a tapered jig are frequently used on table legs and other pedestals. Taper cuts on one side only are often used to form a planing front to cabinets and shelves.



OPERATIONS:

Let us make a flower box approximately 8-3/4" square at the top and 8" high with tapered sides.



1. Prepare a board (redwood if you have it) $3/4" \times 8" \times 36"$.
2. Crosscut stock into 4 pieces 8" long.
3. Set miter gauge at 85° left.

Note: This will be 5° off the right angle. If a greater taper is desired the angle should be increased.

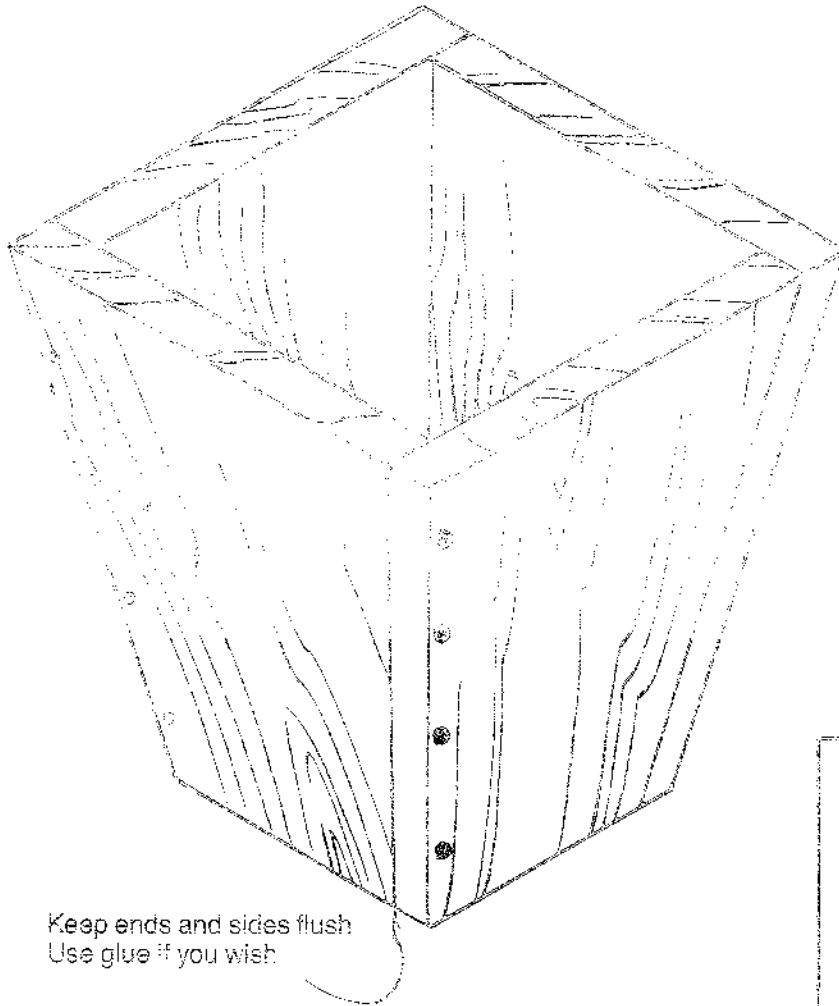
4. Place miter gauge in right table slot.
5. Pull miter gauge back until it clears the saw blade.
6. Place edge of stock against it and adjust so that the saw blade will finish cutting at the left bottom corner.
7. Make cut by holding the safety grip of the miter gauge with the left hand. Turn off machine and wait for it to come to complete stop before removing stock from gauge and returning gauge to front of table.
8. Turn stock over end for end and repeat cut on opposite end.

LESSON 2

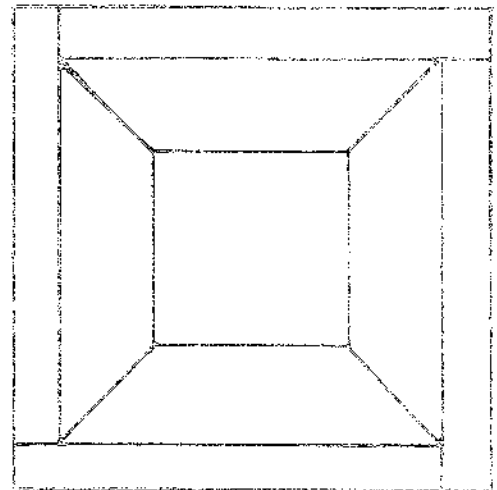
ASSIGNMENT 8

9. Repeat both cuts on remaining 3 pieces.
10. When nailed together as shown the project will resemble sketch on this page.

Note: We will make bottom in later assignment.



Top View of
Assembled
Planter



LESSON 2

ASSIGNMENT 9

HOW TO MAKE A TAPPING JIG

DESCRIPTION:

This jig consists of two pieces of stock fastened together at one end with a hinge and adjustable at the other to various widths.

USE:

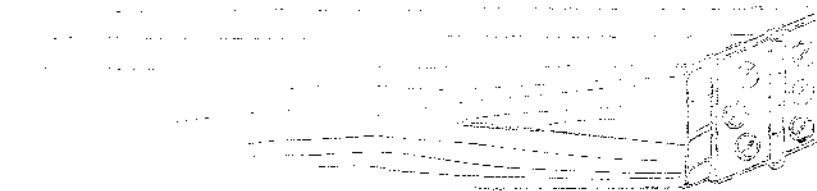
To assist the operator in marking tapered cuts on long pieces of stock. If carefully made it will be useful to you for a long time and help you get more pleasure and production from your shop.

OPERATION:

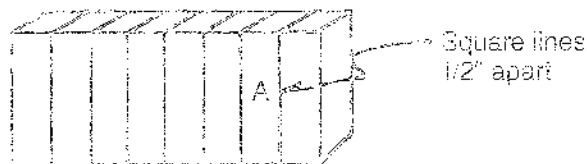
1. Prepare 2 pieces of stock $3/4" \times 2-1/2" \times 23-5/8"$
2. Cut one piece 24" long. Save the small piece also.



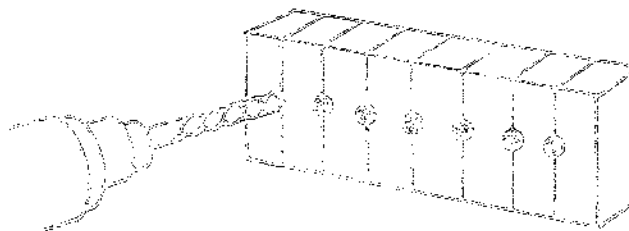
3. Remove the hinge and fasten the two pieces together with a 3/8" nut and 3/8" bolt.



4. On one edge and one side of the 5-1/2" piece square pencil lines 1/2" apart starting at end A.



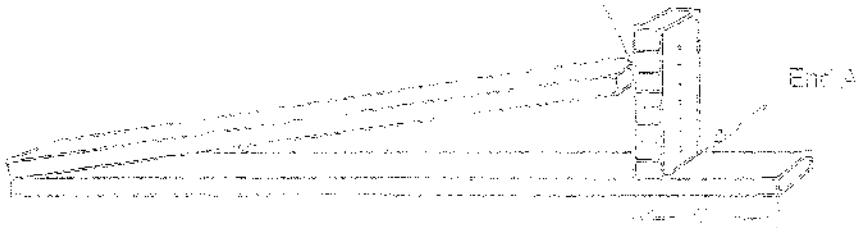
5. Locate center of each squared line on the marked side and drill through holes having diameters of a 6 penny common nail. ($1/16"$ or $3/32"$)



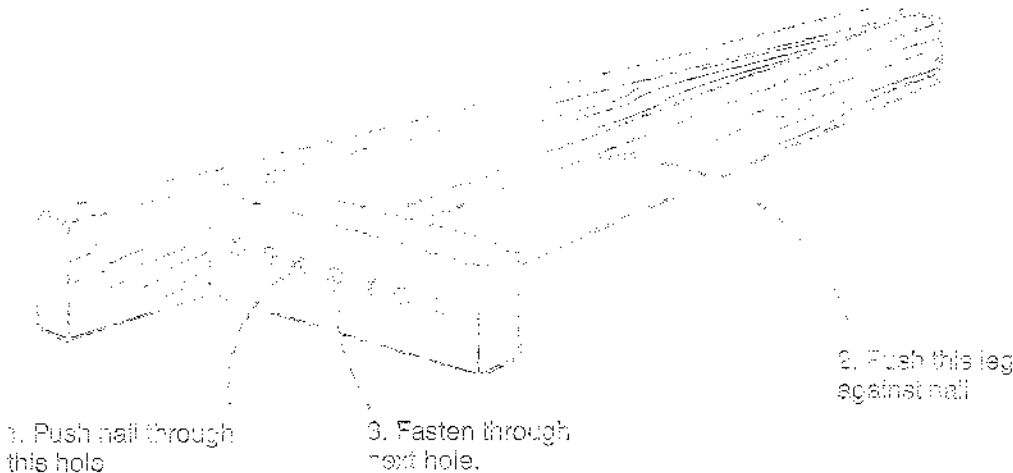
LESSON 2

ASSIGNMENT 9

8. Screw the end of the 6-1/2" brace perpendicular to the side of the end of the 24" pieces with end A against 24" piece.



Note: Since hole spacing is 4" and adjustable leg of lg is 24" in length, the amount of taper per foot of our bar can readily be set. Each hole represents a taper of 1/4" per foot. Example: Get nail or screw in 4th hole away from 29-1/2" leg of lg for a tapered 1" member. Put 24" leg against nail and fasten into end of 24" through 8th hole using nail or screw.



LESSON 2

ASSIGNMENT 10

HOW TO RIP LONG TAPERS ON FLAT BOARDS

DESCRIPTION:

Taper cutting on long boards requires the use of a jig because long stock will not fit the miter gauge. In addition, it is basically a rip cut.

USE:

Taper cuts are made in long stock (up to 24") for tall flower boxes, stools and cabinets. They are frequently needed for table legs and other supports. Tapers on one side only will give a slanting front to cabinets.

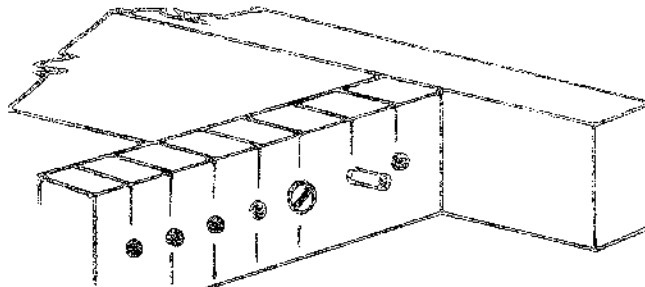
OPERATIONS:

1. Prepare 4 pieces of stock $3/4" \times 8" \times 16"$. (Redwood if you have it.)
2. There must be a specific amount of taper on each edge. In this case let us use 1-2" taper per foot.
3. Adjust saw blade to 1" height. Mount extension table on right.
4. Remove miter gauge and put rip fences on extension table.
5. Place tapering jig constructed in Operation 3 against rip fence.

Note: To make tapering jig slide easily apply paste wax to sides and bottom.

6. Slide headstock carriage and main table to right until main table is only about 1" from extension table. Adjust both tables line up across top surfaces.
7. Set jig with nail in No. 2 hole and rest inner edge of 24" side against nail.
8. Nail in place with a 6 penny nail using next (No. 6) hole. (Or use $3/8" \times 1-1/4"$ round head screw.)

Note: The nail need not be driven all the way in.

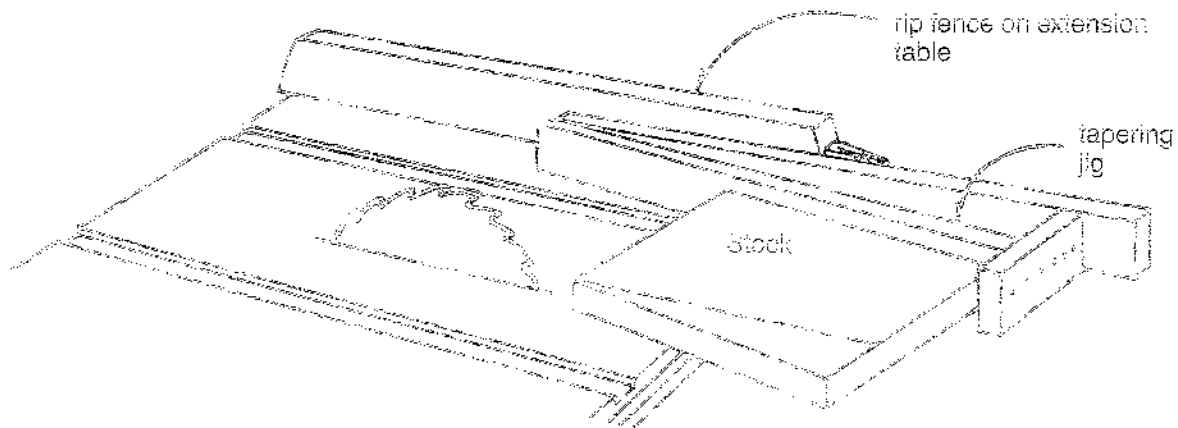


LESSON 2

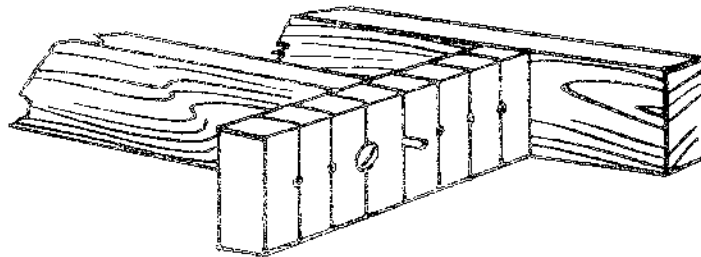
ASSIGNMENT 10

9. Place stock against the side of the jig and the protruding block.
10. Adjust rip fence and jig (using quill feed for final adjustment) so that the saw blade will start cutting on the front left corner.

Note: This is accomplished with both the jig and stock pulled forward until the front left corner is even with the inner tooth of the saw blade. A front table extension will be a great help.



11. Now with the right hand, grasp the jig where the short block is fastened to the long piece. (See page 62 of textbook.)
12. Start saw and make cut slowly, moving jig and stock simultaneously, being sure the stock is against the block and the jig at all times.
13. Continue on through after the cut is made, lifting up and clear, first the stock and then the jig.
14. Make similar cut on remaining pieces of stock.
15. Set jig as before with nail in No. 4 hole, then fasten.



16. Turn stock over and cut tapers in opposite edges of the 4 pieces of stock.
17. Nail together. You now have a tall planter box. Assemble exactly as you did the small planter in Assignment 8.

Note: We will make bottom in later assignment.

LESSON 2

ASSIGNMENT 11

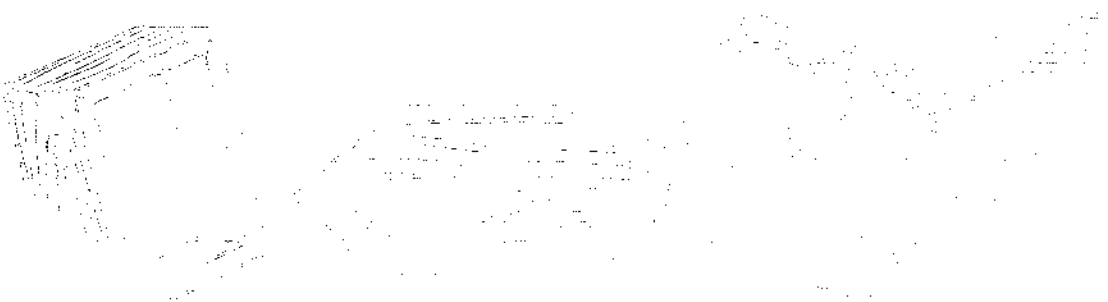
Mitering and Beveling

DESCRIPTION:

Beveling is cutting the corners edge on wood at an angle to the edge of the stock. Cross bevels are called cross mitered when beveled.

NOTE:

Bevels are cut on the ends of stock from through to the edge. Bevels are used to make a decorative edge. Edge bevels are used extensively to make joints and make it look good. Bevel joints are used in wood to show only the vertical grain of the wood. Bevels are used to make a decorative edge on the ends of stock and bevels are used to make a decorative edge on the ends of stock. Bevels are used to make a decorative edge on the ends of stock either mitered or beveled.



DESCRIPTION:

Let's make a planer. It's a simple project that will help you understand the basics of beveling and mitering. The planer is made of wood and is used to smooth the edges of a board. The edges of the board must be beveled and mitered.

First, make the bottom of the small planer using the miter gauge. If you make your own, the dimensions will fit.

1. Prepare a board 3/4" x 5-15/16" x 3-15/16" (redwood, if you have it).
2. Lock table carriage and headstock at extreme right end of table.
3. Tilt saw table 5° to right of "0".
4. Adjust saw blade to 1-1/4" height.
5. Put miter gauge (set at 90°) in right slot.
6. Place edge of stock against miter gauge face and align bottom right front corner with blade face of table.

WARNING: Whenever the table is tilted, always check to be sure the miter gauge is in the right slot when turning on power.

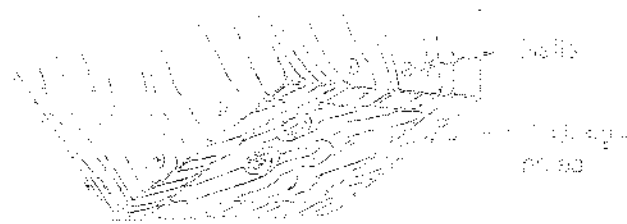
7. Hold stock firmly in place, turn on saw and make cut.

WARNING: Turn off machine and let it come to a complete stop before turning the table back to "0". Remove stock, then return empty miter gauge. Bevel only, like all crosscut operations, are made safer and easier with the miter gauge safety gift.

LESSON 2

ASSIGNMENT 11

1. Turn work around so skids are on top and repeat Steps 9 and 7. Repeat until all four edges are finished.
2. Push bottom, smaller face down, through the top of the planter. It should fit smoothly and snug at the bottom. Fasten with small 8 penny nails through sides into edges of bottom. Drill a few holes in the bottom for water drainage.



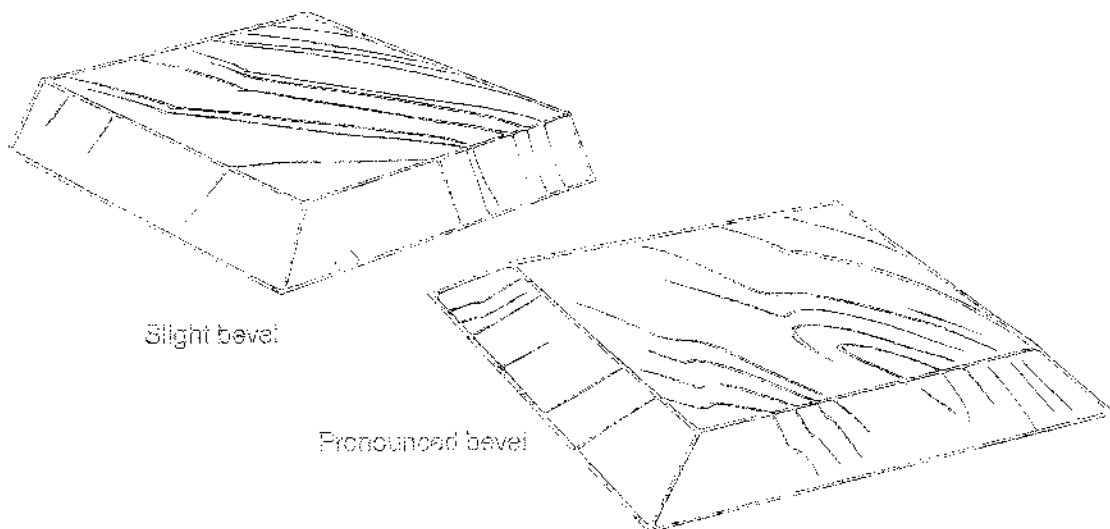
Note: The angle of the tail bevel is arbitrary, and modified, with care.

1. Prepare a piece of stock 4' long, 2" x 2" x 12".
2. Bevel toward right edge 15°.
3. Turn work around 90°.
4. Bevel toward left edge toward right edge of table.
5. Repeat the first two steps, but bevel toward left edge of table.



15. Turn on saw and make cut, using rip technique from Lesson 1. Do not return stock, but flip over to right of fence.
16. Turn stock 90° and repeat cut. Do this on remaining sides.
17. Install bottom in tail planter, just as you did in the small one.

Note: Both of these bevels were quite slight. Naturally, a steeper angle to the table would give a more pronounced bevel but the operations are the same.



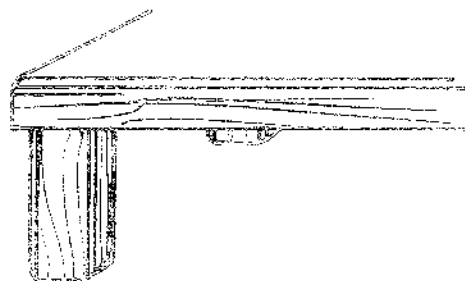
LESSON 2

ASSIGNMENT 12

HOW TO CUT CHAMFERS

DESCRIPTION:

Chamfers differ from bevels in that, while bevels cut the entire end or edge at any angle less than 90°, chamfers cut off only the top corners. Most chamfers are at 45°.

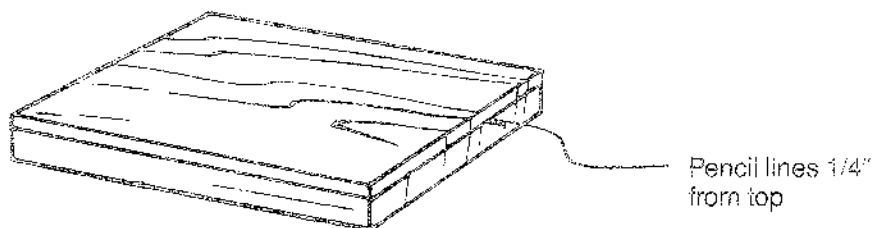


USE:

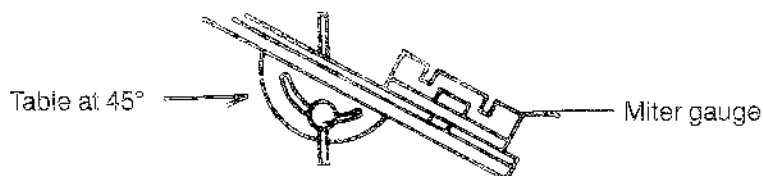
Chamfers are frequently used in the construction of some types of projects. They are commonly used on table tops, stools, boxes, and cabinets to "ease" the sharp edge or for decoration. They are also used on square legs to give them a more graceful shape.

OPERATIONS:

1. Set saw table at 45°. Prepare a board 3-4" x 8" x 8".
2. Lock headstock and carriage at extreme right of table. Tilt saw table to 45°, feeding out on miter with caution.
3. Mark off on edge of board the desired width of chamfer. In this case let it be 1/4".



4. Put miter gauge in right table slot.

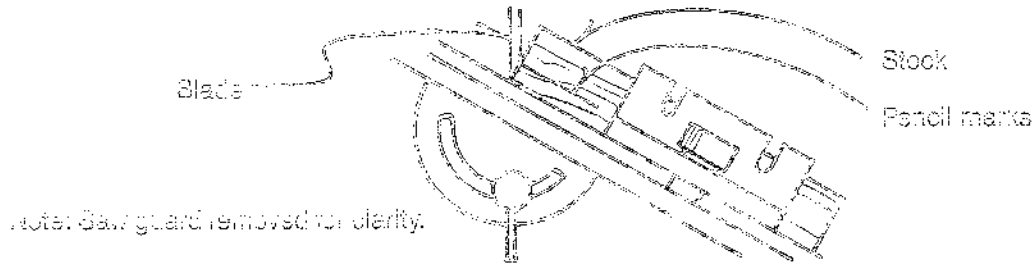


Note: Saw guard removed for clarity.

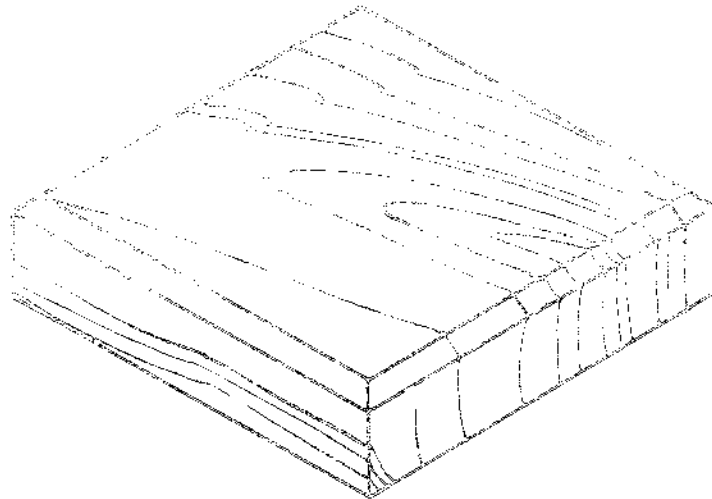
LESSON 2

ASSIGNMENT 12

5. Adjust so that inside saw blade tooth is even with pencil mark on edge of stock, with marked edges of stock down.
6. Make cuts on all four edges.



WARNING: Turn off machine and let it come to a complete stop. Do not return stock after each cut, but remove from miter gauge and return empty gauge.



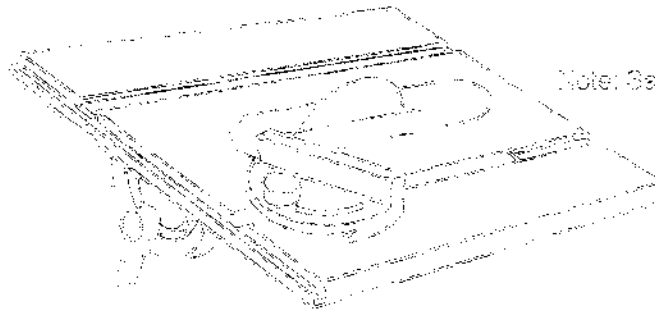
LESSON 2

ASSIGNMENT 13

HOW TO MAKE COMPOUND ANGULAR CUTS

DESCRIPTION:

Compound angular cuts are made by cutting stock with the saw table tilted and an edge of the stock against the miter gauge. The miter gauge does not steer angles less than 30° .



Note: Saw guard removed for clarity.

TIPS:

Compound angular cuts are used to make frames, shadow boxes, planter boxes, utility frames, and trailer wheels and igloo roofs.

PREPARATION:

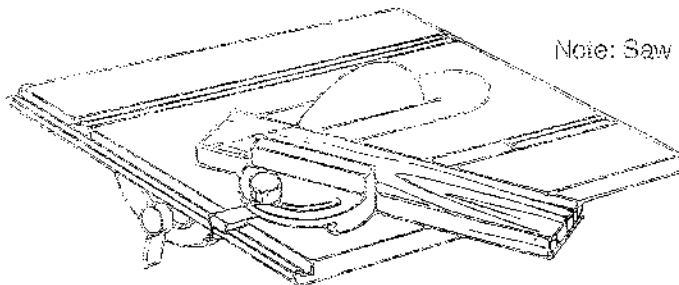
Stock makes a frame 10" x 10" x 10" in size.



1. Prepare 4 pieces of stock $3/4" \times 1-3/4" \times 11"$.
2. Tilt saw table 30° right with headstock and table at right.
3. Set miter gauge $54-3/4^\circ$ (left) and place in right table slot.

Note: For work angles other than 45° see pages 68 and 69 of textbook.

4. Place stock with edge against miter gauge.
5. Adjust saw blade height to $1-1/4"$.
6. Adjust stock so that the cut will start a short distance from end nearest you. A miter gauge safety grip will avoid "creep".



Note: Saw guard removed for clarity.

LESSON 2

ASSIGNMENT 13

7. Make cut very carefully and slowly.
8. Repeat on one end of remaining pieces. Turn off saw.
9. Measure 10" from cut off tip on all 4 pieces.



FIGURE 2-12

10. Turn stock over and end for end. Place the end of stock against miter page holding stock with safety grip.
11. Adjust stock end that saw will next cutting as pencil tip in lower corner of stock. See sketch on previous page.

Note: This adjustment must be done very accurately otherwise the flange will not be square.

12. Start saw and make cut.
13. Make 4 cuts on each end of stock.

Note: Be sure that the saw is held at the angle shown in the sketch on page 2-11 and that the

LESSON 2

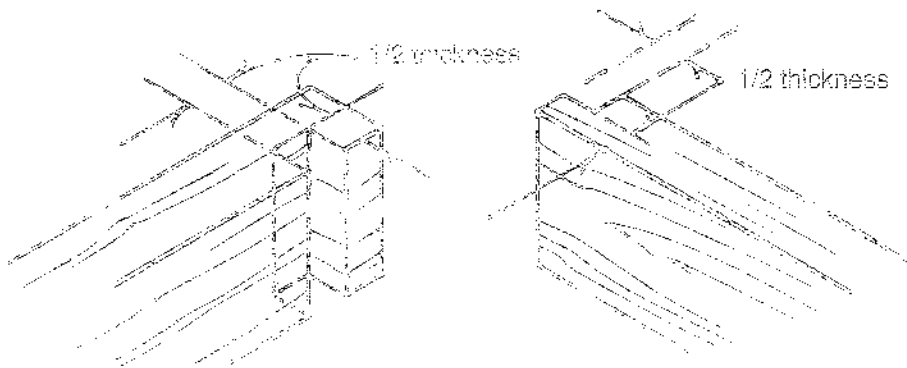
ASSIGNMENT 14

HOW TO MAKE TWO COMMON WOODWORKING JOINTS

I. DADO AND RABBET JOINT

DESCRIPTION:

A dado and rabbet joint is usually made with two pieces of equal thickness and width. A tongue in the end of one piece, formed by a rabbet having depth and width equal to one half stock thickness, exactly fits into a dado cut in the second piece. The outside edge of the dado is one half stock thickness from the end of the stock.



USE:

Dado and rabbet joints are extensively used in cabinetmaking. When cut for a snug fit and edge-to-edge glued, the joint is strong. Use for drawer and box corners is common.

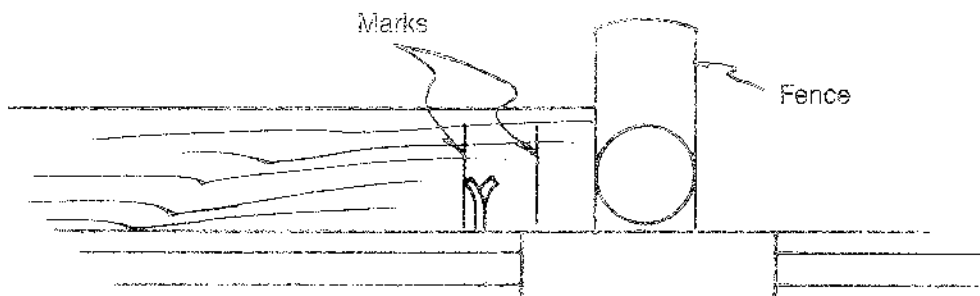
OPERATIONS:

WARNING: When cutting dados and rabbets, it is necessary to remove the upper guard. Whenever you remove the upper saw guard, keep the lower guard in place and work with extreme caution.

1. Prepare a piece of stock $3/4" \times 3" \times 10"$.
2. Crosscut stock into two pieces of equal length.
3. Mark pieces "A" and "B".

Note: Since standard 1" stock does not always measure exactly $3/4"$, cutting the dado and rabbet to $3/8"$ measurements will not necessarily be $1/2$ the stock thickness. However, it will make a completely satisfactory joint.

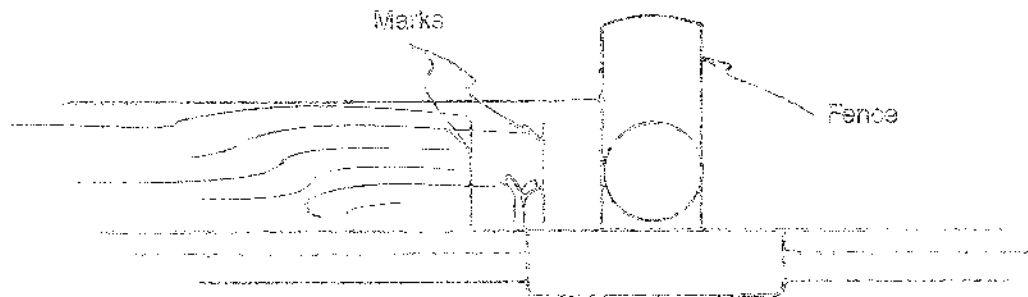
4. Butt the end of "B" across end of "A" to form a right angle and square a line on edge of "A" indicating exact width of stock.
5. Mark a second line on edge of "A" exactly $3/8"$ away.
6. Set saw blade height at $3/8"$ and lock carriage with blade close to left edge of table slot.
7. Set fence so the outer saw blade tooth is on line farthest from fence.



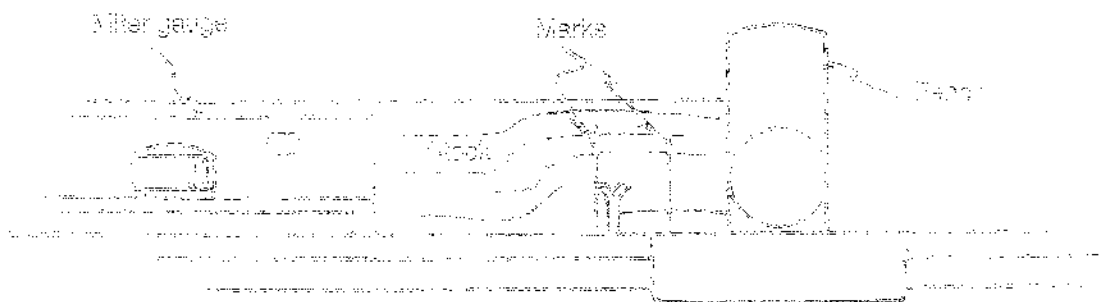
LESSON 2

ASSIGNMENT 14

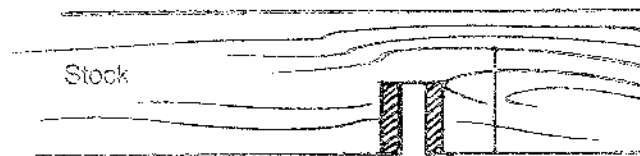
8. Advance quill feed until inner saw blade tooth is exactly on other line. Lock quill.



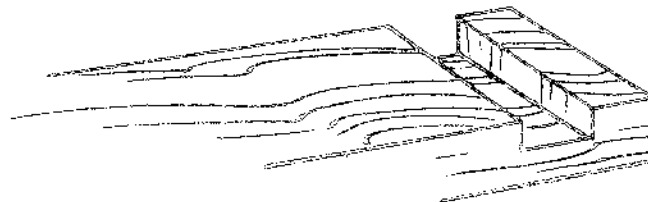
9. Set depth dial at "0" and lock.
10. Release quill lock, retract quill, and relock.
11. Set miter gauge in left hand slot, place workpiece 1/8" against it, butted against fence.



12. Turn on saw and make cut, removing stock at end of cut and returning miter gauge.
13. Advance quill 1/8" and repeat cut, continuing until depth stop is reached.



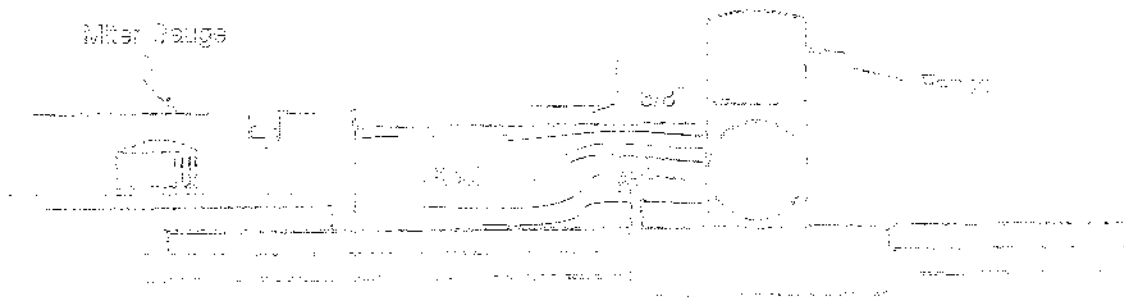
14. You now have a dado $3/8" \times 3/8"$.



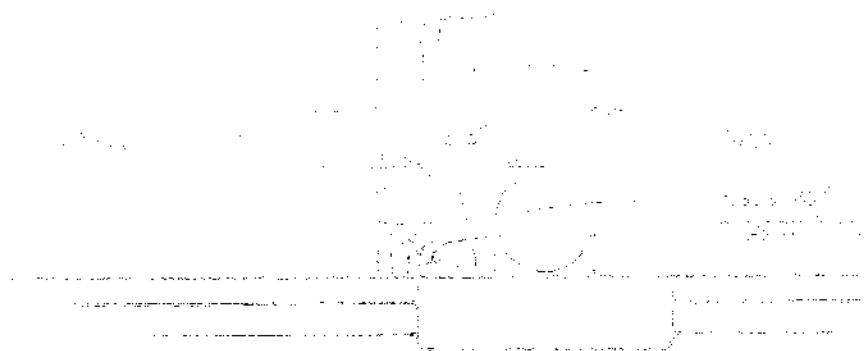
LESSON 3

ASSIGNMENT 14

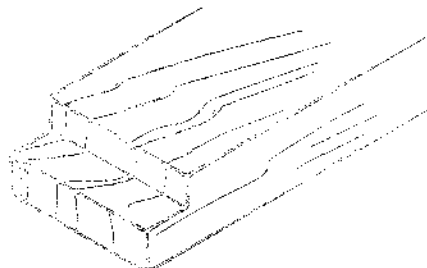
15. Set fence 3/8" from inner saw blade tooth.
16. Advance until outer saw blade tooth is 3/8" from fence on work piece.
17. Place stock "B" against miter gauge with end butted against fence.
18. Turn on saw and make cut.



19. Miter gauge, fence and table.
20. Place stock "A" against miter gauge with end butted against fence.



21. Turn on saw and make cut, holding firmly down on table and against fence.



THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

PHYSICAL CHEMISTRY 311

PROBLEM SET 10

1. (10 points)

The following table shows the equilibrium constants for the reaction of a diatomic gas with a solid at various temperatures. The solid is a metal, and the gas is a diatomic molecule. The reaction is exothermic.

Temperature (K)	Equilibrium Constant (K)
1000	1.0
1200	0.5
1400	0.25
1600	0.125
1800	0.0625
2000	0.03125

2. (10 points)

3. (10 points)

- 1. The equilibrium constant for the reaction of a diatomic gas with a solid is 1.0 at 1000 K.
- 2. The equilibrium constant for the reaction of a diatomic gas with a solid is 0.5 at 1200 K.
- 3. The equilibrium constant for the reaction of a diatomic gas with a solid is 0.25 at 1400 K.
- 4. The equilibrium constant for the reaction of a diatomic gas with a solid is 0.125 at 1600 K.



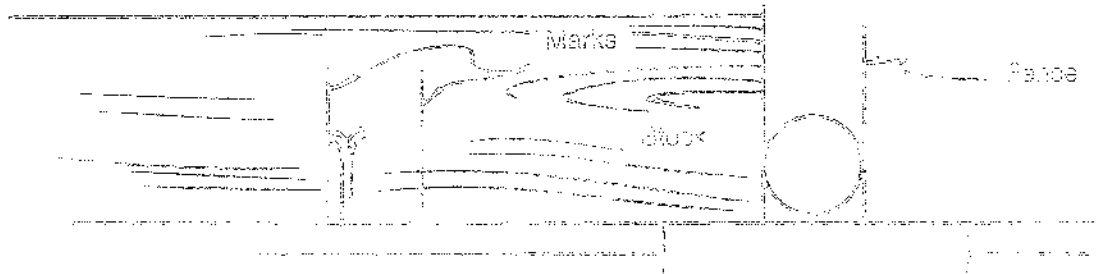
4. (10 points)



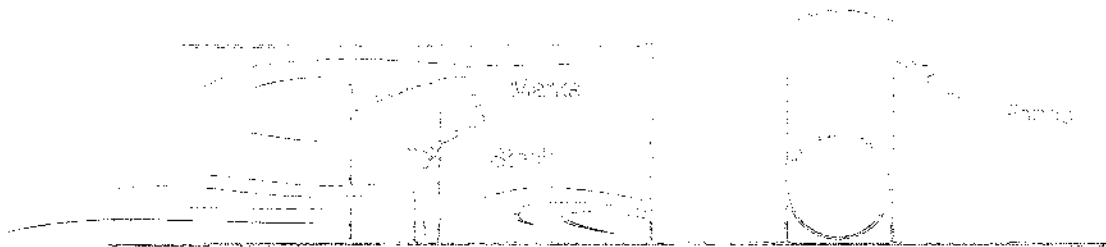
LESSON 2

ASSIGNMENT 14

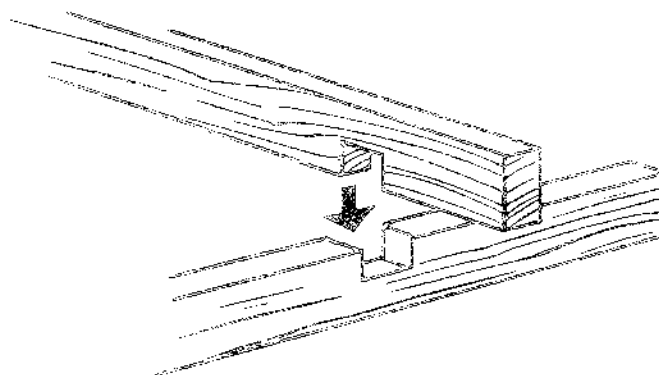
7. Set up fence so outer tooth of blade is on mark farthest from fence. (The marks made in Step 4.)



8. Raise miter gauge 1/4" and cut both pieces on edge against it and pushed against fence. Have marked face of stock toward blade.
9. Hold pieces firmly together against miter gauge and make cut.
10. Still holding both pieces firmly together remove from miter gauge and return gauge.
11. Reposition the two pieces so that the edge of blade toward the fence cuts exactly to the other mark.



12. Hold pieces together, remove from miter gauge and return gauge.
13. Keep repeating cuts, each time sliding both pieces toward fence the width of a saw blade cut, until all waste is removed.
14. You now have two slots or cross dados. Assemble the pieces.



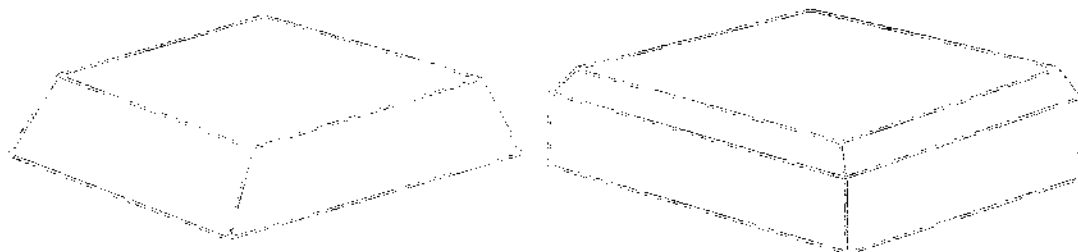
TEST QUESTIONS FOR THE LESSON 1

MATCH THE ANSWER: Underscore your selection.

1. In cutting tapers on wide boards, the smaller angle of the miter gauge produces the greatest taper.
2. In assembling the project in Assignment 9 each side overlaps the wood joint.
3. The compound miter gauge is designed to produce compound angles.
4. The tapering jig is used to make the second cut in making tapers.
5. Chamfers are bevels at 45°.
6. In cutting a chamfer the miter gauge is held down on the table.
7. The miter gauge is used to make chamfers with compound angles.
8. In cutting a chamfer the miter gauge is held down.
9. The stock should be cut perpendicular to the miter gauge in making a bevel cut.
10. In making a chamfer the stock is tapered across the board.
11. A bevel produced by the miter gauge is reverse parallel with the line of cut.
12. When cutting a chamfer, the right end of the stock the left hand should grasp the work and the left hand.
13. In cutting a chamfer with the miter gauge the angle the edge is beveled is under 45°.
14. When cutting a chamfer with the miter gauge the angle the edge is beveled is over 45°.
15. The tapering jig is used to make tapers on wide boards.
16. The tapering jig is used to make tapers on wide boards.
17. The compound miter gauge is used to make tapers on wide boards.
18. The compound miter gauge is used to make tapers on wide boards.
19. The tapering jig is used to make tapers on wide boards.
20. In cutting a chamfer with the miter gauge the stock is held down on the table with your left hand.
21. Standard 1 inch measures exactly 2 1/2" in thickness.

MULTIPLE CHOICE: Underscore your choice.

22. In cutting tapers on wide boards angles on the miter gauge produces the smallest taper (75°) (60°) (45°).
23. In cutting tapers with tapering jig the bevel extends to the (left or) (right) of (behind) the line of cut.
24. The angle in the tapering jig remains (the same) (is increased) (is decreased) in making the second cut.
25. Underscore the sketch of a bevel.



26. The angular cut on the edge of a board to enhance its appearance is the (bevel) (chamfer).
27. In cutting compound angles the table angle is (less) (greater) than the miter gauge setting.
28. In cutting compound angles on a four sided figure, the work angle in Assignment 19 is (30°) (45°) (60°).
29. In making the second cut in sawing tapers on wide boards the stock is (turned end for end) (turned over) (kept in same position).

LESSON 3 INTRODUCTION

INTRODUCTION TO PEN BUILDING

You have now progressed through two lessons and fourteen work assignments, and you are to be congratulated on your progress. Lesson 3, while it still gives full step-by-step instructions, has assignments that require more careful readings and more practice workmanship.

Always remember that you will save time as the settings you make. A few minutes extra time spent in checking your settings will save many wasted time and material. Whenever you are in doubt, make a test run on scrap the same size as your workpiece and check your dimensions.

For the pen nibs, a good quality, smooth, fine-grained, retractable and retractable and retractable pen nibs and some good quality pen nibs (page 21 of notebook) about 8" high is helpful when ever setting up the pen nibs. A good quality pen nibs (page 21 of notebook) will be helpful. Retractable pen nibs give you a wide variety of pen nibs. A good quality pen nibs (page 21 of notebook) will be helpful.

The pen nibs are set up in the pen nibs (page 21 of notebook) and the pen nibs (page 21 of notebook) will be helpful. The pen nibs are set up in the pen nibs (page 21 of notebook) and the pen nibs (page 21 of notebook) will be helpful.

LESSON 3

ASSIGNMENT 15

HOW TO MAKE SPLINE JOINTS (or "DWARF")

DESCRIPTION:

Two matching surfaces held together by a spline form a spline joint. The spline, usually a strip of hardwood, fits snugly into a slot which is formed by grooves or channels cut in the matching surfaces. Spline joints are named in accordance with pattern, "folded" or "flat" and "through" or "blind".



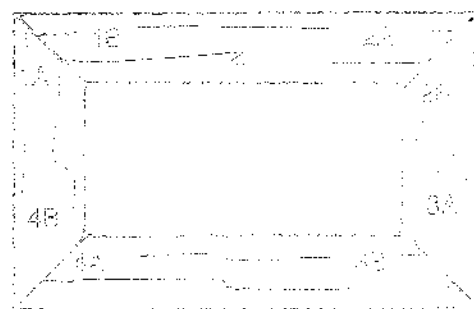
Steps:

1. Draw a rectangular pattern of the desired size. The width of the pattern should be the width of the spline plus the width of the groove to be cut in the wood.

SPRINKLE:

WARNING: When cutting splines, it is necessary to use the "spline guard". When the "spline guard" is removed, keep the hand guide in place and move the work as it is cut.

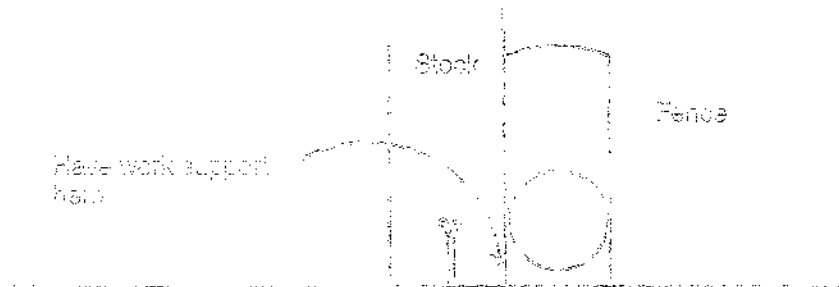
Let us fasten together the frame made in Assignment 14, Lesson 1. Lay the four corners of the wood with the best side up. Now mark the corners with a pencil as shown below.



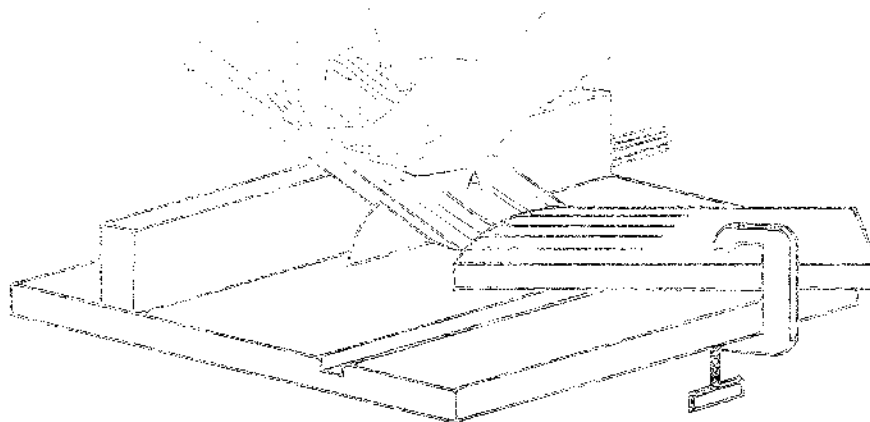
LESSON 3

ASSIGNMENT 15

1. Adjust saw blade for $3/8"$ depth of cut
2. Set rip fence so cut will be approximately in the center of $3/4"$ stock. ($3/8"$ to center of blade.)
3. Be sure there is at least $1/8"$ of table insert between blade and fence for work support. Use quill feet if necessary.



4. Clamp feather board (see about 8" to left side of saw table and adjust until center of curved end is about $1/4"$ from blade and in center of blade. (See alternate forms or use the feather board supplied.) (see page 74 of textbook.)
5. Hold mitered end of stock against $1/4"$ on table with pointed corner side if you
6. Place stock on saw with right hand against fence with left hand. Use alternate side.



7. Make cut slowly.
8. Repeat on the other three ends marked "A".
9. Place mitered end of stock marked "1B" on table with pointed end away from you.

Note: This assures the back side of all pieces will be against fence and spline grooves will therefore line up properly.

10. Hold as on previous cuts and feed slowly.
11. Repeat on other three ends marked "B".

QUESTION

ASSIGNMENT

1. The following table shows the number of people who attended a concert in each of the following categories:

Number of people who attended a concert

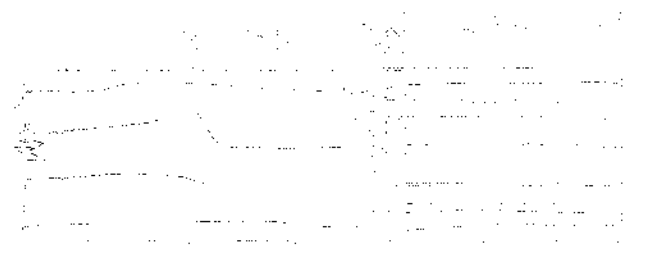
- (i) Female, age 18-24, 100
- (ii) Male, age 18-24, 120
- (iii) Female, age 25-34, 150
- (iv) Male, age 25-34, 180
- (v) Female, age 35-44, 200
- (vi) Male, age 35-44, 220
- (vii) Female, age 45-54, 250
- (viii) Male, age 45-54, 280

Draw a bar chart to represent the data. The x-axis should be labeled 'Age Group' and the y-axis should be labeled 'Number of people'.

2. The following table shows the number of people who attended a concert in each of the following categories:



- (i) Female, age 18-24, 100
- (ii) Male, age 18-24, 120
- (iii) Female, age 25-34, 150
- (iv) Male, age 25-34, 180
- (v) Female, age 35-44, 200
- (vi) Male, age 35-44, 220
- (vii) Female, age 45-54, 250
- (viii) Male, age 45-54, 280



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support effective decision-making.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and reporting, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and integration. It provides strategies to overcome these challenges and ensure that the data remains relevant and usable over time.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a proactive approach to data management to maximize the value of the organization's information assets.



LESSON 3

ASSIGNMENT 16

HOW TO MAKE END LAP JOINTS

DESCRIPTION:

Two pieces of stock of equal thickness can be joined in an end lap after removing half the thickness at one end of each from an area equal to the width of the mating piece. This is really nothing but two fitted end rabbets.



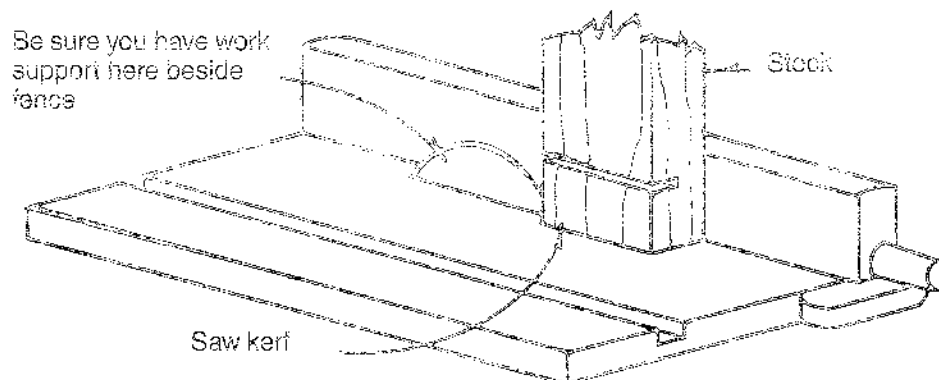
USE:

End lap joints permit flush surfaces with minimum effort and expense. They are used in doors and cabinets, tables, benches, chairs and stools, and simple furniture.

OPERATIONS:

WARNING: Always wearing eye protection, use a power saw with a push stick and guard. If the saw blade appears hard to set, remove the blade guard and work with saw without effort.

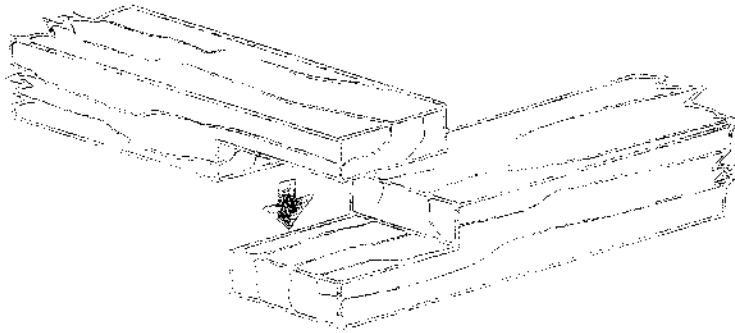
1. Prepare (2) pieces of stock $3/4" \times 1-3/4" \times 16"$.
2. Set the saw blade height to $3/8"$ ($1/2$ stock thickness).
3. Place miter gauge in left table slot.
4. Place rip fence $1-3/4"$ to right of outside saw blade tooth.
5. Place edge of stock against face of miter gauge and end against rip fence.
6. Make crosscut on both pieces.
7. Adjust saw blade height to $1-3/4"$.
8. Set rip fence $3/8"$ to right of inside tooth.
9. Remove miter gauge.
10. Grasp the top of the stock with the right hand, crosscut surface toward saw blade, and press end flush on saw table.
11. Grasp the stock with the left hand just above the rip fence and press firmly against the fence.
12. Stand to left of line of saw blade.
13. Push stock slowly with both hands, while maintaining stock perpendicular.



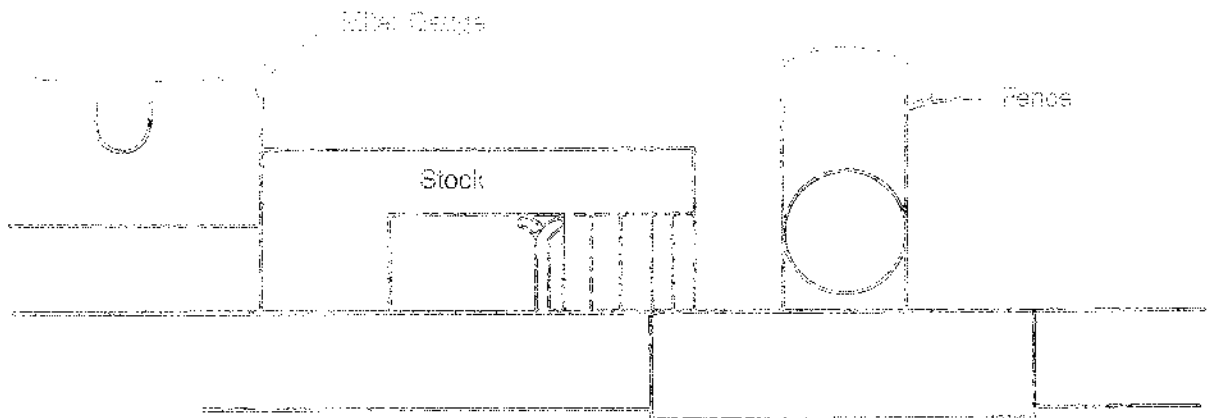
LESSON 3

ASSIGNMENT 16

14. After the cut is made, raise the stock up from table.
15. Repeat the cut on the other piece of stock.
16. Fit the two members together as shown on sketch on next page.



17. Turn the workpiece to the left so the depth of cut will stop 7 through 12. Stop it by a guide of the workpiece. Then raise the stock up 1/2" and move it away from the fence a distance of 1/2" to the left of the fence.



QUESTION 1

QUESTION 1 (10 MARKS)

Figure 1 shows a part of a shaft with a diameter of 20 mm and a length of 100 mm.

Figure 1: Part of a shaft with a diameter of 20 mm and a length of 100 mm.

QUESTION 1(a)

Figure 1 shows a part of a shaft with a diameter of 20 mm and a length of 100 mm. The shaft is made of a material with a yield strength of 200 MPa and a tensile strength of 300 MPa. The shaft is subjected to a tensile force of 10 kN. Calculate the safety factor of the shaft.



QUESTION 1(b)

Calculate the safety factor of the shaft. The shaft is made of a material with a yield strength of 200 MPa and a tensile strength of 300 MPa. The shaft is subjected to a tensile force of 10 kN. Calculate the safety factor of the shaft.

QUESTION 2

QUESTION 2: When cutting half joints, it is necessary to remove the upper saw guide. Whenever the upper saw guide is removed, the cutting operation can work with extreme precision.

1. Prepare two pieces of stock of 10 mm diameter and 100 mm length, with a tolerance of 0.05 mm.
2. Place the gauge in the hole of the stock.
3. Adjust the height of the gauge to 10 mm.
4. Place the gauge in the hole of the stock and cut the stock.
5. Mark stock for gauge.
6. Make out some stock for with a diameter of 10 mm and a length of 100 mm of the gauge.



- 1. ...
- 2. ...
- 3. ...
- 4. ...
- 5. ...
- 6. ...
- 7. ...
- 8. ...
- 9. ...
- 10. ...
- 11. ...
- 12. ...
- 13. ...
- 14. ...
- 15. ...
- 16. ...
- 17. ...
- 18. ...
- 19. ...
- 20. ...
- 21. ...
- 22. ...
- 23. ...
- 24. ...
- 25. ...
- 26. ...
- 27. ...
- 28. ...
- 29. ...
- 30. ...
- 31. ...
- 32. ...
- 33. ...
- 34. ...
- 35. ...
- 36. ...
- 37. ...
- 38. ...
- 39. ...
- 40. ...
- 41. ...
- 42. ...
- 43. ...
- 44. ...
- 45. ...
- 46. ...
- 47. ...
- 48. ...
- 49. ...
- 50. ...
- 51. ...
- 52. ...
- 53. ...
- 54. ...
- 55. ...
- 56. ...
- 57. ...
- 58. ...
- 59. ...
- 60. ...
- 61. ...
- 62. ...
- 63. ...
- 64. ...
- 65. ...
- 66. ...
- 67. ...
- 68. ...
- 69. ...
- 70. ...
- 71. ...
- 72. ...
- 73. ...
- 74. ...
- 75. ...
- 76. ...
- 77. ...
- 78. ...
- 79. ...
- 80. ...
- 81. ...
- 82. ...
- 83. ...
- 84. ...
- 85. ...
- 86. ...
- 87. ...
- 88. ...
- 89. ...
- 90. ...
- 91. ...
- 92. ...
- 93. ...
- 94. ...
- 95. ...
- 96. ...
- 97. ...
- 98. ...
- 99. ...
- 100. ...

...

...

LESSON 3

ASSIGNMENT 17

19. Lift up when cut is complete.

Note. Again, as in making the half lap joint, on stock too wide for the height of the saw blade, the surplus stock will have to be removed on stock "A" by making successive saw kerfs as was done on "B".

20. Remove fence.

21. Adjust saw blade to 1" height.

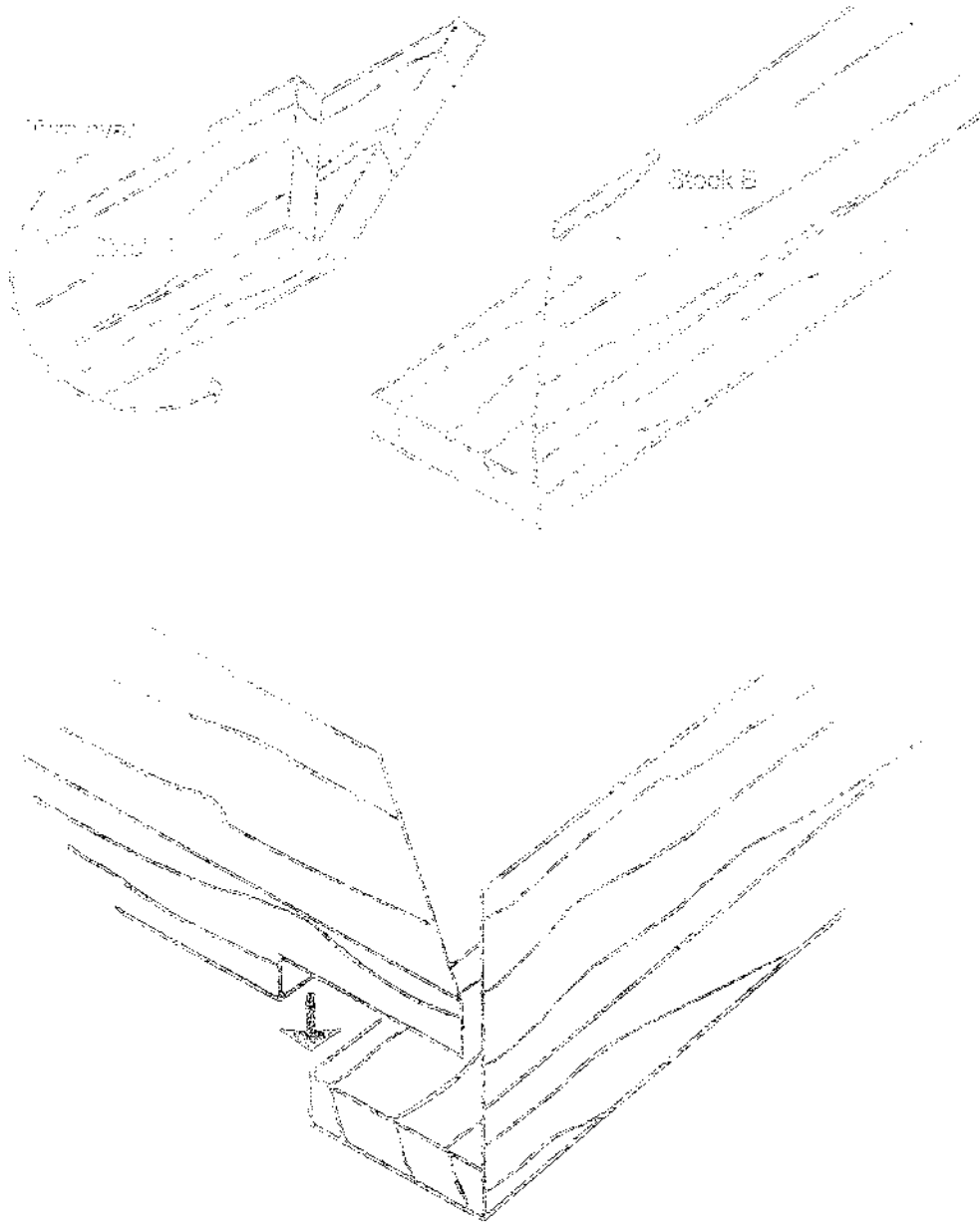
22. Set miter gauge 45° left and place in left table slot.

23. Place stock "A" with uncut surface on table and make 45° cut through lower corner of joint and starting with inside saw blade tooth even with right table and miter gauge.



LESSON 3 ASSIGNMENT 17

24. Fit "A" and "B" together as shown in sketch below



ANNOUNCEMENT

Dear Sir/Madam,

I am pleased to inform you that your application for the position of *Senior Lecturer in Mathematics* has been successful.

Details of offer

Your offer is for a full-time position, commencing on *1st September 2018*. The salary for this position is *£45,000 per annum*, plus a pension contribution of *£1,000 per annum*. You will also receive a *£1,000 relocation allowance*.

The duties of this position will be as set out in the job description, which is available on the university website. You will be expected to contribute to the development of the department and to the wider university community.



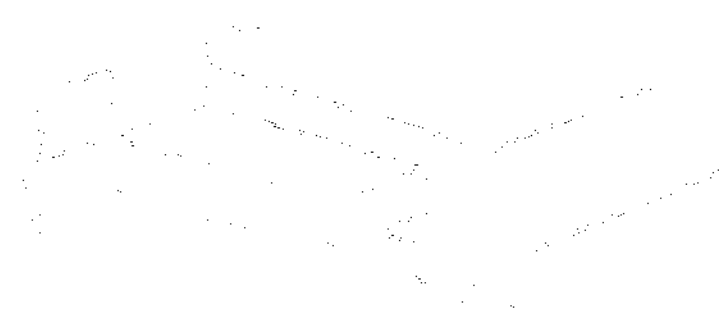
The university is committed to equality and diversity. We are an equal opportunity employer and value diversity in our workforce. We do not discriminate on the basis of race, gender, age, disability, or any other protected characteristics.

CONTACTS

If you have any queries regarding your offer, please contact the HR Department on *01234 567890* or email *hr@university.ac.uk*.

Yours faithfully,

Director of People and Organisational Development, University of Example



YOUNG, GIBBS & CO.

1000 Broadway
New York, N. Y.
Telephone BR 5-6000

YOUNG, GIBBS & CO.
1000 Broadway
New York, N. Y.

1000 Broadway
New York, N. Y.

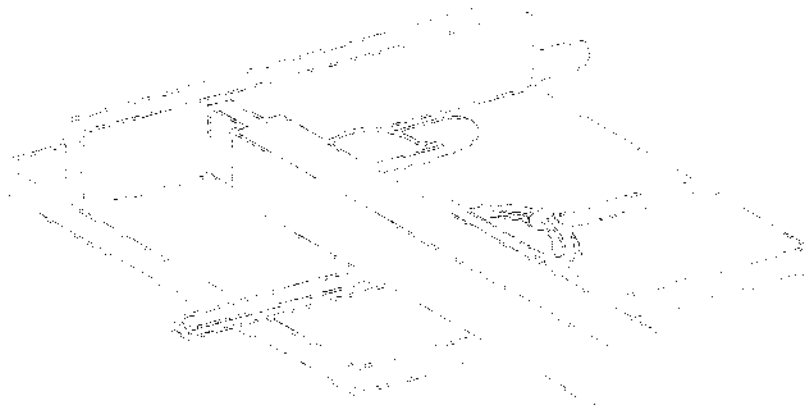
1000 Broadway
New York, N. Y.



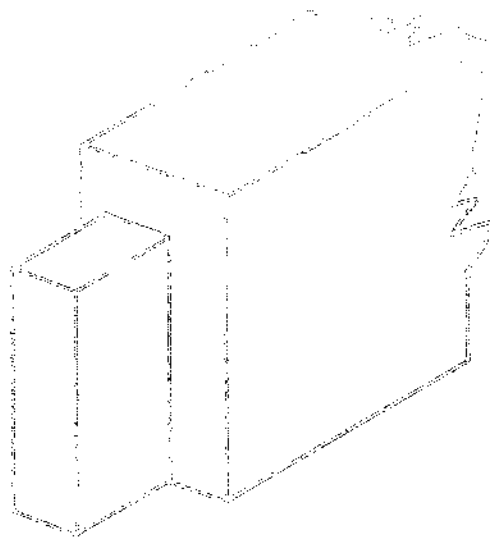
LESSON 3

ASSIGNMENT 18

12. Adjust saw blade to 1/2" height.
13. Make out edges only and using clearance bit cut.
14. Move stock one kerf width to left and repeat cut.



15. Flip the end with legs and mortise formed.
16. Use tenon bit to cut into the mortise formed.



Note: Save this tenon as in future lessons we will make a mortise to fit it.

ASSIGNMENT 19

[Faint, illegible text]

[Faint, illegible text]

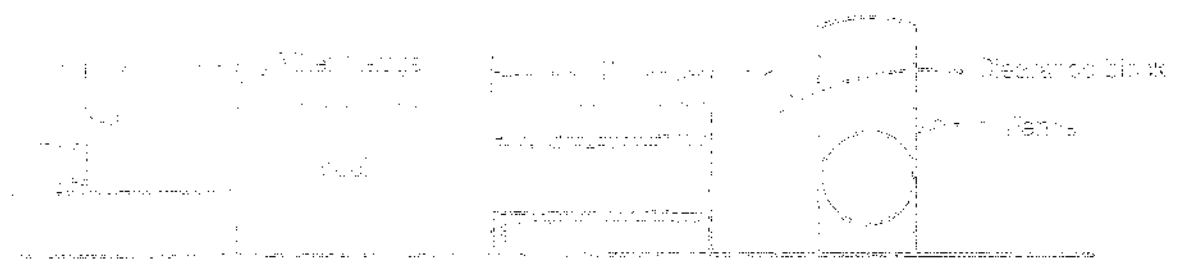
[Faint, illegible text]

[Faint, illegible text]

[Faint, illegible text]



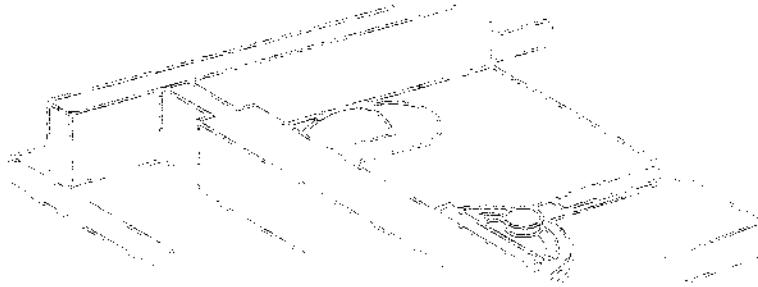
1. [Faint text]
2. [Faint text]
3. [Faint text]
4. [Faint text]
5. [Faint text]
6. [Faint text]
7. [Faint text]
8. [Faint text]



LESSON 3

ASSIGNMENT 19

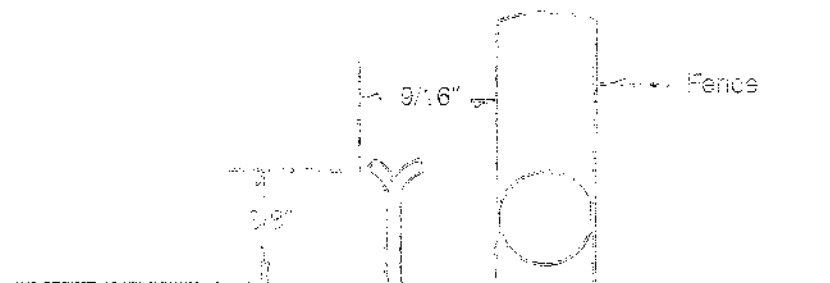
9. Make shoulder cuts on both sides of stock "A".
10. Remove block. Place rip fence 5/8" from outside saw blade tooth.
11. Adjust saw blade height to 3/4".
12. Make shoulder cut on one edge of stock.



13. Turn the workpiece and rip fence from the other side of the workpiece and cut the other shoulder.



14. This will leave a haunch 3/8" long and 3/8" thick to fill the end of the groove we will now cut.



LESSON 3

ASSIGNMENT 19

18. Make the setup above for grooving. (See Steps 14 through 17 of Lesson 1, Assignment 8).



19. Groove the 3/8" wide and 1/8" deep edge and finish it with a 1/8" round nose radius.

20. Turn the 1/8" diameter hole of the center on a lathe. Measure the hole diameter with a micrometer and record it. Then complete our drawing of the finished part.

QUESTION 3

TEST

PART 31: THE JOINERY (in Lecture 3)

TRUE OR FALSE? Underline your selection.

- T / F 1. Feather boards are used for the sole purpose of holding a board against a wall or ceiling.
- T / F 2. The grain of a spline runs in opposite direction to the groove.
- T / F 3. Both members of a half lap joint must be the same width.
- T / F 4. When removing the surplus material in a half lap joint the best method is to use a hand plane.
- T / F 5. In making the half lap miter joint the miter cut is made at an angle of 45 degrees to the grain.
- T / F 6. The saw blade height remains the same when riving with the saw at an angle to the grain.
- T / F 7. The haunch on a haunched mortise and tenon joint with the mortise angled is a result of the angle of the groove in which it forms a joint method.
- T / F 8. Part of the tenon is removed in cutting the groove on a mortise and tenon joint to allow the mortise to be cut to the full depth.
- T / F 9. There is a top shoulder on a haunched mortise and tenon joint.
- T / F 10. The spring action in a dovetail joint offers a tight fit between the tenon and the mortise.
- T / F 11. The purpose of the spline in a half lap joint is to hold the joint together.
- T / F 12. The purpose of the spline in a half lap joint is to hold the joint together.
- T / F 13. The purpose of the spline in a half lap joint is to hold the joint together.
- T / F 14. When the stock to be joined is a half lap joint the waste stock is removed by using a hand plane.
- T / F 15. The joints are made by using a hand plane.
- T / F 16. The joints are made by using a hand plane.
- T / F 17. The joints are made by using a hand plane.
- T / F 18. The joints are made by using a hand plane.
- T / F 19. The joints are made by using a hand plane.
- T / F 20. The joints are made by using a hand plane.

MULTIPLE CHOICE? Underline your choice.

1. Splines should fit in the grooves (fairly loose) (very tight) (just on top)
2. Half lap miter joints are used because (they are strong) (they are decorative) (they are easy to make)
3. In making the spline joint in Assignment 15 a (hand plane) (table saw) (hand saw) is used.
4. There (is only one) (are two) ways of sawing off the surplus material in a half lap joint.
5. The thickness of a tenon is determined by (the width of the rail) (the depth of the rail) (the length of the rail).
6. In cutting the shoulders on a tenon the waste stock is (between the saw and top of tenon) (wide of) (on table to left of saw).
7. In making the vertical cuts on a tenon, the cuts are (to the left) (to the right) (down) (up) (to the line or saw cut).
8. In cutting the cheeks out on the haunched mortise and tenon joint, the saw is held (to the left) (to the right) (from the ripping fence).
9. Mortise and tenon joints are used most in (furniture) (architecture) (joinery).
10. The tenon made in Assignment 18 is for a (blind) (through) (open) (closed) (open) joint.

LESSON 4

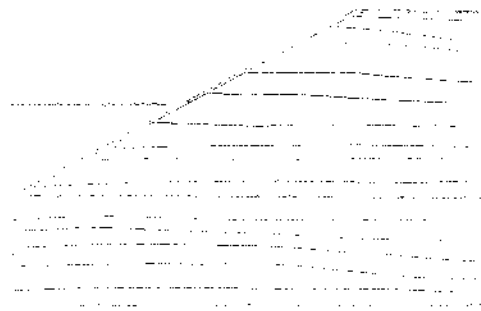
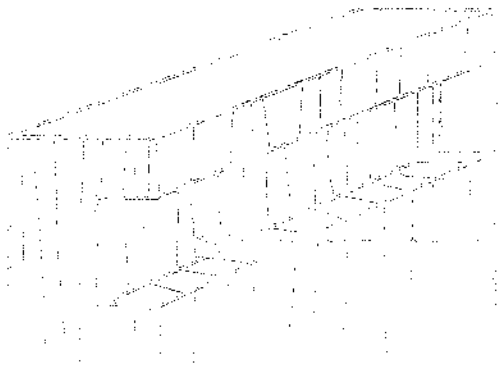
ASSIGNMENT 20

HOW TO CUT DADOES

WARNING: When cutting dados, it is necessary to remove the upper saw guard. Whenever you remove the upper saw guard, keep the lower guard in place and work with extreme caution.

DESCRIPTION:

A dado is a rectangular groove cut across the grain of stock into which the edge or end of other stock fits. Common types, named in accordance with design, are: "plain"; "dovetail"; "blind"; and "round".



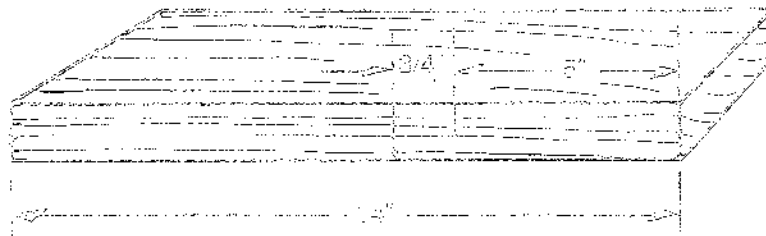
NOTE:

Dadoes are used extensively in building metal, pipe, machine, and engine cases, as furniture, and are, also, used in wood work. Dados, made in the pattern of a dado, are commonly used for rapid unit action, quick assembly and disassembly.

OPERATIONS:

WARNING: When cutting dados, it is necessary to remove the upper saw guard. Whenever the upper guard is removed, keep the lower guard in place and work with extreme caution.

1. Prepare a piece of stock $3/4" \times 6" \times 14"$.
2. Square a line across one edge 5" from one end.
3. Square another line $3/4"$ away.



QUESTION 1

1.1.1. Explain the following terms:

- 1.1.1.1. *Productivity* - The rate at which an individual or organization produces goods or services.
- 1.1.1.2. *Quality* - The degree to which a product or service meets or exceeds customer expectations.
- 1.1.1.3. *Customer Satisfaction* - The extent to which a customer's expectations are met or exceeded.

1.1.2. Explain the relationship between the following terms:



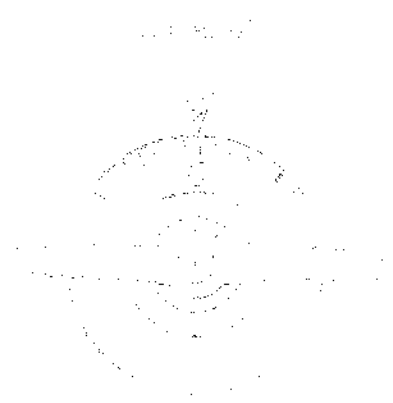
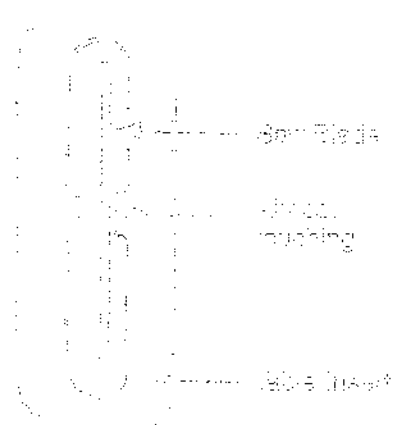
Figure 1: Relationship between Productivity, Quality, and Customer Satisfaction

1.1.3. Explain the relationship between the following terms:



1.2. Explain the following terms:

- 1.2.1. *Productivity*
- 1.2.2. *Quality*
- 1.2.3. *Customer Satisfaction*



SECRET

1. The purpose of this document is to provide information regarding the operations of the system.

2. The system is designed to provide a secure and reliable means of communication.

3. The system is capable of handling a large volume of traffic and is designed to be highly available.



4. The system is designed to be highly secure and is capable of handling a large volume of traffic.

5. The system is capable of handling a large volume of traffic and is designed to be highly available.

6. The system is designed to be highly secure and is capable of handling a large volume of traffic.

7. The system is capable of handling a large volume of traffic and is designed to be highly available.

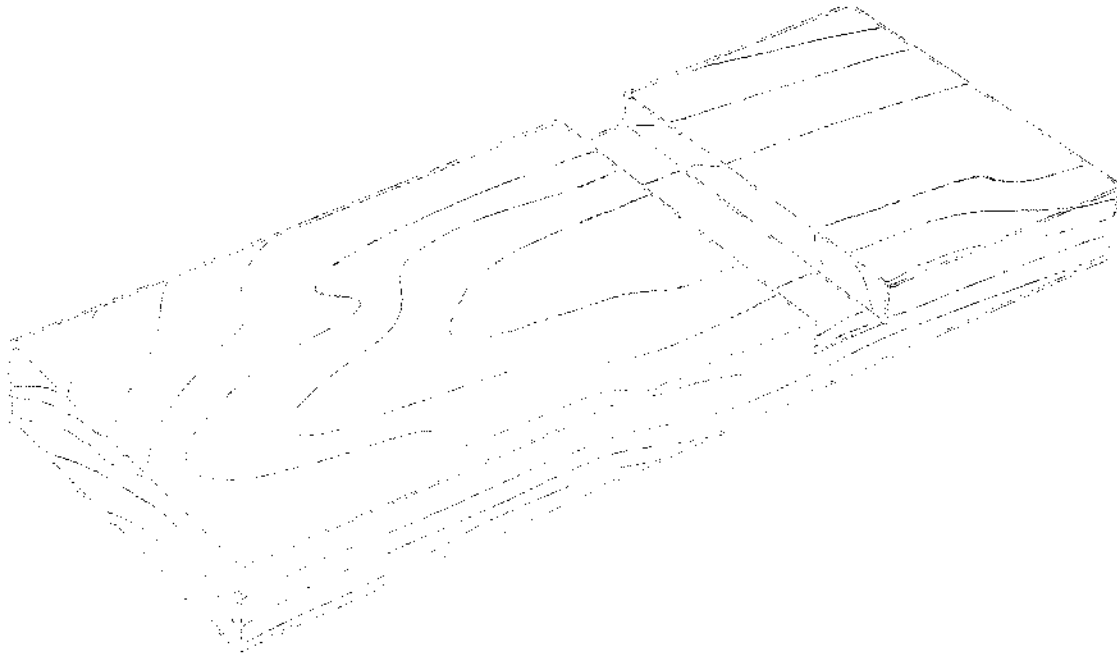


Notes: See page removal for details.

LESSON 4

ASSIGNMENT 20

15. Repeat Steps 10, 11, and 12. The stock should now appear as follows:



SECTION 3

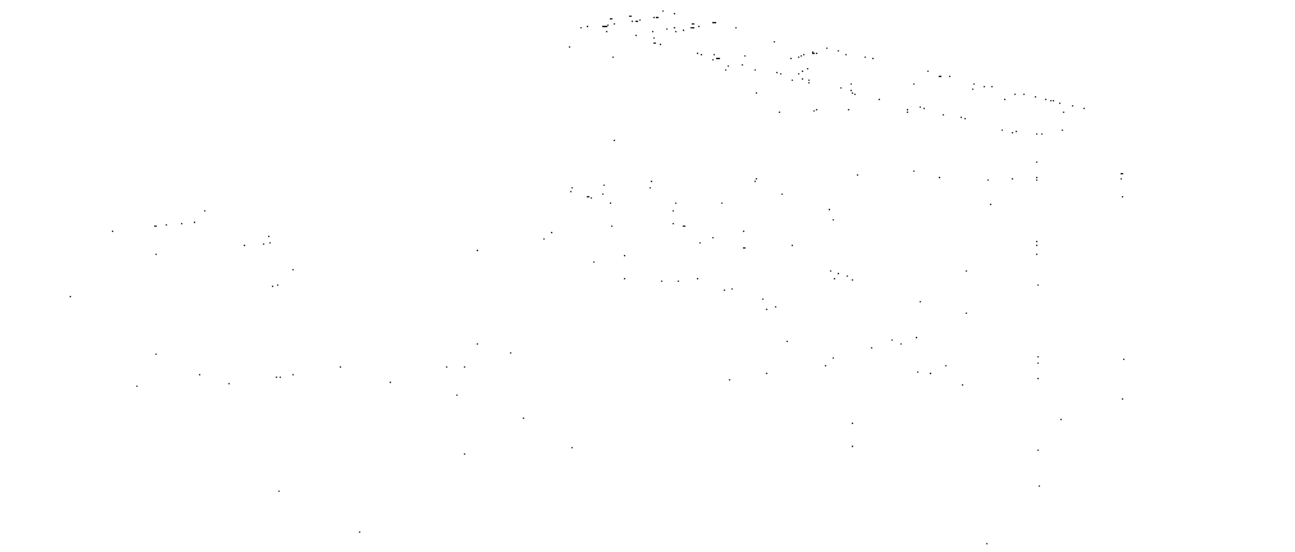
ASSIGNMENT 21

1. The following assignment is to be completed by the student who has completed the previous assignments in this section.

Assignment 21 - Preparation

Part 1 - Preparation

1. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:



2. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:

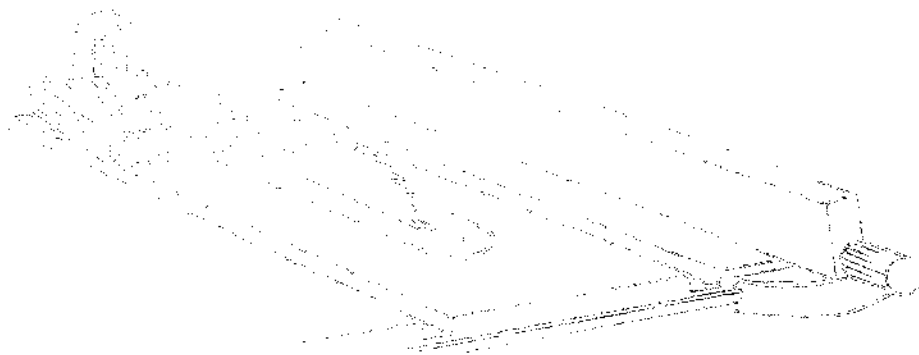
3. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:

Part 2 - Preparation

4. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:

5. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:

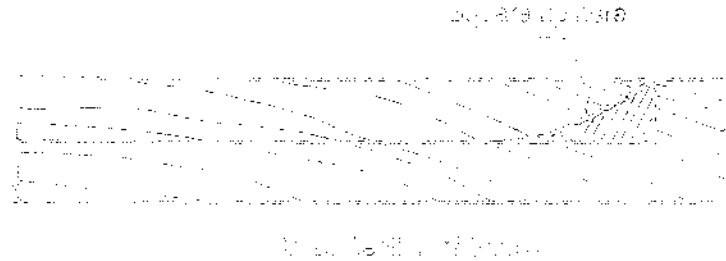
6. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:
7. The student should prepare a drawing of the part shown in the figure. The drawing should show the part in perspective and include the following dimensions:



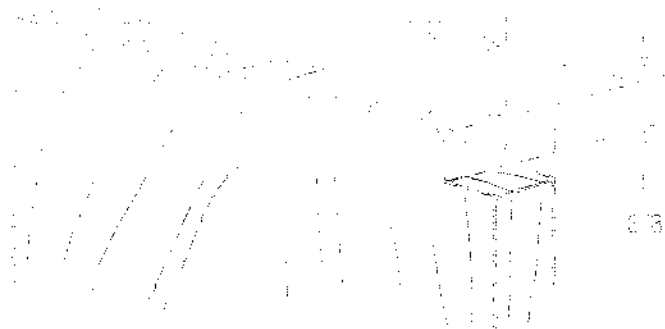
LESSON 4

ASSIGNMENT 21

3. Cut out a duct in the exterior of the cylinder by six blocks. (Looking evenly) the pattern line (from Assignment 20)
4. Square up the end of the duct with a long chisel.



5. The two ends of the duct in the ridge of a small piece of block having the same diameter and thickness as the duct (see fig.)



6. The two pieces should fit together snugly.

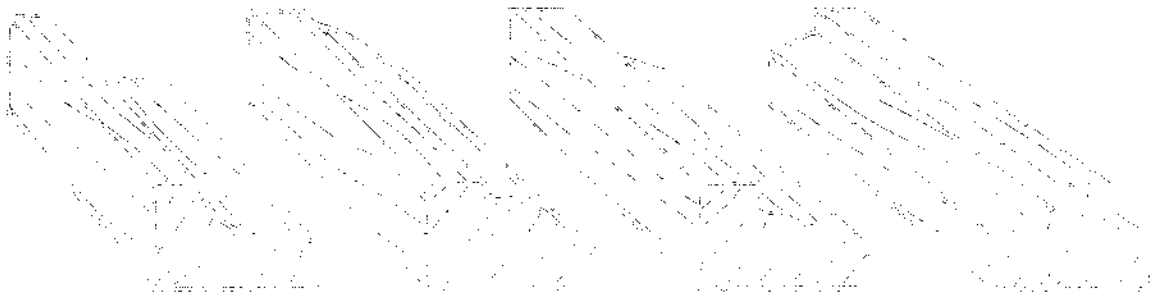
LESSON 4

ASSIGNMENT 22

HOW TO CUT A GOVE MOLDING

DESCRIPTION:

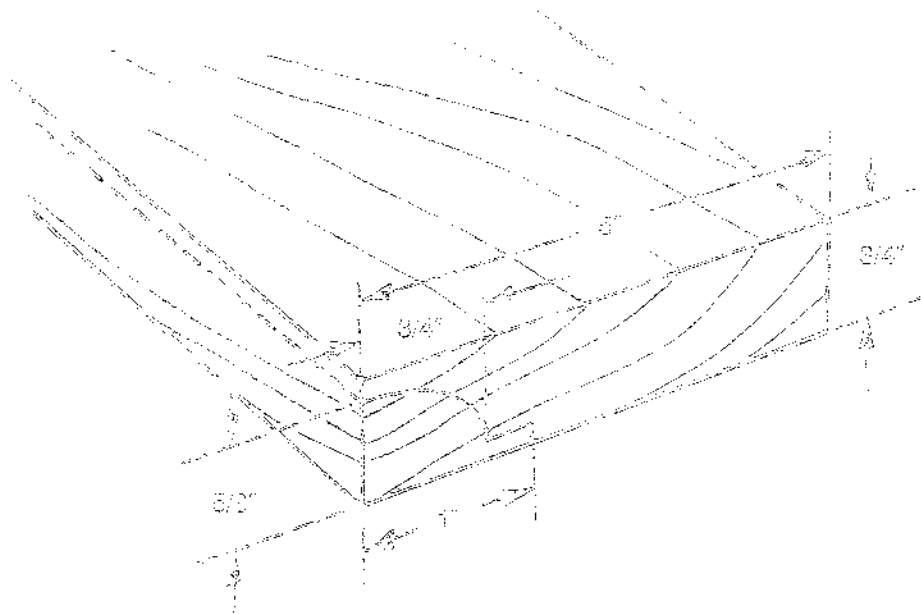
Moldings are pieces of stock which have been shaped by cuts that in cross section, are straight, concave, convex, angular or rounded. They are cut by hand with the band saw, the circular saw, the jointer, molding cutters, or a combination of these by chase table.



OBJECTIVE:

After completing this assignment, you should be able to cut a gove molding by hand with the band saw, the circular saw, the jointer, molding cutters, or a combination of these by chase table.

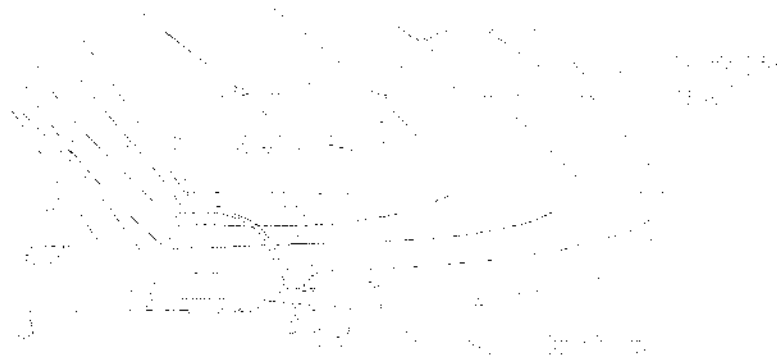
When you have completed this assignment, you will be able to:



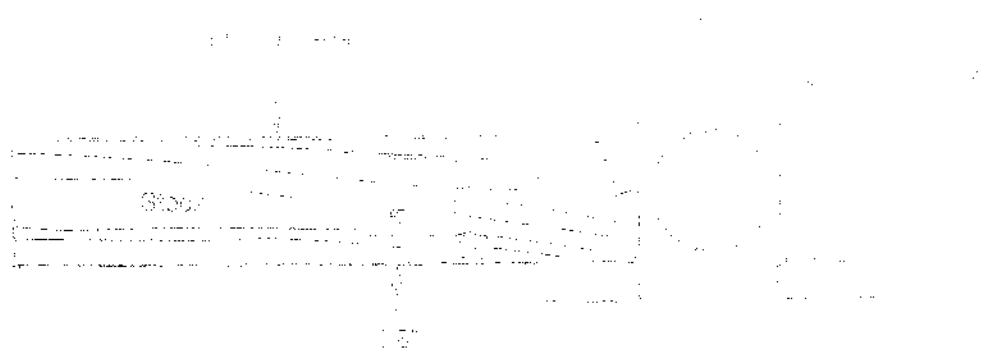
LESSON 4

ASSIGNMENT 22

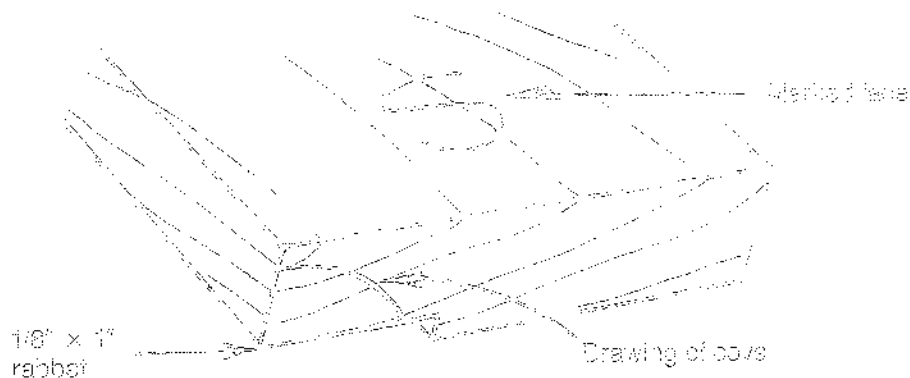
1. Prepare one piece of stock $2\frac{1}{2}'' \times 2'' \times 12''$ and another $1\frac{1}{2}'' \times 2'' \times 12''$.
2. Profile the first section with a router on a joint of the $2\frac{1}{2}''$ stock as shown with approximate $1/8''$ as indicated in sketch.



3. Lay up finger joint on the $2\frac{1}{2}''$ stock as shown.
4. Set up the table saw.
5. Rip the $2\frac{1}{2}''$ stock to $1\frac{1}{2}''$ wide.



6. Set saw blade to $1''$ height.
7. Lock rip fence $5/8''$ from inside tooth of saw blade.
8. Place edge of stock to be milled on table and marked side against fence and make a cut.
9. The stock is now cut by rabbet $1/8'' \times 1''$.

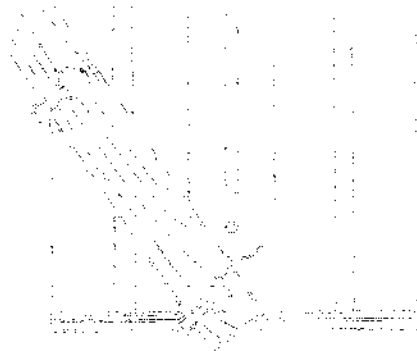


LESSON 4

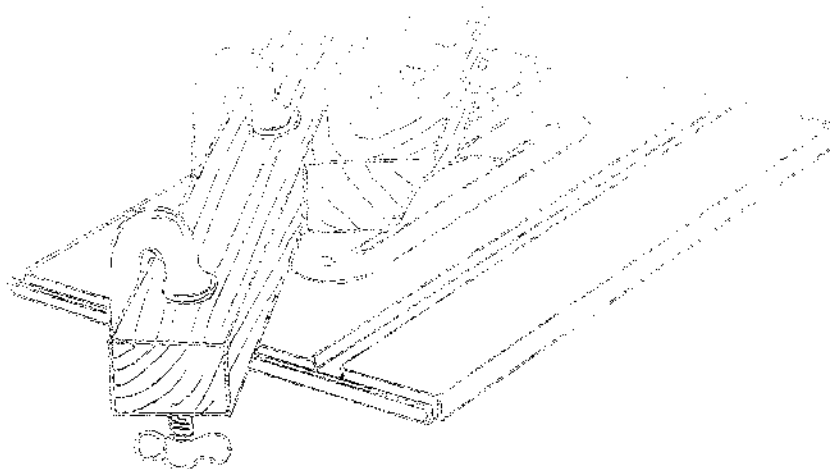
ASSIGNMENT 22

13. Set saw blade to 5/8" height.
14. Clamp guide stock (stock 2/4" x 1 1/2" x 1/2") parallel to left of saw blade angled from the front center towards back left corner.

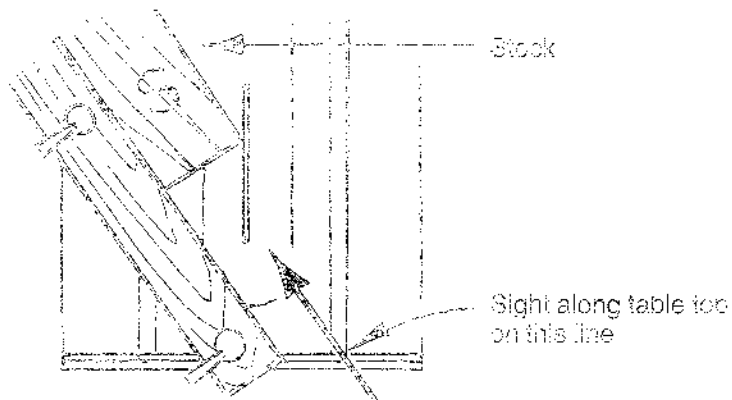
15. See illustration on page 16 of textbook.



16. Turn the stock to the 75 degree angle and run saw along edge of guide stock with top portion of saw blade cutting into wood. Turn the hand saw and cutting line around until you are cutting in line with the 75 degree angle. The stock will now be parallel to the blade. Turn the stock over with the 75 degree angle towards the 75 degree angle.



Note: The correct positioning of stock and guide strip will require considerable trial and error. It is easiest to do by sighting flat across table top in line with the out edge of the stock. You can then line up the outside of the blade with the mark on the end of the stock.



LESSON 1

ASSIGNMENT 1

=====

15. Clamp leather board to table to hold work against it. Release knife and stop.
16. Make out holding stock and her part of slip and feeding device.

WARNING: Stand to left of the blade to avoid a possible kick back.

18. Lift wood from the operation, place it on the floor and cut it up. Finally, use rubber mallet to remove the edges from the work.



When using the hand plane, the blade should be held at an angle of 15 degrees to the work.

The hand plane should be used on a workpiece that is supported on a flat surface.

The hand plane should be used on a workpiece that is supported on a flat surface.

Workload and Performance

Workload is a complex phenomenon that has been defined in many different ways. It is a concept that is difficult to measure and even more difficult to understand. The purpose of this paper is to review the literature on workload and performance and to propose a model of the relationship between the two.

The first part of the paper discusses the definition of workload. It is argued that workload is a subjective experience that is influenced by a number of factors, including the nature of the task, the time available to complete the task, and the individual's resources. The second part of the paper discusses the relationship between workload and performance. It is argued that workload has a curvilinear relationship with performance, with performance increasing up to a point and then declining as workload increases further.

The third part of the paper discusses the implications of the model for practice. It is argued that managers should be aware of the relationship between workload and performance and should take steps to ensure that their employees are not overloaded. This can be done by providing clear instructions, setting realistic deadlines, and providing adequate resources. The fourth part of the paper discusses the limitations of the model and suggests areas for future research.

In conclusion, workload is a complex phenomenon that has a significant impact on performance. The model proposed in this paper suggests that workload has a curvilinear relationship with performance, with performance increasing up to a point and then declining as workload increases further.



The diagram illustrates the relationship between workload, resources, and performance. Workload and resources are shown as inputs to performance, and performance is shown as a feedback loop back to workload.

The model proposed in this paper suggests that workload has a curvilinear relationship with performance, with performance increasing up to a point and then declining as workload increases further. This relationship is influenced by the individual's resources. The model also suggests that there is a feedback loop between performance and workload, where performance can influence workload.

In conclusion, workload is a complex phenomenon that has a significant impact on performance. The model proposed in this paper suggests that workload has a curvilinear relationship with performance, with performance increasing up to a point and then declining as workload increases further.

Final Exam

ASSIGNMENT

1. The following table shows the results of a survey of 1000 people.

Age Group (years) | Frequency | Relative Frequency

- a) Find the mean age of the people surveyed.
- b) Find the standard deviation of the ages.

Age Group (years)	Frequency	Relative Frequency
18-24	150	0.15
25-34	200	0.20
35-44	250	0.25
45-54	200	0.20
55-64	150	0.15
65-74	100	0.10
75-84	50	0.05

2. The following table shows the results of a survey of 1000 people.

Age Group (years)	Frequency	Relative Frequency
18-24	150	0.15
25-34	200	0.20
35-44	250	0.25
45-54	200	0.20
55-64	150	0.15
65-74	100	0.10
75-84	50	0.05

SECRET

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

CONFIDENTIAL - SECURITY INFORMATION

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups, each of which has its own strengths and limitations.

3. The third part of the document describes the process of data analysis, which involves identifying patterns, trends, and relationships within the data. This process is often aided by statistical software and other analytical tools.

4. The fourth part of the document discusses the importance of communication in the research process. Researchers must be able to clearly and effectively communicate their findings to a variety of audiences, including stakeholders, clients, and the general public.

5. The fifth part of the document concludes by emphasizing the need for ongoing evaluation and improvement of the research process. This involves regularly reviewing the methods and results of the research to ensure that they remain relevant and effective.

6. The sixth part of the document discusses the importance of ethical considerations in research. Researchers must always act in a responsible and ethical manner, respecting the rights and privacy of their participants.

7. The seventh part of the document describes the various ways in which research findings can be applied in practice. This includes using the findings to inform policy decisions, develop new products or services, and improve existing processes.

8. The eighth part of the document discusses the importance of collaboration and teamwork in research. Researchers often benefit from working with others who have different perspectives and expertise, and who can help to overcome the challenges of the research process.

9. The ninth part of the document concludes by emphasizing the need for continued learning and professional development in the field of research. Researchers should stay up-to-date on the latest research and methods, and should seek out opportunities for growth and advancement.

10. The tenth part of the document discusses the importance of transparency and accountability in research. Researchers should be open about their methods, data, and findings, and should be held accountable for the quality and integrity of their work.

11. The eleventh part of the document describes the various ways in which research can be used to inform decision-making. This includes using research to identify problems, evaluate options, and make informed choices.

12. The twelfth part of the document discusses the importance of communication and collaboration in the research process. Researchers must be able to work effectively with others, both within and outside of their organization.

13. The thirteenth part of the document describes the various ways in which research can be used to improve organizational performance. This includes using research to identify areas for improvement, develop new strategies, and implement effective solutions.

14. The fourteenth part of the document discusses the importance of ethical considerations in research. Researchers must always act in a responsible and ethical manner, respecting the rights and privacy of their participants.

15. The fifteenth part of the document describes the various ways in which research can be used to inform policy decisions. This includes using research to identify problems, evaluate options, and make informed choices.

16. The sixteenth part of the document discusses the importance of communication and collaboration in the research process. Researchers must be able to work effectively with others, both within and outside of their organization.

17. The seventeenth part of the document describes the various ways in which research can be used to improve organizational performance. This includes using research to identify areas for improvement, develop new strategies, and implement effective solutions.

18. The eighteenth part of the document concludes by emphasizing the need for continued learning and professional development in the field of research. Researchers should stay up-to-date on the latest research and methods, and should seek out opportunities for growth and advancement.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYS 433

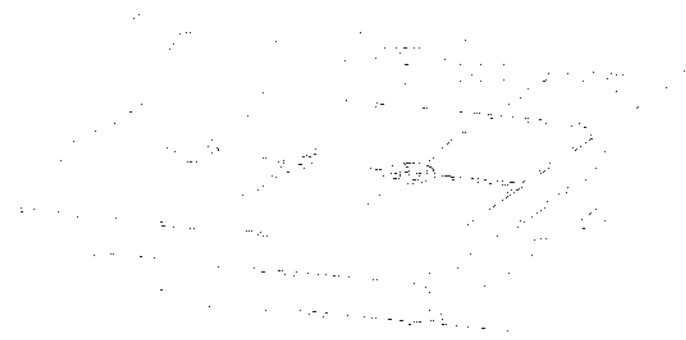
2017

PROBLEM SET 1

Due: Monday, September 11, 2017

1.

Consider a particle of mass m moving in a potential $V(x) = \frac{1}{2}kx^2$. The energy eigenvalues are given by $E_n = \hbar\omega(n + \frac{1}{2})$, where $\omega = \sqrt{k/m}$. The ground state wavefunction is $\psi_0(x) = \frac{1}{\sqrt{\pi}a} e^{-x^2/2a^2}$, where $a = \sqrt{\hbar/m\omega}$.



Handwritten text at the top right of the page, possibly a date or reference number.

Faint horizontal lines of text across the upper middle section of the page.

Small handwritten text or initials on the left side of the page.

A line of text starting with "The following..." or similar, located in the middle left area.

A larger block of faint, illegible text in the middle section of the page.

Vertical text or markings along the right edge of the page.

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

11/11/2019

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the statistical tools employed.

3. The third part of the document presents the results of the study, including a comparison of the different methods and a discussion of the implications of the findings. It also includes a section on the limitations of the study and suggestions for future research.

4. The final part of the document provides a summary of the key findings and conclusions. It also includes a list of references and a list of figures and tables.

5. The document concludes with a statement of the author's appreciation for the support and assistance provided by the research team and the funding agency.

6. The document also includes a section on the ethical considerations of the study, including a statement of the author's commitment to the highest standards of research integrity and ethical conduct.

7. The document is accompanied by a set of appendices, which include a detailed description of the experimental apparatus and the data collection procedures.

8. The document is also accompanied by a set of tables and figures, which provide a visual representation of the data and the results of the study.

9. The document is also accompanied by a set of references, which list the sources of the information used in the study.

10. The document is also accompanied by a set of figures and tables, which provide a visual representation of the data and the results of the study.

11. The document is also accompanied by a set of references, which list the sources of the information used in the study.

12. The document is also accompanied by a set of figures and tables, which provide a visual representation of the data and the results of the study.

13. The document is also accompanied by a set of references, which list the sources of the information used in the study.

14. The document is also accompanied by a set of figures and tables, which provide a visual representation of the data and the results of the study.

15. The document is also accompanied by a set of references, which list the sources of the information used in the study.

Assignment 1

Due: 10/10/2020

1. Answer 24/10/2020
2. Probability of success is 0.8
3. 0.8

Note: The probability of success is 0.8 in other words the probability of failure is 0.2

Answer: 0.8

10/10/10

10/10/10



10/10/10

10/10/10

10/10/10

PHYSICS ASSIGNMENT 30

PHYSICS 201, SPRING 2011

1. Suppose a 1.0 kg mass is suspended from a spring with a spring constant of 100 N/m. The mass is displaced 0.10 m from its equilibrium position. Calculate the work done by the spring force as the mass moves back to equilibrium.
2. Replace a 1.0 kg mass with a 2.0 kg mass. Calculate the work done by the spring force as the mass moves back to equilibrium.
3. Calculate the work done by the spring force as the mass moves back to equilibrium.



Work done by the spring force is given by the integral of the spring force over the displacement. The spring force is given by $F_s = -kx$. The work done by the spring force as the mass moves from $x = 0.10$ m to $x = 0$ m is:

$$W = \int_{0.10}^0 -kx \, dx = \frac{1}{2} kx^2 \Big|_{0.10}^0 = \frac{1}{2} (100 \text{ N/m}) (0.10 \text{ m})^2 = 5.0 \text{ J}$$

For a 2.0 kg mass, the displacement is still 0.10 m. The work done by the spring force is:

$$W = \frac{1}{2} kx^2 = \frac{1}{2} (100 \text{ N/m}) (0.10 \text{ m})^2 = 5.0 \text{ J}$$

EXERCISE 1 ASSIGNMENT 30

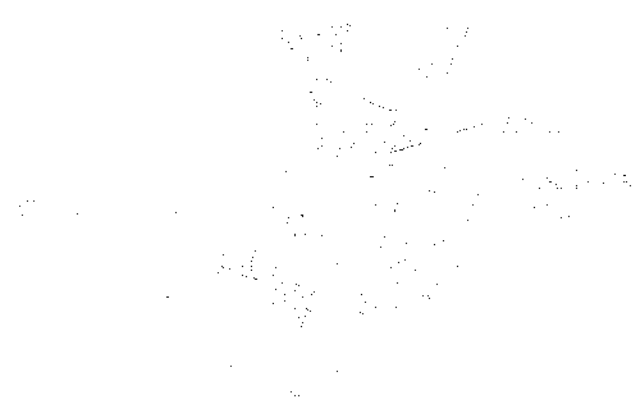
Page 1 of 2

1. The figure shows a right triangle with legs of length 3 and 4.

2. The figure shows a right triangle with legs of length 3 and 4.

3. The figure shows a right triangle with legs of length 3 and 4.

4. The figure shows a right triangle with legs of length 3 and 4. The hypotenuse is labeled c . The area of the triangle is A . The perimeter of the triangle is P .



5. The figure shows a right triangle with legs of length 3 and 4. The hypotenuse is labeled c . The area of the triangle is A . The perimeter of the triangle is P .

1. 10/10/2019

ANEBICINASTIN

1. 10/10/2019

DESCRIPTION

When a hole is drilled into a material, the hole is often filled with a material that is not the same as the material being drilled. This is often done to seal the hole or to provide a specific material property.

USE

It is used for filling holes in various materials, such as wood, metal, and plastic. It is also used for sealing and repairing damaged surfaces.



APPLICATION

1. Prepare the hole in the material.
2. Apply the material to the hole.
3. Seal the hole.
4. Seal the hole with a sealant.
5. Seal the hole with a sealant.
6. Seal the hole with a sealant.
7. Seal the hole with a sealant.



1. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

2. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

3.

4. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)



LESSON 5

ASSIGNMENT 32

HOW TO MAKE A DOWEL JOINT ON A NAIL FILE

DESCRIPTION:

A Dowel joint is made by drilling matching holes in both pieces and inserting a dowel pin. The dowel pin is a piece of stock with a diameter equal to one half the thickness of the piece being joined. The length of the dowel pin is approximately 1/2" longer than the thickness of the piece being joined.

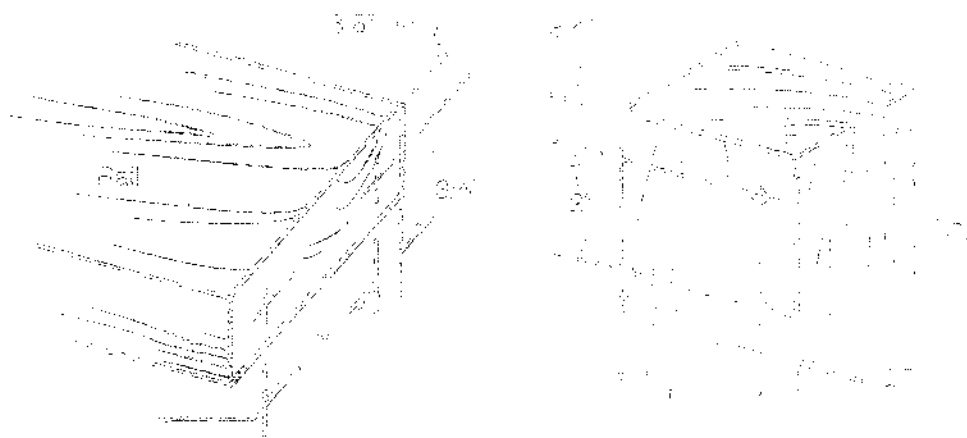


TOOLS:

1. Drill press and drill bit
2. Dowel pin
3. Square
4. Punch
5. Vise
6. Nail file

OPERATIONS:

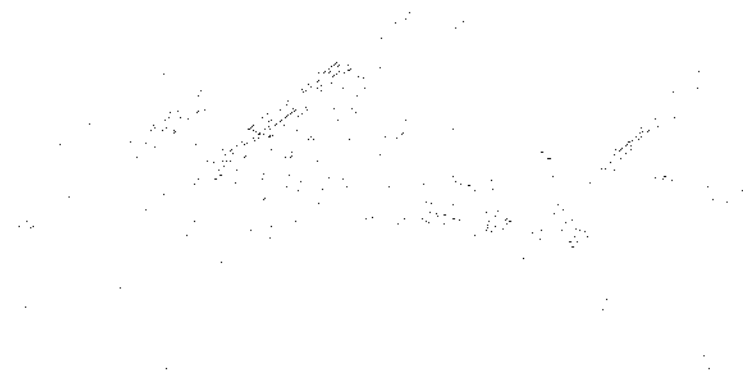
1. Prepare two pieces of stock: 3/4" x 3/4" x 12" and 1/8" x 1/8" x 12".
2. On one end of 3/4" wide stock, scribe longitudinal center line. Draw a circle 3/4" on side of center line. Punch mark the two intersections.
3. Mark one end of 1/8" stock. On one side, scribe a longitudinal center line. Draw a square on end. Squared lines 3/4" and 2-3/4" from marked end. Punch marks to two corners of the



ASSIGNMENT 32

1. Cut out the pattern and make a mold before cutting.

1. Place the pattern in the mold and press it down firmly.
2. Push the pattern down into the mold and press it down firmly.
3. Push the pattern down into the mold and press it down firmly.
4. Push the pattern down into the mold and press it down firmly.



2. Push the pattern down into the mold and press it down firmly.

1. Push the pattern down into the mold and press it down firmly.
2. Push the pattern down into the mold and press it down firmly.
3. Push the pattern down into the mold and press it down firmly.
4. Push the pattern down into the mold and press it down firmly.
5. Push the pattern down into the mold and press it down firmly.
6. Push the pattern down into the mold and press it down firmly.
7. Push the pattern down into the mold and press it down firmly.
8. Push the pattern down into the mold and press it down firmly.
9. Push the pattern down into the mold and press it down firmly.
10. Push the pattern down into the mold and press it down firmly.



1. Push the pattern down into the mold and press it down firmly.
2. Push the pattern down into the mold and press it down firmly.
3. Push the pattern down into the mold and press it down firmly.
4. Push the pattern down into the mold and press it down firmly.
5. Push the pattern down into the mold and press it down firmly.
6. Push the pattern down into the mold and press it down firmly.
7. Push the pattern down into the mold and press it down firmly.
8. Push the pattern down into the mold and press it down firmly.
9. Push the pattern down into the mold and press it down firmly.
10. Push the pattern down into the mold and press it down firmly.

QUESTION

QUESTION

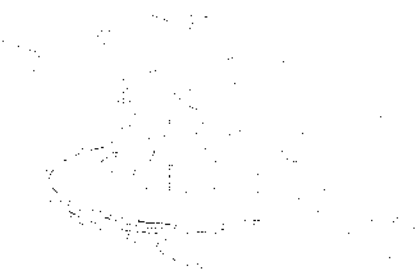
QUESTION

- QUESTION
- QUESTION
- QUESTION
- QUESTION
- QUESTION

- QUESTION
- QUESTION

QUESTION

- QUESTION
- QUESTION



CONFIDENTIAL

The following information is being provided to you for your information only. It is not intended to be used for any other purpose. This information is confidential and its disclosure is restricted to those individuals who have a need to know. It is the policy of the Department of Justice to protect the confidentiality of this information. Any unauthorized disclosure of this information is prohibited. This information is provided to you under the provisions of the Access to Information Act. It is not intended to be used for any other purpose. This information is confidential and its disclosure is restricted to those individuals who have a need to know. It is the policy of the Department of Justice to protect the confidentiality of this information. Any unauthorized disclosure of this information is prohibited. This information is provided to you under the provisions of the Access to Information Act.



PLN

1. 100-400

100-400

1. 100-400

2. 100-400

3. 100-400

4. 100-400

5. 100-400

6. 100-400

7. 100-400

8. 100-400

9. 100-400

10. 100-400

11. 100-400

12. 100-400

13. 100-400

14. 100-400

15. 100-400

16. 100-400

17. 100-400

18. 100-400

19. 100-400

20. 100-400

21. 100-400

22. 100-400

23. 100-400

24. 100-400

25. 100-400

26. 100-400

27. 100-400

28. 100-400

29. 100-400

30. 100-400

31. 100-400

32. 100-400

33. 100-400

34. 100-400

35. 100-400

36. 100-400

37. 100-400

38. 100-400

39. 100-400

40. 100-400

41. 100-400

42. 100-400

43. 100-400

44. 100-400

45. 100-400

46. 100-400

47. 100-400

48. 100-400

49. 100-400

50. 100-400

1. 100-400

2. 100-400

3. 100-400

4. 100-400

5. 100-400

6. 100-400

7. 100-400

8. 100-400

9. 100-400

10. 100-400

11. 100-400

12. 100-400

13. 100-400

14. 100-400

15. 100-400

16. 100-400

17. 100-400

18. 100-400

19. 100-400

20. 100-400

21. 100-400

22. 100-400

23. 100-400

24. 100-400

25. 100-400

26. 100-400

27. 100-400

28. 100-400

29. 100-400

30. 100-400

31. 100-400

32. 100-400

33. 100-400

34. 100-400

35. 100-400

36. 100-400

37. 100-400

38. 100-400

39. 100-400

40. 100-400

41. 100-400

42. 100-400

43. 100-400

44. 100-400

45. 100-400

46. 100-400

47. 100-400

48. 100-400

49. 100-400

50. 100-400

CONFIDENTIAL

CONFIDENTIAL - This document contains information that is exempt from public release under the Freedom of Information Act, 5 U.S.C. 552(b)(7)(C).

CONFIDENTIAL - This document contains information that is exempt from public release under the Freedom of Information Act, 5 U.S.C. 552(b)(7)(C).

CONFIDENTIAL - This document contains information that is exempt from public release under the Freedom of Information Act, 5 U.S.C. 552(b)(7)(C).



1. Introduction

1.1. Objectives

The primary objective of this study is to investigate the effects of various factors on the performance of a system. The secondary objectives are to identify the key variables that influence the system's output and to develop a model that can predict the system's behavior under different conditions.

1.2. Scope

This study is limited to the analysis of the system's performance under steady-state conditions. The effects of transient conditions and the impact of external factors are not considered in this study.

The system under investigation is a complex system with multiple inputs and outputs. The performance of the system is measured in terms of its output rate and the time taken to complete a task.

The results of this study will be used to optimize the system's performance and to identify the areas where further research is needed.

The study is organized as follows: Chapter 2 describes the system and the experimental setup. Chapter 3 presents the results of the experiments. Chapter 4 discusses the implications of the results and provides conclusions.

The following chapters provide a detailed description of the system and the experimental setup. The results of the experiments are presented in Chapter 3, and the implications of the results are discussed in Chapter 4.

The study is organized as follows: Chapter 2 describes the system and the experimental setup. Chapter 3 presents the results of the experiments. Chapter 4 discusses the implications of the results and provides conclusions.

The following chapters provide a detailed description of the system and the experimental setup. The results of the experiments are presented in Chapter 3, and the implications of the results are discussed in Chapter 4.

The study is organized as follows: Chapter 2 describes the system and the experimental setup. Chapter 3 presents the results of the experiments. Chapter 4 discusses the implications of the results and provides conclusions.

The following chapters provide a detailed description of the system and the experimental setup. The results of the experiments are presented in Chapter 3, and the implications of the results are discussed in Chapter 4.

The study is organized as follows: Chapter 2 describes the system and the experimental setup. Chapter 3 presents the results of the experiments. Chapter 4 discusses the implications of the results and provides conclusions.

2. System Description

The system under investigation is a complex system with multiple inputs and outputs. The performance of the system is measured in terms of its output rate and the time taken to complete a task.

The system is composed of several interconnected components. The inputs to the system are the amount of material and the time available for processing. The outputs of the system are the amount of material produced and the time taken to complete the task.

The system is modeled as a series of interconnected nodes. Each node represents a component of the system, and the connections between nodes represent the flow of material and information between components.

The system is analyzed using a combination of analytical and numerical methods. The analytical methods are used to determine the system's behavior under ideal conditions, and the numerical methods are used to determine the system's behavior under realistic conditions.

The results of the analysis show that the system's performance is highly sensitive to the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

The system's performance is also affected by the amount of material and the time available for processing. The system's output rate increases as the amount of material and the time available for processing increase.

1. $\sin^2 \theta + \cos^2 \theta = 1$

2. $\sin^2 \theta + \cos^2 \theta = 1$



3. $\sin^2 \theta + \cos^2 \theta = 1$



THE HISTORY OF THE

... ..

... ..

... ..

... ..

... ..

... ..

... ..



THE UNIVERSITY OF CHICAGO
PHYSICS DEPARTMENT

PHYSICS 435
LECTURE 10

1. Introduction

2. The Harmonic Oscillator

3. The Free Particle

4. The Particle in a Box

5. The Hydrogen Atom



1. $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$

2. $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$

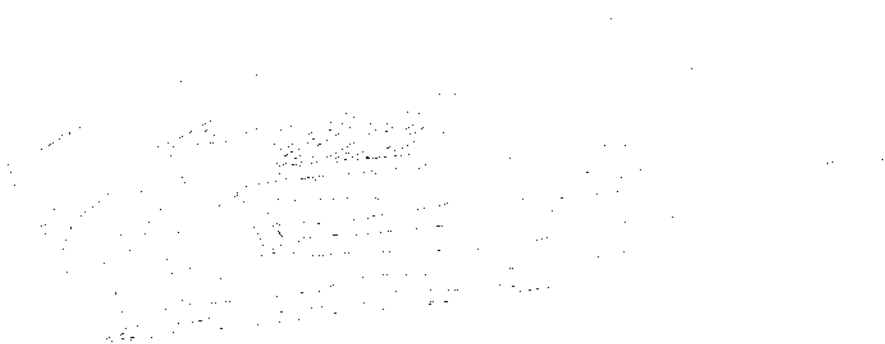
3. $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$

10. Probability of getting exactly 2 heads in 3 tosses

1. $\frac{1}{8}$



11. Probability of getting exactly 2 heads in 3 tosses



12. Probability of getting exactly 2 heads in 3 tosses

13. Probability of getting exactly 2 heads in 3 tosses

UNIT 36

UNIT 36

UNIT 36

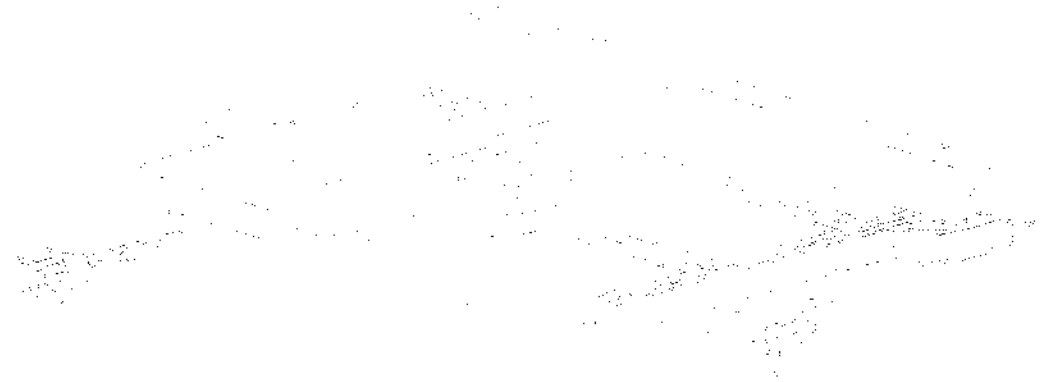
UNIT 36

UNIT 36

UNIT 36

UNIT 36

UNIT 36



LESSON 6

ASSIGNMENT 36

© 2010 UNIVERSITY OF CALIFORNIA, CENTER FOR ANATOMY AND PHYSIOLOGY OF THE HORSE. ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF THE UNIVERSITY OF CALIFORNIA. IT IS TO BE USED ONLY FOR THE PURPOSES INDICATED HEREIN. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED, STORED IN A RETRIEVING SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

9. Start motor and set speed dial at "F".
 10. Feed drill bit slowly while holding stock firmly against the prongs and force the bit into the hole. (The holder is assured by clamping stock to miter gauge or table.)
- 11a. Feeding the drill bit will cause the point to follow the grain of the wood and creep from the centerline. Brad-point drill bits are less likely to follow the grain. Retract the drill bit frequently to clear the hole.
- 11b. When maximum drill extension is reached, retract drill and stop motor.
11. Check carriage. Position drill bit point in bottom of hole by most of the flutes towards headstock, not handle.
 12. Repeat Operation 1 until full capacity of the drill bit has been used.
- 13a. Withdraw drill bit, engage the drill extension, and install the speed dial in the desired position. Turn the speed dial to the right and start the motor.
1. Drilling is complete if the bit is in wood and does not vibrate. Then, set the speed dial to the prongs and remove the gauge.

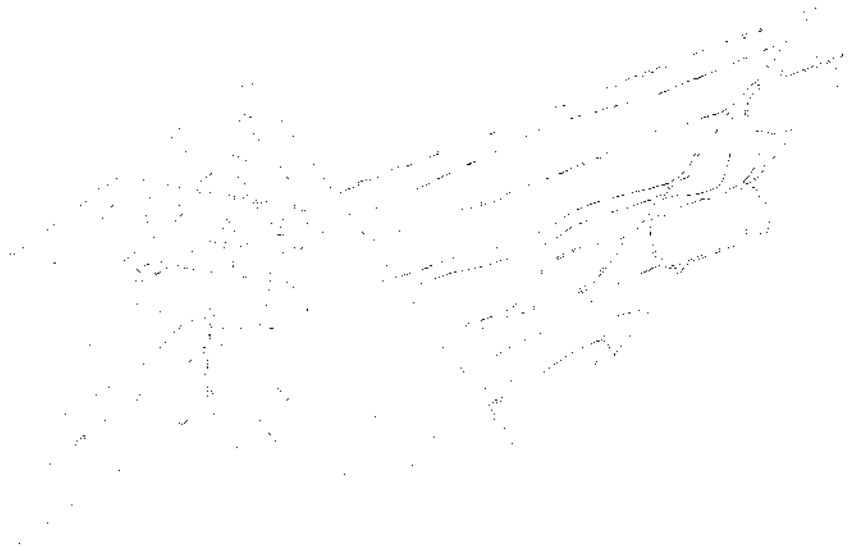
LESSON 6

ASSIGNMENT 37

LESSON 6: DOWEL JOINTS FOR MITERS IN MITERED CORNERS

DOWEL JOINT

A dowel or miter joint is made from any piece of angular stock by cutting a wooden dowel hole as shown in figure 37 in the stock and inserting it.



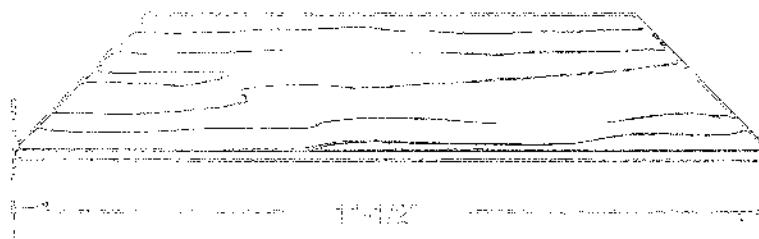
Uses

Doweled miter joints are used in door frames, window panes, frames having simple mitered corners, and in furniture. It is a joint that provides a additional gluing surface and increased resistance to bending and breaking stresses.

PREPARATIONS:

Let us make a four-sided frame having doweled, simple mitered corners.

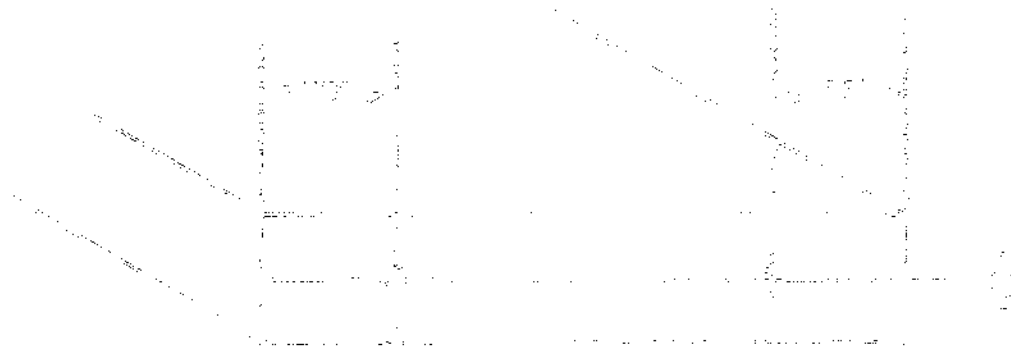
1. Prepare four pieces of stock $3/4" \times 2-1/2" \times 12"$.
2. Make 45° miter cuts at both ends of each piece leaving outside edges $1-1/2"$.



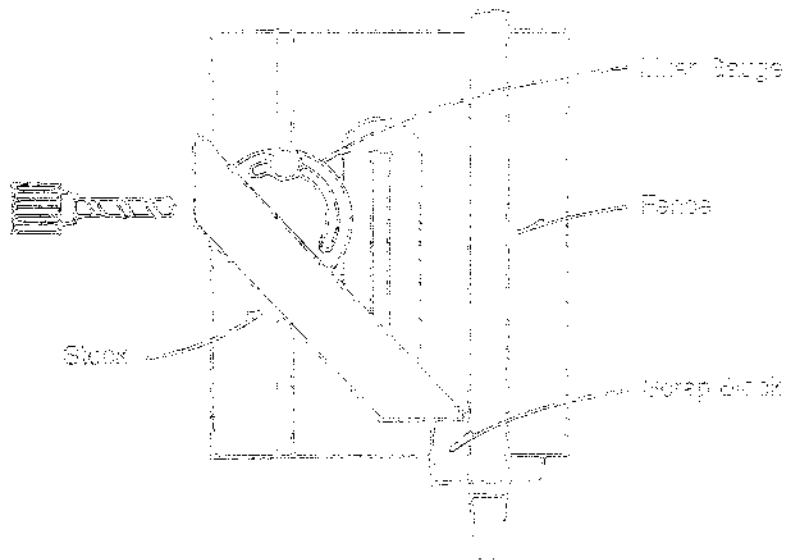
LESSON 6

ASSIGNMENT 17

3. Scribe longitudinal center lines on each parted out. Square lines 7/8" from both ends of the work piece and punch mark the intersections.



4. Set Mark 11" - horizontals. Bowing position.
5. Secure 3/8" mill bit in chuck.
6. Get miter gauge set up in right angle. Place on ground surface. Square the work.
7. Place one piece of stock on the table and adjust the table to square the work to the edge of table.
8. Position the bit in the work with the table at 45 degrees. Square the work to the end and square the miter gauge to table.
9. Feed in table with revolve bit and gauge. Square the work to the end.
10. Obtain a scrap block under the table. Square the work to the end of the table.



LESSON 6

ASSIGNMENT 37

1. Holding stock firmly against center gauge, cut one hole in each end of all four pieces to a depth of 1-1/16".
2. Lay center gauge and work the drill about 1/2" past the center line with drill point. Drill remaining 3/4" free to the gauge depth.
3. Prepare eight S/S' stems or stems of 2 1/2" long.
4. Assemble stems as indicated in drawing shown.



5. Lay the stems in the holes of the pieces as indicated in drawing shown. The stems should be inserted into the holes of the pieces so that the stems are flush with the ends of the pieces. The stems should be inserted into the holes of the pieces so that the stems are flush with the ends of the pieces.

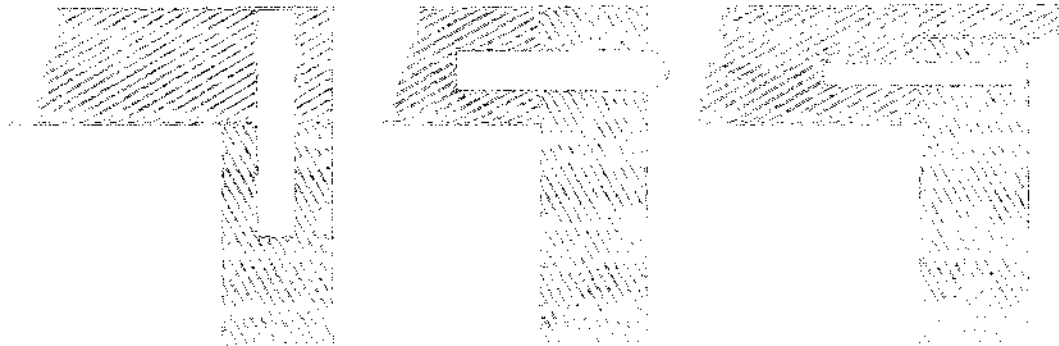
LESSON 8

ASSIGNMENT 38

HOW TO DRILL HOLES FOR A PEGGED JOINT

DESCRIPTION:

Two pieces of stock, butted, and held together by a dowel form a pegged joint.

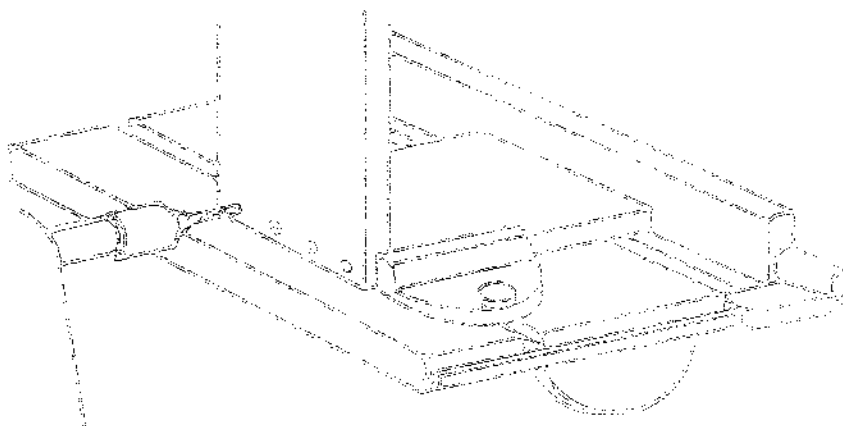


LAB:

These drawings provide strength in butt joints and are suitable for use in the construction of end tables, chairs, pegged joints, in relation to drill bit size = length of the hole in the wood. Use a 3/8" drill bit to make furniture.

PREP WORK:

1. Prepare the pieces of stock with a 45 degree miter on the ends.
2. Lay out a line across the side of the joint. The miter gauge is used to mark the line across this line.
3. Set Mark V in Horizontal Boring position.
4. Secure 3/8" drill bit in chuck.
5. Set miter gauge in left slot and fence on right side of table.
6. Place edge of unmarked stock against miter gauge, left end one inch inside left edge of table, and right end butted against fence.
7. Hold marked stock perpendicular to table, punch marks opposite drill bit end backed against end of stock on the table. Match edges of stock.



8. While keeping edges of stock matched, position back punch mark in line with drill point by adjusting table height and miter gauge.
9. Remove stock and lock miter gauge to table. Replace stock.
10. Hold stock firmly in position and drill back hole 1-3/4" deep (1" into second piece). Place dowel in hole.
11. Drill similar holes centered on remaining punch marks, positioning stock by moving miter gauge.

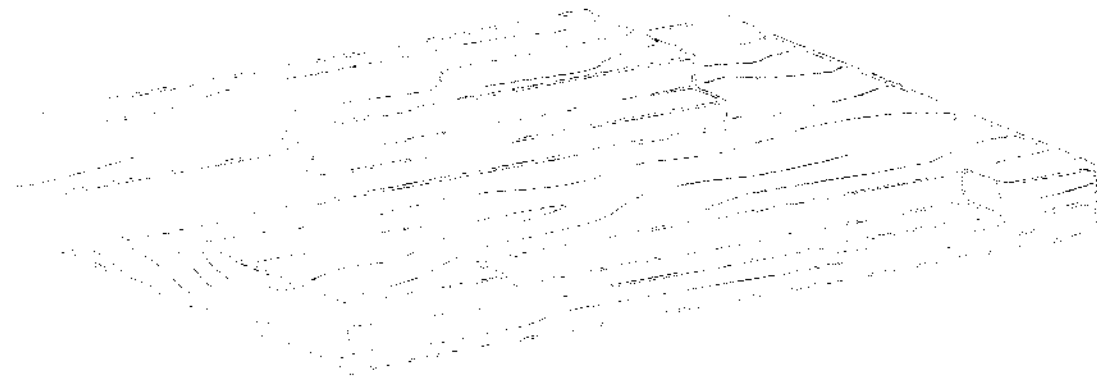
LESSON 8

ASSIGNMENT 39

HOW TO USE ROUTER FOR CUTTING A STOP RABBET

DESCRIPTION:

A stop rabbet is a rabbet which does not extend to both ends of the edge in which it is cut.



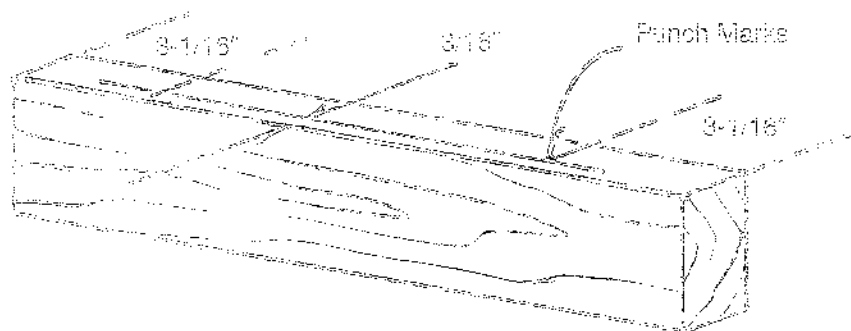
Tools:

1. 3/8" Dia. Router - Set in Horizontal Boring position. #213 1/2" Dia. Router Bit - Set in stock.

Work Procedure:

1. Mark the 2 punch marks on the edge of the stock as shown in Figure 8-19.

1. Prepare a piece of stock 3/4" x 3" x 12".
2. Set Mark V in Horizontal Boring position.
3. Mount router chuck with 3/8" router bit secured in place.
4. Mark one side of stock. Scribe a longitudinal on one edge, 3/16" from the marked side. Square two lines across the longitudinal, 3/31/3" from each end. Make punch marks at the two intersections.



UNIT 10 ASSIGNMENT IV

DATE: _____

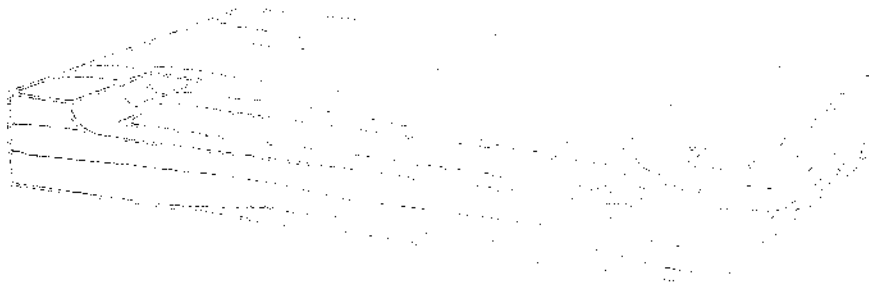
5. Remove miter gauge. This is the last step.
6. Place stock on table, miter gauge on left.
7. Position left edge of workpiece against miter gauge.
8. Position the miter gauge against the workpiece and make a final miter cut.



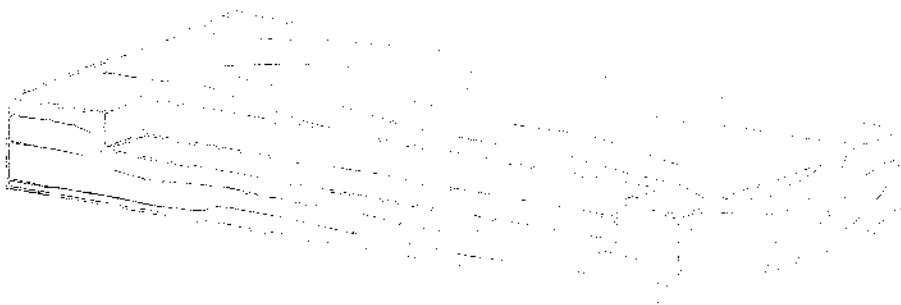
2. Square End

1. The purpose of this exercise is to square the end of a piece of stock.

2. To square the end of a piece of stock, the following steps should be followed:
1. Place the stock on the table.
2. Hold stock firmly against the miter gauge.
3. Slide stock against the miter gauge and make a square cut.



4. Position the miter gauge deep in front of the workpiece.
5. Make a third pass, completing the square end.
6. Square ends of rabbet with the miter gauge.



MISSION 6

ASSIGNMENT 40

WORKING WITH FERROUS METALS

Objectives

1. Drill a hole in mild steel, copper, brass and other non-ferrous metals using any bits, other than auger bits, that will work. 2. Drill a hole in mild steel and other ferrous metals using high speed drill bits. 3. Drill a hole in mild steel and other ferrous metals using a "high speed" drill bit.

Notes

1. Drill bits are made of high speed steel, which is very hard wearing, and will wear away when altering or adding new threads to a drill bit. 2. Drill bits are made of high speed steel, which is very hard wearing, and will wear away when altering or adding new threads to a drill bit.

Procedure

1. Set up the lathe as follows:

1. Set the lathe as follows:

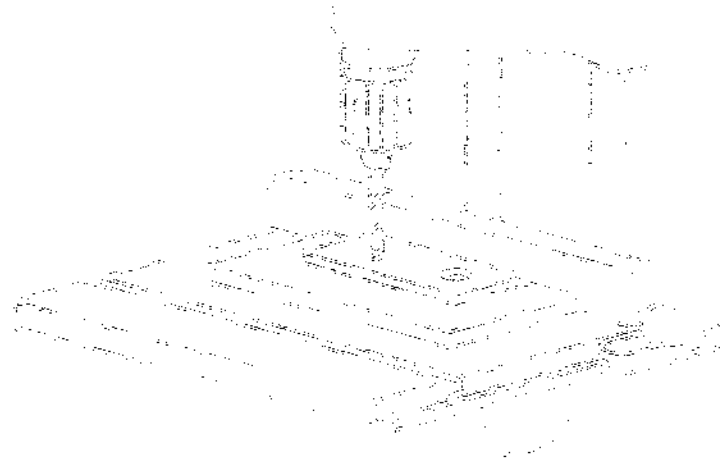
2. Set the lathe as follows:



1. Set Mark in lathe drill case position.
2. Secure 1/2" high speed drill bit in chuck.
3. Remove dial gauge, hold the edge of a piece of scrap stock (size not less than iron stock) against fence.
4. Press trap iron punch marks up, on scrap and butt against fence.
5. Position right punch mark in line with, and close to, point of drill bit by adjusting carriage, fence, and stock.
6. Set depth dial to stop drill feed before bit reaches table. Start motor and set speed dial to "K".
7. Feed drill bit slowly, using constant pressure on drill feed handle, until drill bit enters scrap stock.
8. Reposition stock and drill through hole centered in left punch mark.

LESSON 6 ASSIGNMENT 40

SELECTED PORTION OF SANDHERRICK: [http://www.fishbase.org/ViewSpecimens.php?ID=261194&ID2=261194](#) (Accessed 05/05/2011)



Discussion: The presence of a tracheal system in insects is an adaptation to life on land. Insects are the most diverse and abundant group of organisms on land, and their success is largely due to their ability to breathe through tracheae. The tracheal system consists of a network of branching tubes that deliver oxygen directly to the tissues of the body. This system allows insects to maintain high metabolic rates and active lifestyles in a terrestrial environment. In contrast, most aquatic animals rely on gills for respiration, which is less efficient than the tracheal system in a dry, oxygen-poor environment.

LABORING

ASSIGNMENT 41

DATE: _____

NAME: _____

OBJECTIVE:

Drumming glass with the included end of the file to make a preliminary of making a hole in an power drilling
with a drill bit. The drilling file is used to make a hole in the glass. The glass is drilled by a drill bit
of which is a preliminary of making a hole in the glass.

THEORY:

Drumming glass with the included end of the file to make a preliminary of making a hole in an power drilling
with a drill bit. The drilling file is used to make a hole in the glass. The glass is drilled by a drill bit

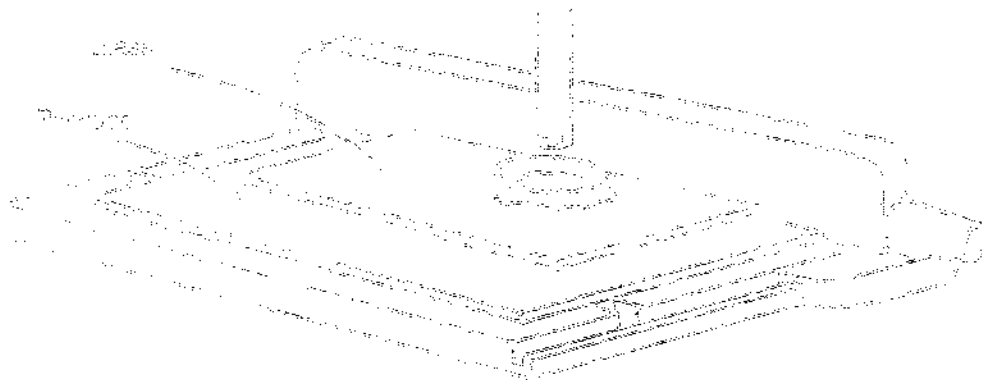
PROCEDURE:

1. Select a piece of glass having about 10 sq. in. area and at least one straight edge 4" or 5" long.

2. Select a file to use in drilling. If you wish to make a hole in a glass with which is a color or thin paint
- Set Mark W in vertical. Drill Press position.



3. Place glass in center of table, painted side up, and edges butted against to rest. Beneath glass have a smooth piece of plywood or similar work.
4. Rub file long of center on the glass around the center mark. Make the inside diameter of the file about 3/8".



LESSON 8

ASSIGNMENT 41

1. Check that the motor speed control is set to the correct speed for the work to be done. See the motor speed control instructions on page 10.

7. Secure tube in chuck. Position center mark on glass under axis of tube by adjusting ferrule, glass, and table. Use masking or other tape to prevent dust from glass in place.
8. Cover exposed surface inside ring with mixture of oil and emery powder.
9. Start motor and set speed dial at "A".
10. Feed drill bit with light pressure. Maintain this for quantity of a few minutes to form and cut.

Note: When drilling glass of irregular shape, such as tapered, construct a piece that will hold work in a fixed position until hole is completed.

LESSON 6 TEST

© 2009 The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of The McGraw-Hill Companies, Inc.

TEST QUESTIONS ON LESSON 6

TRUE OR FALSE: Circle your selection.

- F 1. Mortise should have tapering sides to make a tight fit with the tenon.
- T 2. When forming a round end mortise, holes should be drilled one after the other starting at one end.
- F 3. The approximate distance the quill of a drill press can be extended is 4 ftches.
- F 4. End corners of a frame having dovetail joints at the base should be 1/4 degree (in.).
- F 5. The holes in a dovetail joint must be drilled so that the grain of the wood is drilled at 90 degrees.
- F 6. Holes for dowels in a pegged joint are bored in two planes accurately.
- F 7. A sharp chisel is used to give additional strength to a joint.
- T 8. A piece of soft wood can be filled with a soft plywood sheath to give strength.
- F 9. Cutting holes in glass is best done with a twist drill bit.
- T 10. Consistently firm pressure should be kept on the feed of a hand drill to drill glass.
- T 11. When the holes in a joint are to be bored from the end of a piece of wood, the drill should be started in a corner of the wood.

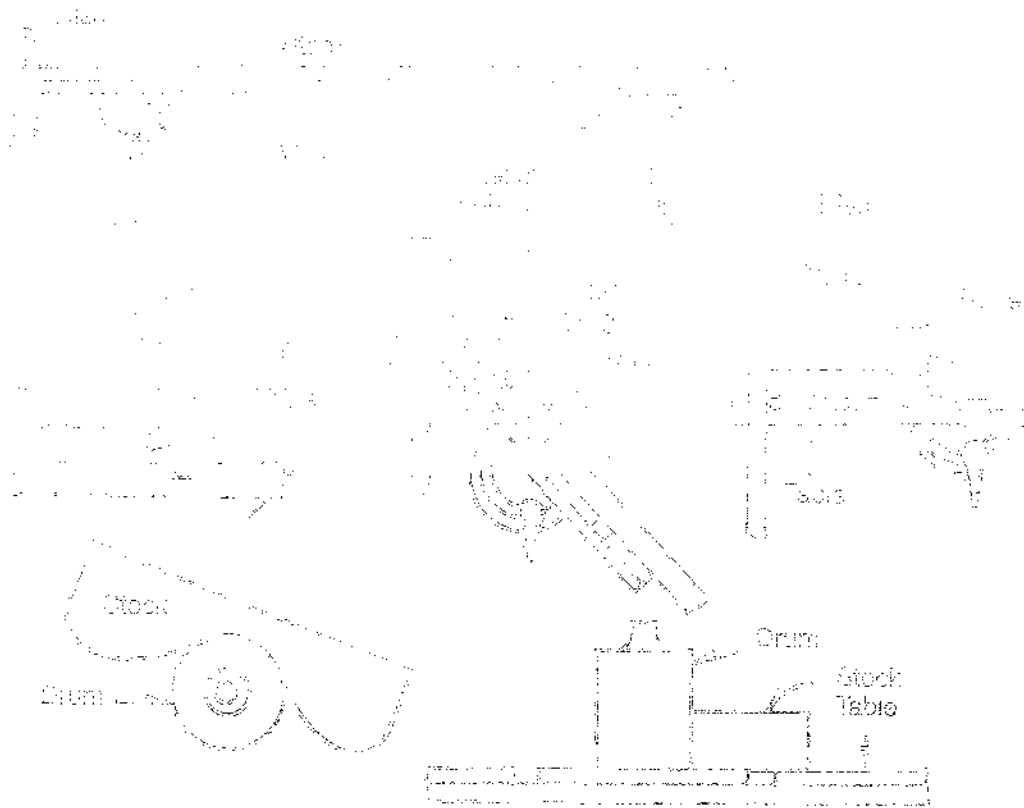
LESSON 7

ASSIGNMENT 42

TECHNICAL DRAWING OF A CRUM SANDER

DISCUSSION

The choice of a crum sander depends on the sanding to crum sanding should be governed by the size and shape of the crum and the size of the table and the length of the table in the class of material and the sanding angle required. The grit of the disc or sleeve used should be carefully related to density of the material to be sanded. The crum sanding is a roughing operation and the rougher the surface of the crum the better the crum sanding will be. The crum sanding is a roughing operation and the rougher the surface of the crum the better the crum sanding will be.



LESSON 7

ASSIGNMENT 42

USE:

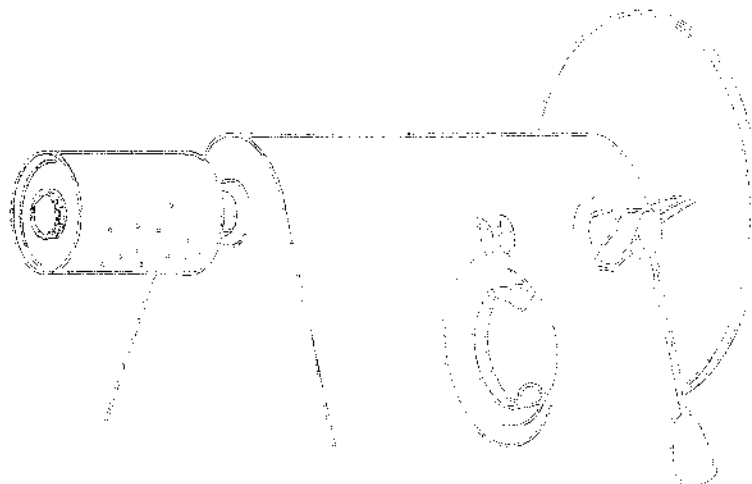
The correct selection of sanding method, tool and stream, and abrasive to be sanded, type of sandpaper sanding.

OPERATIONS:

1. Provide 12" disc; one medium grit sanding disc (Optional: drum sander; drum sander; coarse grit coarse sanding disc,
2. Mount abrasive paper to sanding disc.
3. Optional: a) Apply substrate paper to sanding disc with auxiliary spindle. b) Apply auxiliary spindle to drum sander. c) Apply auxiliary spindle to drum sander.



4. Optional: a) Remove and replace sanding sleeve on drum sander. b) Replace sanding disc on auxiliary spindle with drum sander.



THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF PHYSICS

1971

PHYSICS 361: QUANTUM MECHANICS
PROBLEM SET 10

Due Date: _____
Name: _____

1. A particle of mass m is confined to a one-dimensional infinite potential well of width L . The potential is zero for $0 < x < L$ and infinite elsewhere. The wave function $\psi(x)$ satisfies the Schrödinger equation

$$-\frac{\hbar^2}{2m} \frac{d^2 \psi}{dx^2} = E \psi \quad (1)$$

with boundary conditions $\psi(0) = \psi(L) = 0$. The energy eigenvalues are given by

$$E_n = \frac{n^2 \pi^2 \hbar^2}{2mL^2} \quad (2)$$

where $n = 1, 2, 3, \dots$. The corresponding normalized energy eigenfunctions are

$$\psi_n(x) = \sqrt{\frac{2}{L}} \sin\left(\frac{n\pi x}{L}\right) \quad (3)$$

2. A particle of mass m is confined to a one-dimensional infinite potential well of width L . The potential is zero for $0 < x < L$ and infinite elsewhere. The wave function $\psi(x)$ satisfies the Schrödinger equation

$$-\frac{\hbar^2}{2m} \frac{d^2 \psi}{dx^2} = E \psi \quad (4)$$

with boundary conditions $\psi(0) = \psi(L) = 0$. The energy eigenvalues are given by

$$E_n = \frac{n^2 \pi^2 \hbar^2}{2mL^2} \quad (5)$$

where $n = 1, 2, 3, \dots$. The corresponding normalized energy eigenfunctions are



QUESTION 7

ASSIGNMENT 2



1. Identify the state or states that are shaded on the map.

- 1. New York
- 2. Pennsylvania
- 3. Ohio
- 4. West Virginia

Handwritten notes at the top right of the page, possibly including a date or page number.

Main body of handwritten text, appearing to be a list or series of notes.

Handwritten text block, possibly a paragraph or a set of instructions.

Handwritten title or section header.

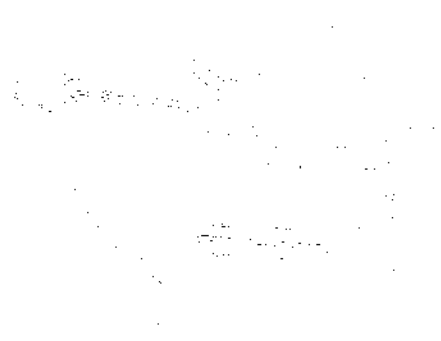


1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. This is essential for ensuring transparency and accountability in the organization's operations.

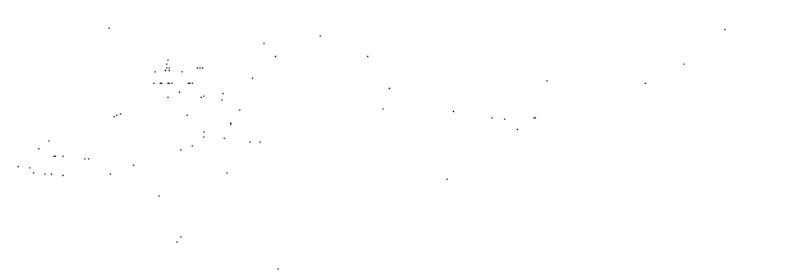
2. The second part of the document outlines the various methods and techniques used to collect and analyze data. These methods include surveys, interviews, and focus groups, each with its own strengths and limitations.

3. The third part of the document discusses the importance of data security and privacy. It outlines the various measures that can be taken to protect sensitive information from unauthorized access and disclosure.

4. The fourth part of the document discusses the importance of data quality and accuracy. It outlines the various methods that can be used to ensure that the data is reliable and valid.



5. The fifth part of the document discusses the importance of data visualization. It outlines the various methods that can be used to present data in a clear and concise manner, making it easier for stakeholders to understand and act upon.



10/10/2020

10/10/2020

10/10/2020

10/10/2020

10/10/2020

10/10/2020



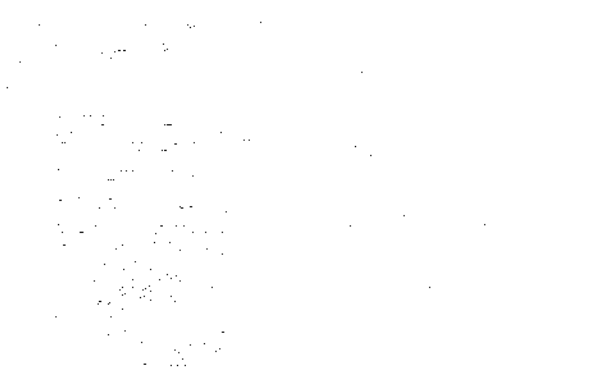
QUESTION

QUESTION

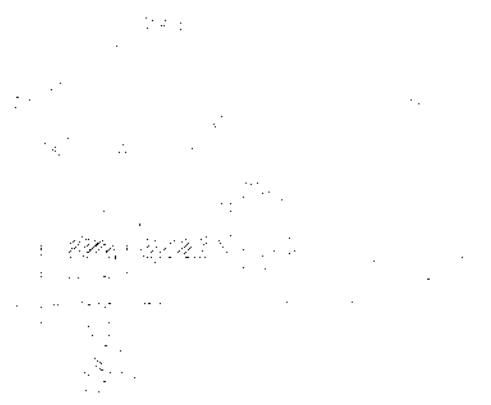
QUESTION

QUESTION

- 1. ...
- 2. ...
- 3. ...
- 4. ...
- 5. ...



- 1. ...
- 2. ...
- 3. ...
- 4. ...
- 5. ...

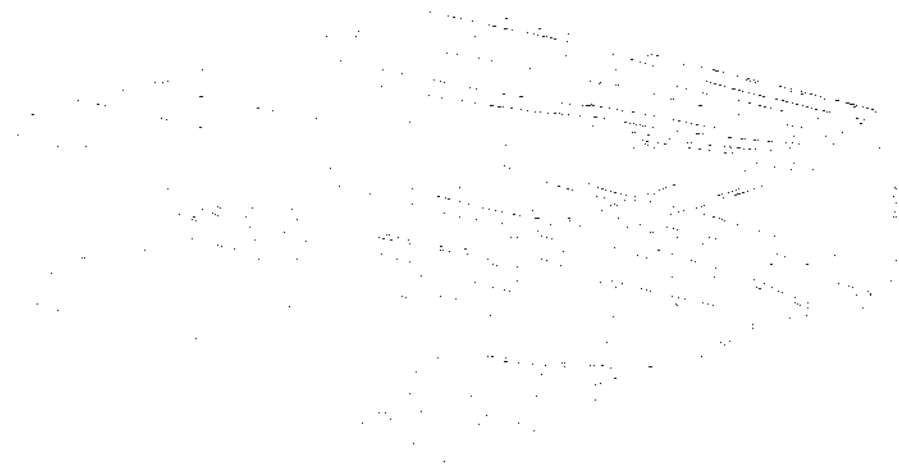


ASSIGNMENT 45

1. Let \mathcal{A} be a linear operator on a finite-dimensional vector space V . Suppose that $\mathcal{A}^2 = \mathcal{A}$. Prove that \mathcal{A} is a projection operator.

2. Let \mathcal{A} be a linear operator on a finite-dimensional vector space V . Suppose that $\mathcal{A}^2 = \mathcal{A}$. Prove that \mathcal{A} is a projection operator.

3. Let \mathcal{A} be a linear operator on a finite-dimensional vector space V . Suppose that $\mathcal{A}^2 = \mathcal{A}$. Prove that \mathcal{A} is a projection operator.



1. Introduction

The following text is a summary of the main points of the document.

2. Methodology

The methodology used in this study is based on a combination of qualitative and quantitative methods.

3. Results

The results of the study show that there is a significant correlation between the variables studied.

4. Discussion

The findings of this study have important implications for the field of research.

5. Conclusion

In conclusion, the study has provided valuable insights into the relationship between the variables.

6. References

The following references were consulted during the preparation of this document.

7. Appendix

The appendix contains additional information related to the study.

8. Acknowledgments

The author wishes to thank the following individuals for their support and assistance.

10/10/10

10/10/10

10/10/10



CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL



THE HISTORY OF THE

REIGN OF KING CHARLES THE FIRST

IN WHICH IS CONTAINED A FULL AND ACCURATE HISTORY OF HIS REIGN, FROM HIS ASCENSION TO THE THRONE, TO HIS DEATH, AND THE CONSEQUENT CHANGE OF GOVERNMENT.

BY JOHN BURNET, BISHOP OF SALISBURY.

LONDON, Printed by J. Sturges, at the Black-Swan in St. Dunstons Church, in Fleet-Street, 1704.

THE HISTORY OF THE REIGN OF KING CHARLES THE FIRST, IN WHICH IS CONTAINED A FULL AND ACCURATE HISTORY OF HIS REIGN, FROM HIS ASCENSION TO THE THRONE, TO HIS DEATH, AND THE CONSEQUENT CHANGE OF GOVERNMENT. BY JOHN BURNET, BISHOP OF SALISBURY. LONDON, Printed by J. Sturges, at the Black-Swan in St. Dunstons Church, in Fleet-Street, 1704.

THE HISTORY OF THE REIGN OF KING CHARLES THE FIRST, IN WHICH IS CONTAINED A FULL AND ACCURATE HISTORY OF HIS REIGN, FROM HIS ASCENSION TO THE THRONE, TO HIS DEATH, AND THE CONSEQUENT CHANGE OF GOVERNMENT. BY JOHN BURNET, BISHOP OF SALISBURY. LONDON, Printed by J. Sturges, at the Black-Swan in St. Dunstons Church, in Fleet-Street, 1704.

1. Introduction

1.1. Overview

1.2. Objectives

The purpose of this study is to investigate the effects of various factors on the performance of a system. The study is organized as follows: Chapter 2 describes the methodology used in the study. Chapter 3 presents the results of the experiments. Chapter 4 discusses the implications of the findings. Chapter 5 concludes the study and suggests directions for future research.

2. Methodology

- 2.1. Study Design
- 2.2. Participants
- 2.3. Data Collection
- 2.4. Data Analysis

ASSIGNMENT 49

1. The first part of the assignment is a reading of the first part of the book. The second part is a writing assignment.

READING ASSIGNMENT

1. Read the first part of the book.

2. Write a short paragraph about the first part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

3. Write a short paragraph about the second part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

4. Write a short paragraph about the third part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

[Faint, illegible handwriting on lined paper, likely bleed-through from the reverse side of the page.]

5. Write a short paragraph about the fourth part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

6. Write a short paragraph about the fifth part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

7. Write a short paragraph about the sixth part of the book. The paragraph should have a topic sentence, a main idea, and a conclusion. The paragraph should be written in the first person.

[Faint, illegible handwriting on lined paper, likely bleed-through from the reverse side of the page.]

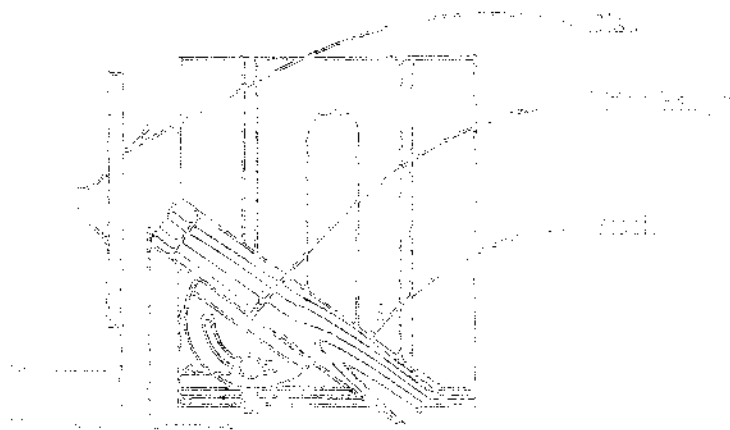


LESSON 8

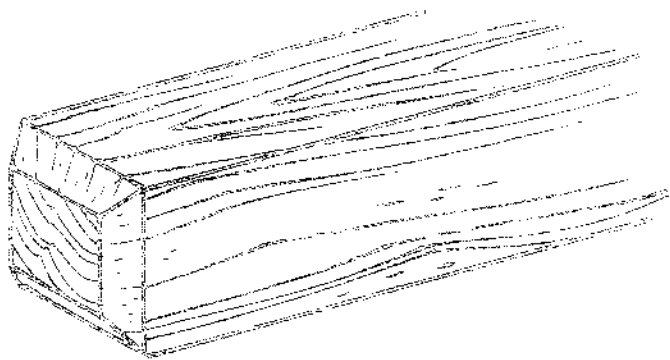
ASSIGNMENT 49

Copyright © 2008 by The Taunton Press, Inc. All rights reserved. No part of this publication may be reproduced without the prior written permission of The Taunton Press, Inc.

3. Set miter gauge at 45° right and place in left table slot.
4. Place stock on table, marked end toward sanding direction and edge butted against miter gauge.
5. Position the edge to be sanded one inch beyond edge of table and in line with down turning side of disc by adjusting stock, miter gauge, and table. Lock carriage.
6. Position abrasive paper 1" from edge of stock by adjusting headstock. Lock headstock.



7. Working slowly, bring each of surfaces in contact with face of disc and grind to a smooth finish. (See photo, 11A.)
8. Repeat operation 7 on the remaining three edges.

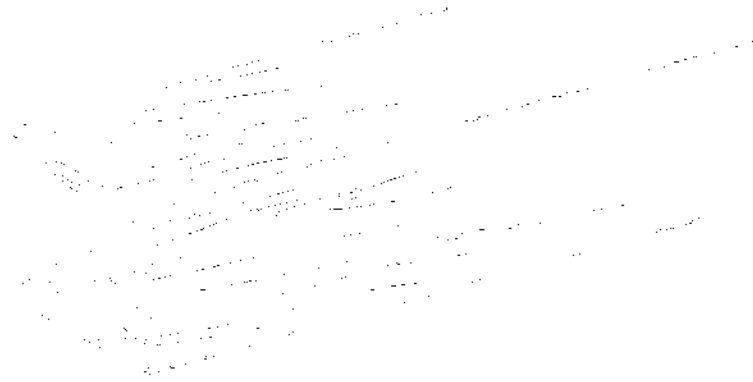


LESSON 8

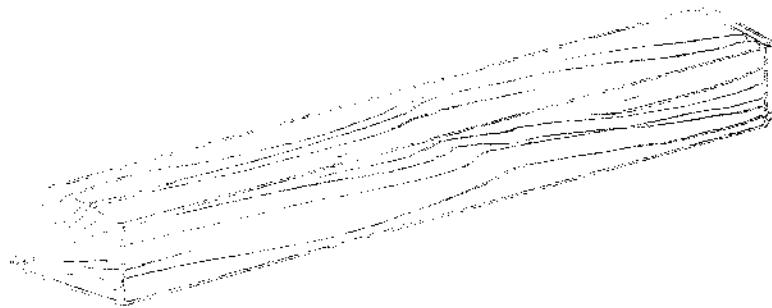
ASSIGNMENT 49

1. Lay the stock on the table and use the pencil to draw a line across the top edge to facilitate firm positioning of stock while cutting.

2. Draw a line parallel to the top edge at the other end of stock. Lightly punch mark the intersection.



3. Lay the stock on the table and use the pencil to draw a line across the top edge to facilitate firm positioning of stock while cutting.



LESSON 8

ASSIGNMENT 30

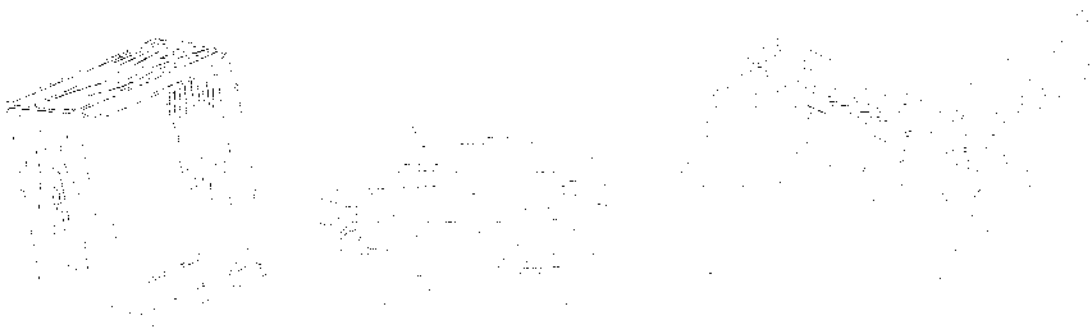
11. BEVELS AND CHAMFERS

DESCRIPTION:

Bevels are like chamfers on the entire edge, width of the chamfer is the same as the angle on the bevels and must be smooth with sharp edges. Chamfers are on one edge of the chamfer, unlike the chamfers except for miter gauges and bevel gauges. Chamfers are used for machine work, bevels for most position.

USE:

Bevels are primarily used to finish the edges of work pieces. They are used to make a smooth transition between surfaces.



Procedure:

1. Bevel one end and one edge of the stock as follows:

1. Prepare a piece of stock 8" x 4" x 1/2"
2. Lock carriage at the right end of cross. Set table on 45° and lock.
3. Set miter gauge at 90° and place in left hand position.
4. Position end of stock 1/2" beyond left edge of table and 1/2" from right edge of table. Lock miter gauge.

Note: Position stock to overlap table an amount that leaves the effective portion of end of base edge when bevel is completed. The undercut table edge permits easy removal of the bevel. Set the work on the overlap prevents chattering of work piece and cutting edge will be sharp and smooth.

5. Feed sander into stock until bevel is formed.

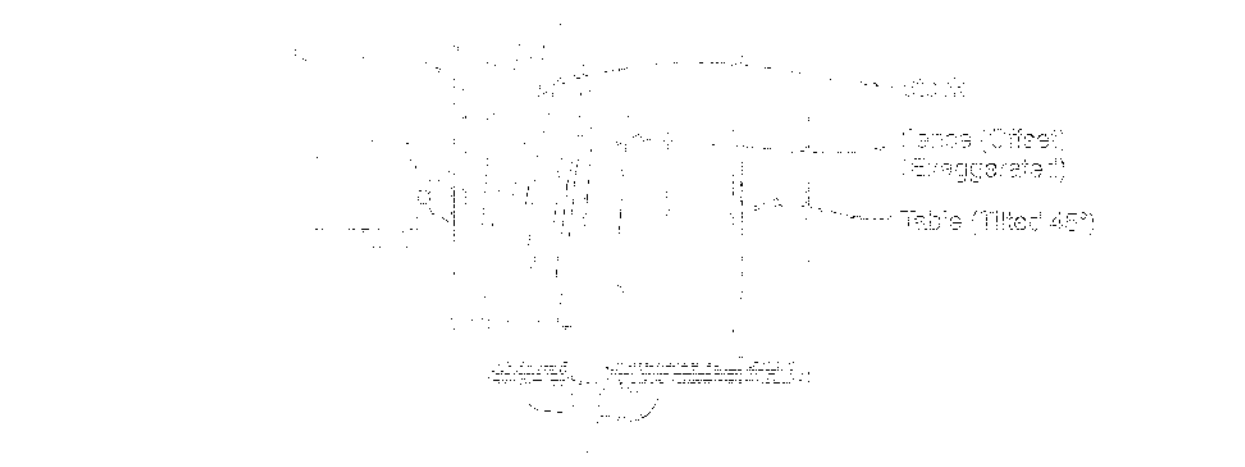


ASSIGNMENT 50

1. Remove the top cover of the printer by turning the screw in base.
2. Remove the top cover of the printer by turning the screw in base.
3. Remove the top cover of the printer by turning the screw in base.



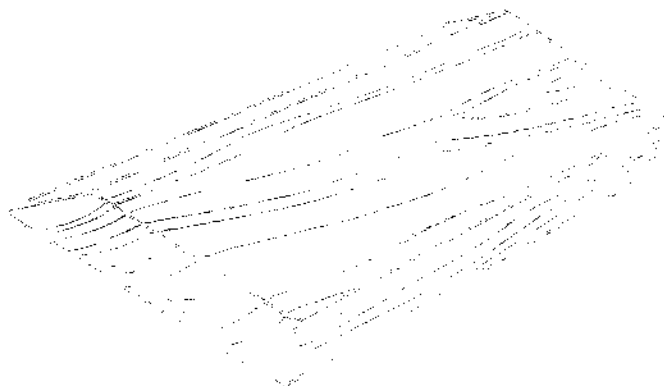
Remove the top cover of the printer by turning the screw in base.



LESSON 8

ASSIGNMENT 50

13. Set depth gauge on 1/8" mark and lock. Release quill. Advance quill to depth gauge and push quill back stock through from the rear.
14. Repeat Operation 13 above until bevel is formed.



Note: After a bevel is formed on the table saw, the workpiece should be held vertically and the bevel should be formed on the table saw.

Note: There are many ways to form a bevel on a workpiece, and the method used will depend on the workpiece.

LESSON 8

ASSIGNMENT 51

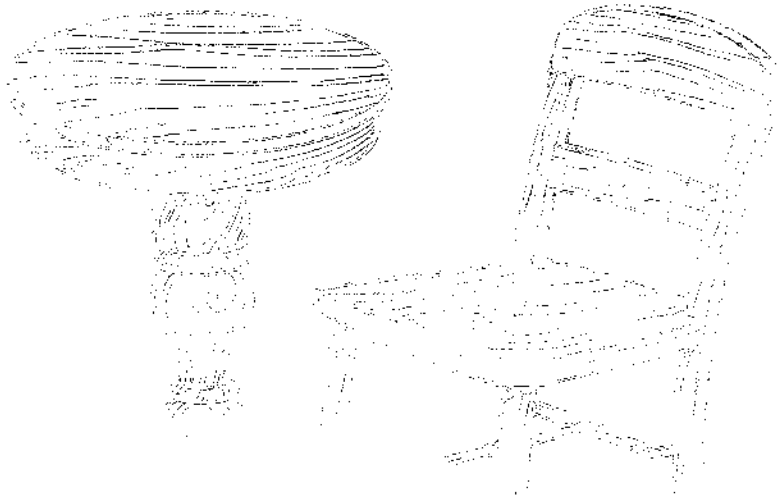
HOW TO SAND OUTSIDE CURVES

DESCRIPTIONS:

"Outside" or convex curves can be sanded to finished form using the sander providing the work piece can be turned or adjusted to bring the full length of the curve into contact with the abrasive.

USES:

Common convex curves requiring sanding are found in oval or round tables and bench tops; some legs, and flange of chair; parts of tables, desks, cabinets, ramps, and wood ornaments.



OPERATIONS:

Let us sand the edge of an oval table top.

1. Prepare a piece of stock 2 1/2" x 1 1/2" x 30".
2. Scribe an oval on one side.

Note: Use of an oval paper pattern centered on the side helps assure accuracy.

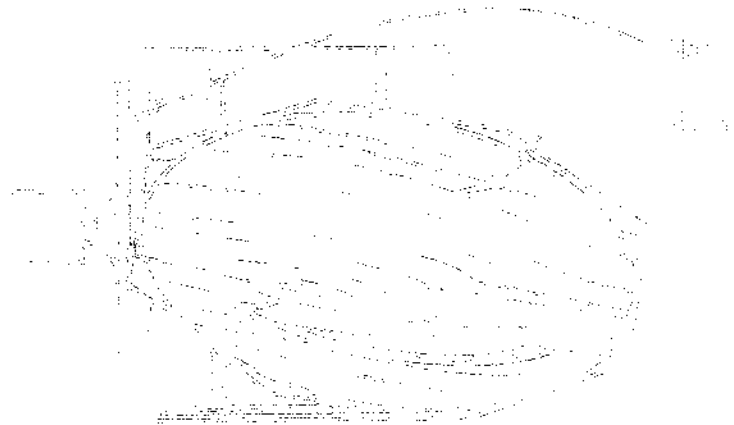
3. Cut stock to approximate shape (about 1/8" from the outline) using a scroll or keyhole saw. If available, a jig saw or bandsaw quickly reduces stock to a size and shape which requires minimum sanding. If necessary, you can use the table saw to remove most waste stock. See sketch below.



LESSON 4

ASSIGNMENT 41

4. Commence sending at a point which will permit convenient handling of study materials, and forward advances and returns marks as follows:



5. The student should be instructed to use the following procedure for the study of the material:

The student should be instructed to use the following procedure for the study of the material:

SECTION 8 ASSIGNMENT 52

with a 1/2" diameter hole

Fig. 10-10-10

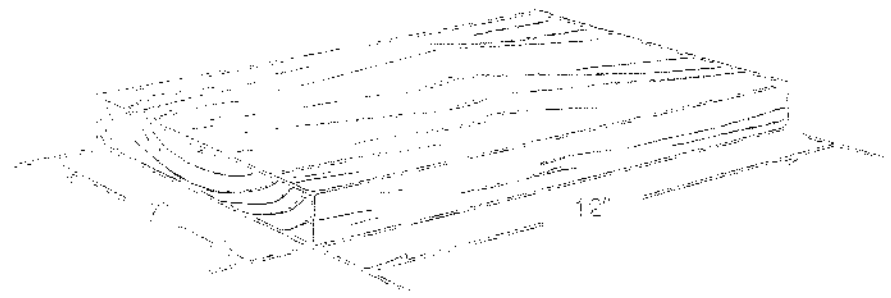
Draw the development of the lateral surface of a cylinder of diameter 12" and height 12" in cylindrical form, inside or outside, as shown in Fig. 10-10-10. (See Problem 10-10-10 for details.)

Draw the development of the lateral surface of a cylinder of diameter 12" and height 12" in cylindrical form, inside or outside, as shown in Fig. 10-10-10. (See Problem 10-10-10 for details.)



- 1. Draw the development of the lateral surface of a cylinder of diameter 12" and height 12" in cylindrical form, inside or outside, as shown in Fig. 10-10-10. (See Problem 10-10-10 for details.)
- 2. Draw the development of the lateral surface of a cylinder of diameter 12" and height 12" in cylindrical form, inside or outside, as shown in Fig. 10-10-10. (See Problem 10-10-10 for details.)

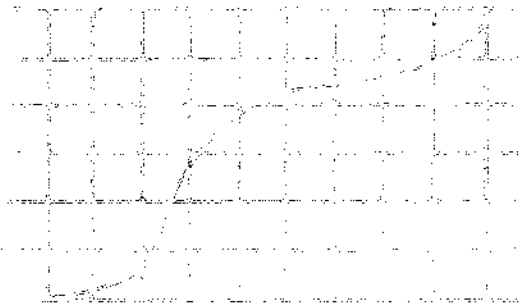
Fig. 10-10-10 (a) Lateral surface of a cylinder of diameter 12" and height 12".



LESSON 8

ASSIGNMENT 52

2. Outline a shelf bracket on one side of stock, also fit a design if you wish.



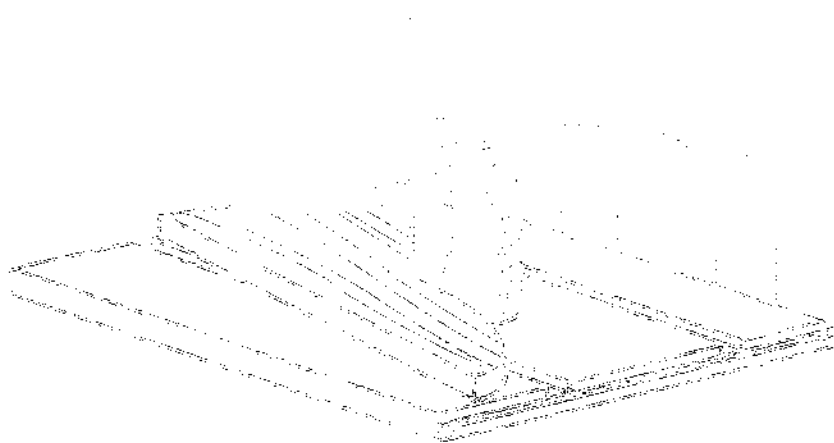
Note:
1/2" Square

3. Rough out the shape using the file, rasp, or plane.

4. Lay the work on a flat surface with these profiles. Make a mark for the curve of the top.

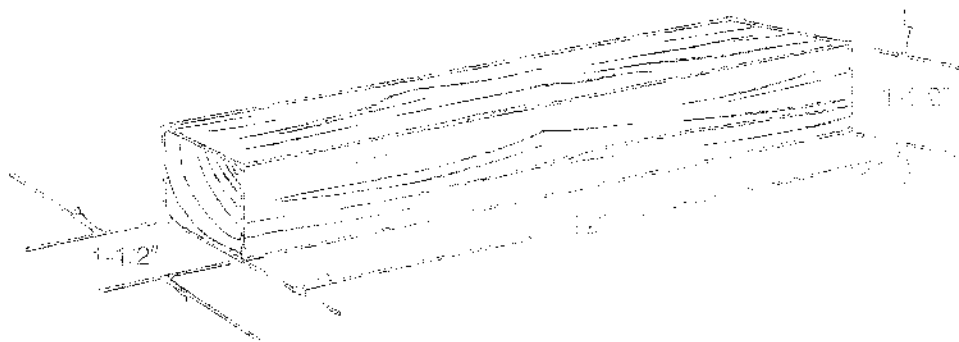
5. Position a warpage of one or two surfaces of stock on either side of the curve of the top.

6. With a straight file, remove between the two tables of work, and between the work and



Now, let us sand the inside curve of a Gabriolo Leg (simplified):

1. Prepare a piece of stock 1-1/2" x 1-1/2" x 12"



ASSIGNMENT 52

DATE: _____

1. Draw a line through the center of the circle.



2. Draw a line through the center of the circle.



3. Draw a line through the center of the circle. Label each line as described line.

4. Draw a line through the center of the circle. Label each line as described line. If it requires one and only one line, state that in your answer.

Final Exam

Assignment 1

1. Surface sanding of a dovetail joint

2. 100% of the total marks

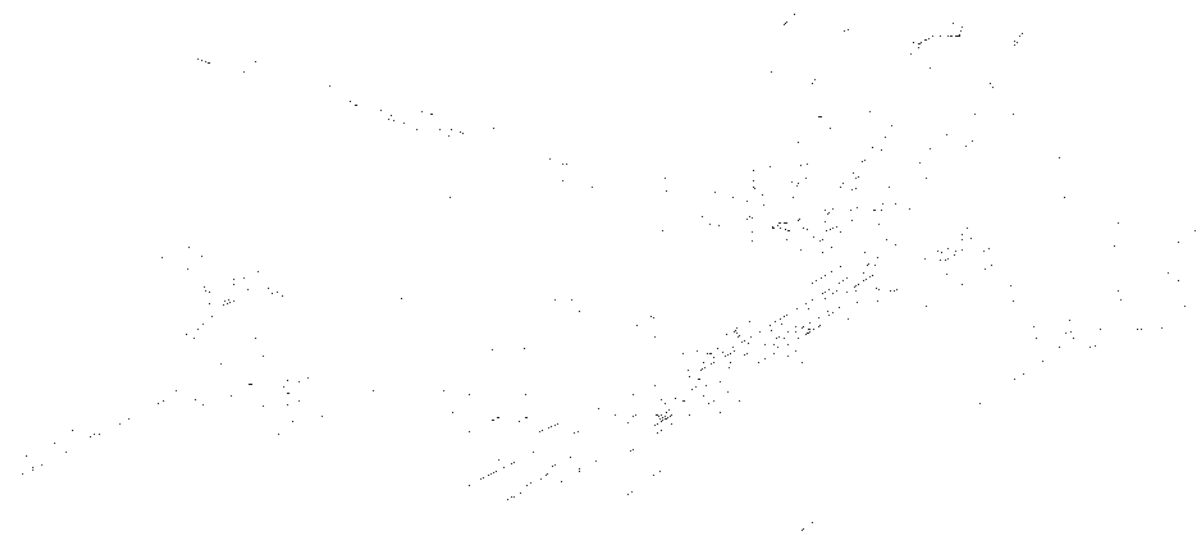
3. 100% of the total marks (100% of the total)

OPERATION:

Surface sanding is done on one edge of the dovetail joint. The sanding is done on the edge of the joint which is the opposite to the joint. The sanding is done on the edge of the joint which is the opposite to the joint. The sanding is done on the edge of the joint which is the opposite to the joint.

1. 100%

2. 100% of the total marks (100% of the total)

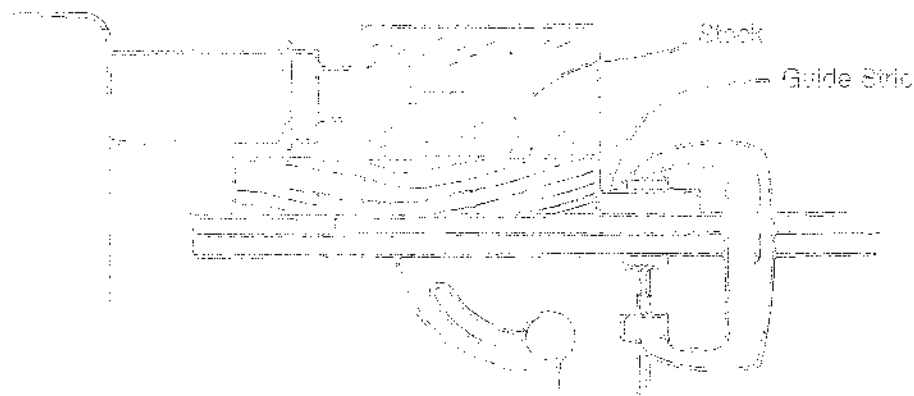


OPERATIONS:

Completion of 10 is assigned based on the student's performance and the final score.

Let us sand one side of 10" x 10" dovetail.

1. Prepare one piece of stock 10" x 10" x 10" and another 10" x 10" x 10".
2. Set Mark 1 in horizontal. Drill hole from the end of the dovetail.
3. Extend quill 10" and lock.
4. Place stock flat on table. The 10" x 10" dovetail is held in place, parallel to the stock, and 10" thick with right edge of sanding drum.
5. Adjust table height so that upper edge of stock and 10" dovetail are at same level as table. Remove stock.



APPENDIX B

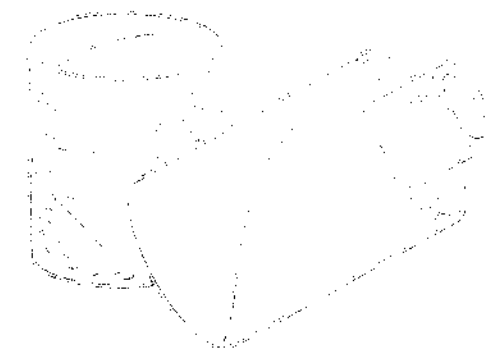
2. *Chromatogram Resolution*: The width of peaks from the chromatogram and the distance between peaks are compared. A resolution of 8% is considered acceptable.



3. *Chromatogram Peak Resolution*: The width of peaks from the chromatogram and the distance between peaks are compared. A resolution of 8% is considered acceptable.



Note: The thickness of the cuttings is controlled by the size of the particles and the amount of paper. The thickness of the cuttings is controlled by the size of the particles and the amount of paper.



Note: The Cuttings are used for other uses as described in the manual on page 278 through 284.



PROJECT WORK ON ASSIGNMENT 1

PROJECT WORK ON ASSIGNMENT 1

DESCRIPTION:

Stock cast a sand mold for a metal part. The mold is to be used for casting a metal part. The mold is to be used for casting a metal part. The mold is to be used for casting a metal part.

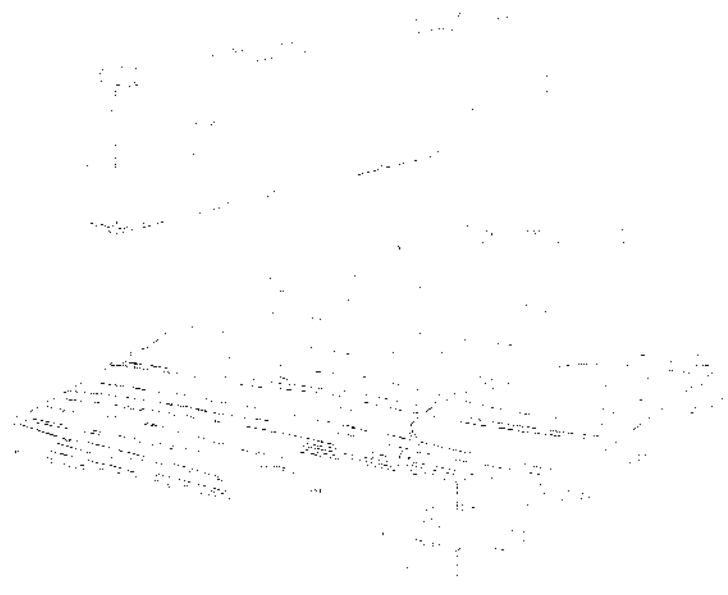


Let us sand stone to make a sand mold.

OPERATION:

Let us sand stone to make a sand mold.

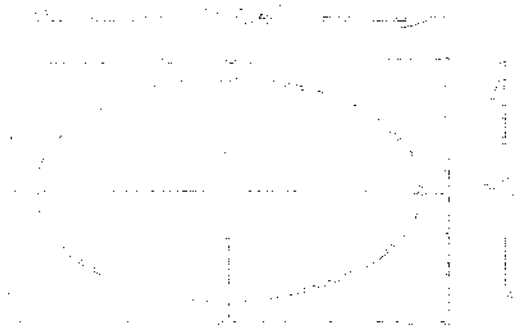
1. Prepare sand as follows:
 - a) For temporary job—1 piece of 1/2" x 1/2" x 1/2"
 - b) For perfor—1 piece of 1/2" x 1/2" x 1/2"
 - c) For finished use—2 pieces of 1/2" x 1/2" x 1/2"
 - d) For guide—1 metal art. 1/2" x 1/2" x 1/2"
2. Drill screw holes in metal art. and other parts of temporary mold.



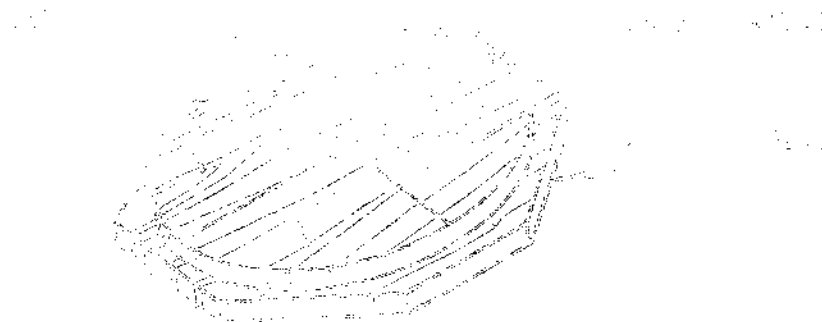
LESSON 8

ASSIGNMENT 54

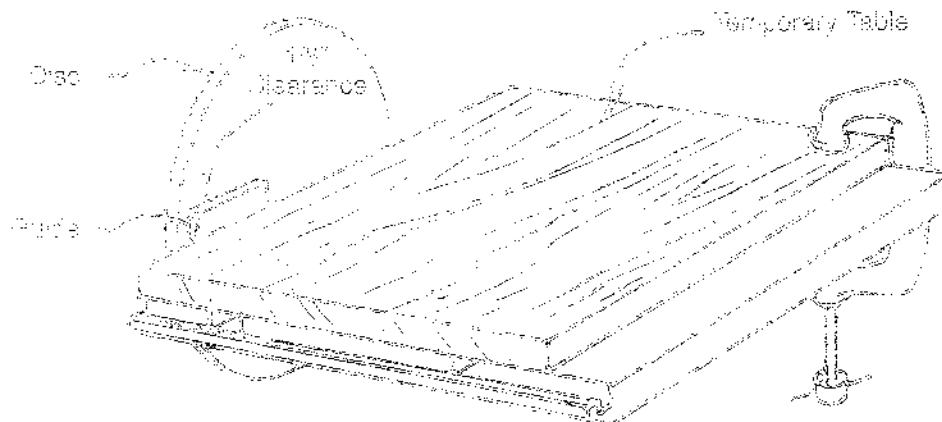
7. Lay the oval on edge of pattern stock. Draw the oval with dimensions that are 3/4" less than required in the drawing on Fig. 2. In this operation make long axis of pattern 10-1/4" and short axis 6-1/4".



8. Lay the oval on edge of pattern stock. Draw the oval with dimensions that are 3/4" less than required in the drawing on Fig. 3. In this operation make long axis of pattern 10-1/4" and short axis 6-1/4".



9. Clamp temporary table to main table. Position outside surface of metal guide strip outside the edge of main table. In line with center of down turning side of sanding disc, and 1-0" from it. Lock carriage and headstock.



LESSON #1

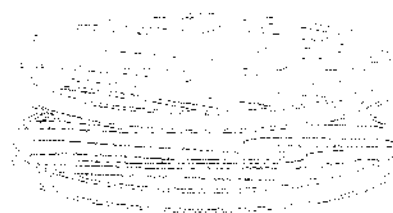
ASSIGNMENT 03

https://www.youtube.com/watch?v=UW3111111111

7. Turn on motor. Feed pattern and stock into winding. If a strip pulled out, it was a failure. (Check for contact between pattern and strip while moving stock on it. You don't have to do this.)



- 1. Repeat the process with the following parameters:
- 2. The following table shows the results of the process.



LESSON 3 GENERAL

PROTECTIVE ADHESIVE TAPE

1. Adhesive tape, such as white adhesive tape, will minimize wear and bonding of the adhesive paper.
Always use a light rod pressure when sending and to prevent the user from fast, excessive pressure of
space, cause by any, using a light rod pressure.
To avoid light pressure, always use a light rod pressure.
To avoid light pressure, always use a light rod pressure.



2. Adhesive tape, such as white adhesive tape, will minimize wear and bonding of the adhesive paper.
Always use a light rod pressure when sending and to prevent the user from fast, excessive pressure of
space, cause by any, using a light rod pressure.
To avoid light pressure, always use a light rod pressure.
To avoid light pressure, always use a light rod pressure.



LEONARD GENERAL

GENERAL INFORMATION: This report is prepared for the use of the General Manager of the Leonard General Store.

The following information is based on the records of the Leonard General Store for the year ending 12/31/1950. The "Grand Total" is based on the records of the Leonard General Store for the year ending 12/31/1950. The "Grand Total" is based on the records of the Leonard General Store for the year ending 12/31/1950.

GENERAL INFORMATION

The image shows a large, faint, and mostly illegible table or chart, possibly a ledger or financial statement, with multiple columns and rows of data. The text is too light to transcribe accurately.

LESSON 4 TEST

TRUE OR FALSE QUESTION 2

1. The purpose of setting up a machine is to:
1. Dress the sand on the top with a low speed saw to give them a smooth, finished appearance.
 2. Dress the sand on the bottom with a high speed saw.
 3. Dress the sand on the outside with a low speed saw and grinding after gauge safety grid.
 4. Dress the sand on the outside with a low speed saw on the four edges of that end.
 5. Dress the sand on the inside with a low speed saw on the four edges of that end.
 6. Dress the sand on the inside with a low speed saw on the four edges of that end.
 7. Dress the sand on the inside with a low speed saw on the four edges of that end.
 8. Dress the sand on the inside with a low speed saw on the four edges of that end.
 9. Dress the sand on the inside with a low speed saw on the four edges of that end.
 10. Dress the sand on the inside with a low speed saw on the four edges of that end.
2. When setting up the machine, the sand should be set at the following levels:
1. The sand should be set at the level of the sand on the top of the drum.
 2. The sand should be set at the level of the sand on the bottom of the drum.
 3. The sand should be set at the level of the sand on the outside of the drum.
 4. The sand should be set at the level of the sand on the inside of the drum.
 5. The sand should be set at the level of the sand on the four edges of the drum.
 6. The sand should be set at the level of the sand on the four edges of the drum.
 7. The sand should be set at the level of the sand on the four edges of the drum.
 8. The sand should be set at the level of the sand on the four edges of the drum.
 9. The sand should be set at the level of the sand on the four edges of the drum.
 10. The sand should be set at the level of the sand on the four edges of the drum.
3. When setting up the machine, the sand should be set at the following levels:
1. When edge dressing, the sand should be set at the level of the sand on the top of the drum.
 2. When edge dressing, the sand should be set at the level of the sand on the bottom of the drum.
 3. When edge dressing, the sand should be set at the level of the sand on the outside of the drum.
 4. When edge dressing, the sand should be set at the level of the sand on the inside of the drum.
 5. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.
 6. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.
 7. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.
 8. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.
 9. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.
 10. When edge dressing, the sand should be set at the level of the sand on the four edges of the drum.

ASSIGNMENT 55

Copyright © 2000 by The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of The McGraw-Hill Companies, Inc.

WOODWORKING PROCEDURE

PREPARATION

Stock is turned on a lathe to all diameters, will be resawn parallel to grain and to horizontal axis. The Duplomatic lathe supports the stock. The stock is then turned to a point that creates the stock.



TOOLS

- 1. Lathe
- 2. Hand plane
- 3. Wood mallet
- 4. Wood chisel
- 5. Wood block
- 6. Wood glue
- 7. Wood sandpaper
- 8. Wood stain
- 9. Wood finish

OPERATING HINTS

Use glue and mount a piece of wood to the lathe.

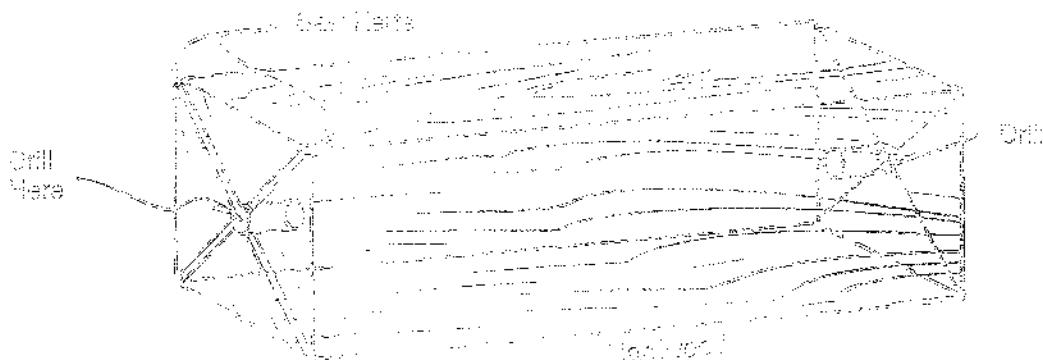
Note: See page 196 of text for...

1. Prepare a piece of stock of 1/2" x 1/2" x 1/2"

Note: Dry, straight grain, redwood or pine (or any medium-soft wood) is most preferred.

2. Scribe diagonals on each end, punch mark the intersection.
3. Using wood mallet (1/2" faced) and chisel, drive chisel into each end of stock until the center will stand, unsupported. Spine must penetrate at least 1/8" into stock.

Note: When mounting HARDWOOD, drill 1/8" diameter holes, 1/4" deep at the punch marks. Cut grooves 1/8" deep on the diagonals at one end using a backsaw.



LESSON 9

ASSIGNMENT 55

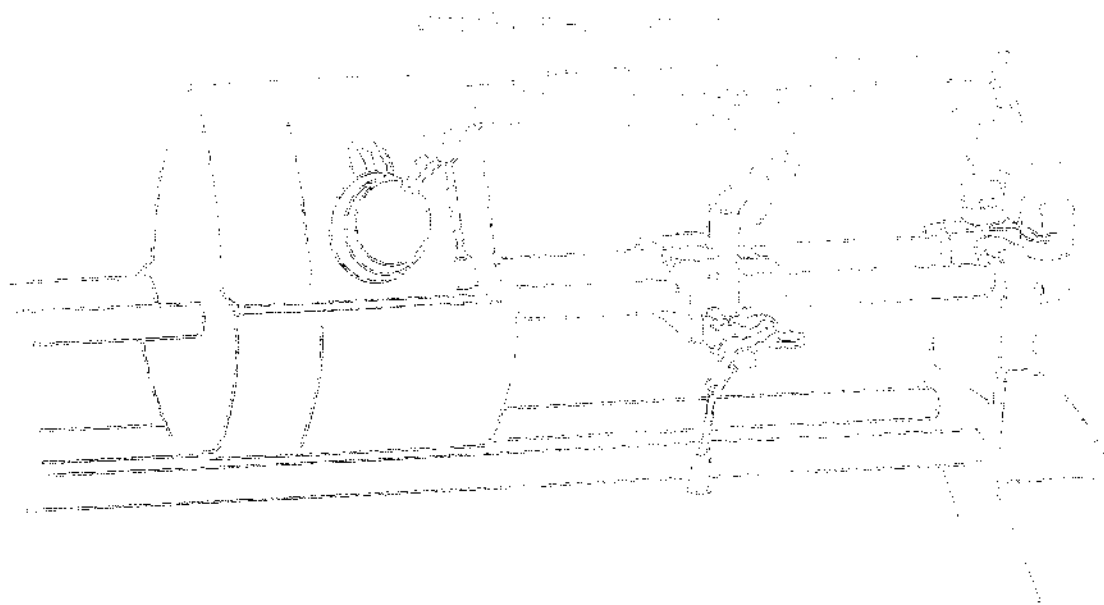
4. Set mark \checkmark in Lathe position with tool rest set in position to the right.
5. Set and lock headstock to provide 14° between centers.
6. Set end of stock marked with bur on hole only. In point of end center. Push end of stock into hole and spur marks on left end of stock. Force quill extension lower to firmly seat both centers. Centers must penetrate at least $1.16''$ into both ends of stock. Lock quill.

WARNING: The spurs of the drive center and the spur of the end center must be set to penetrate at **LEAST** $1.16''$ in order to have the end of stock held in the lathe. The end center will swing or slip center if the point is worn away. The end center will not hold the stock if the point is worn.

7. Turn stock to position two edges in the horizontal plane.
8. Set tool rest slightly above level of center point of stock (see illustration top page 185 of textbook.)

WARNING: Position the tool rest **above** the level of the center point and **below** the level of the end center point. Before turning, the work will be drawn toward the end center point if the tool rest is set below the level of the end center point.

Note: Study your Dime's manual carefully. It contains a lot of valuable information on the use of the lathe. It is quite different from other lathe manuals that you may have seen.



SECTION 9

ASSIGNMENT 56

PROBLEM 1.10

1.10.1. *Problem*

When finding the intersection of two circles, the distance between centers is first reduced to circular cross-sections. This initial operation is done with a 3-4-5 gauge.

1.10.2. *Diagram*

The diagram shows two circles of equal diameter, D , with centers C_1 and C_2 . The distance between centers is $2D$. A 3-4-5 gauge is used to find the intersection points. The gauge is a right-angled triangle with legs of length 3 and 4, and a hypotenuse of length 5. The gauge is placed such that its vertices are on the circles. The intersection points are marked with dots.

1.10.3. *Diagram*

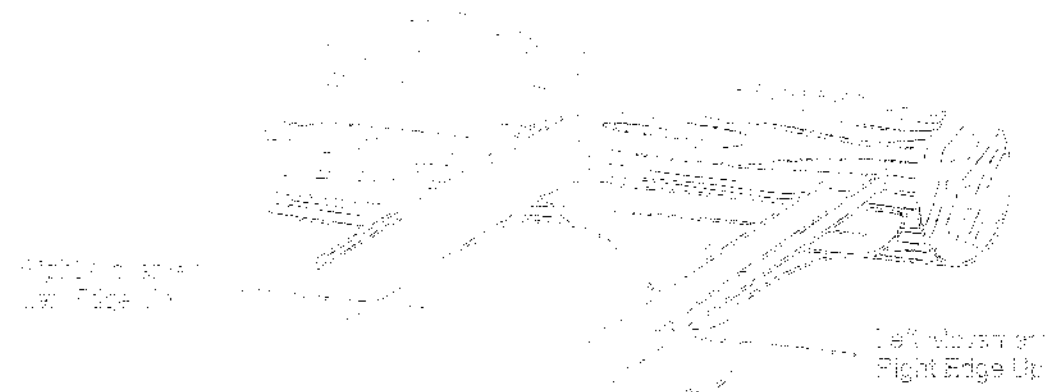
The diagram shows the same two circles of diameter D with centers C_1 and C_2 . The distance between centers is $2D$. The intersection points are marked with dots. The diagram illustrates the geometry of the intersection.

1.10.4. *Diagram*

The diagram shows the same two circles of diameter D with centers C_1 and C_2 . The distance between centers is $2D$. The intersection points are marked with dots. The diagram illustrates the geometry of the intersection.

1.10.5. *Diagram*

The diagram shows the same two circles of diameter D with centers C_1 and C_2 . The distance between centers is $2D$. The intersection points are marked with dots. The diagram illustrates the geometry of the intersection.



LESSON 3

ASSIGNMENT 3

5. Slowly advance the journal in the chuck until the end of the stock is flush with the lathe.

Note: The section of the stock that is cut off is called a "chuck-off" and is not supported round when stopped. Be prepared to catch the chuck-off with a cloth and avoid being struck with the chuck-off.



6. When the assembly starts to turn, allow units to settle and the work is turned and allowed to settle. The full length of stock is rough turned to a diameter of 1.440.

Note: Stock can be rough turned with a 3/4" gouge by feeding the cutting edge into the work in a horizontal position and then sliding the chip straight and left on the lathe bed. The rotation described above also forms the cutting edge which lengthens the interval between the cutting and grinding.

SECTION 9

ASSIGNMENT 57

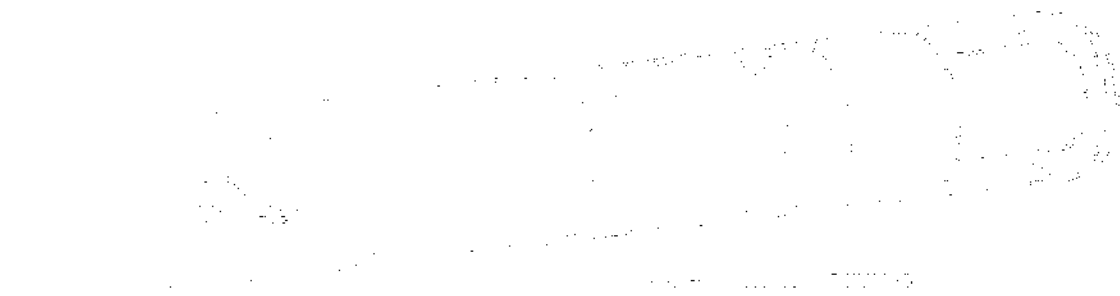
WORKING DRAWINGS

1. 1-1/2" dia.

2. Square cut stock which is the cutting tool. Cut the finished rod to the required diameter by shearing with a skew. (See page 137 of textbook.)

3. 1-1/2"

4. Check diameter with outside caliper. (See page 137 of textbook.)



1. 1-1/2" dia.

2. Square cut stock which is the cutting tool. Cut the finished rod to the required diameter by shearing with a skew. (See page 137 of textbook.)

3. 1-1/2" dia. Check diameter with outside caliper. (See page 137 of textbook.)

4. Check the diameter using outside caliper.

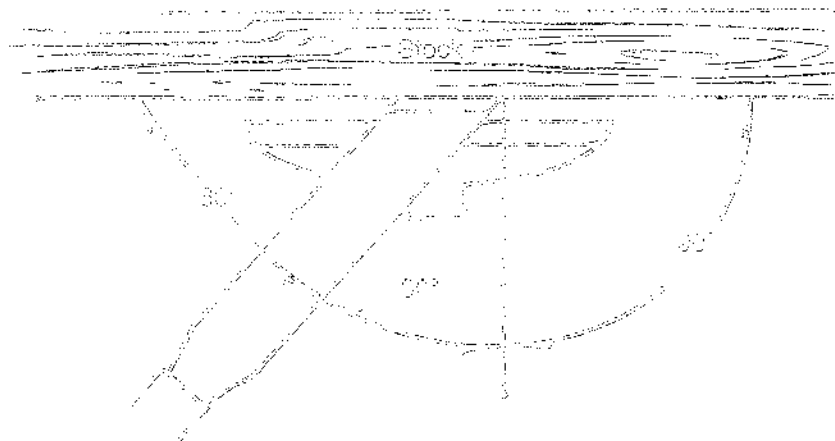
5. To the finished diameter is approximately 1.500 inches. (The gouge is rotated to provide the shearing cut shown on page 137 of textbook.)

Note: The shearing cut provides smooth ends (as far as possible) when the cutting edge is presented horizontally.

6. Saw cutting with gouge when the diameter is 1 1/2"

7. Reduce stock to 1-1/2" diameter using a skew.

Note: Use the skew in position which gives shearing action. (See pages 137 and 138 of textbook.)

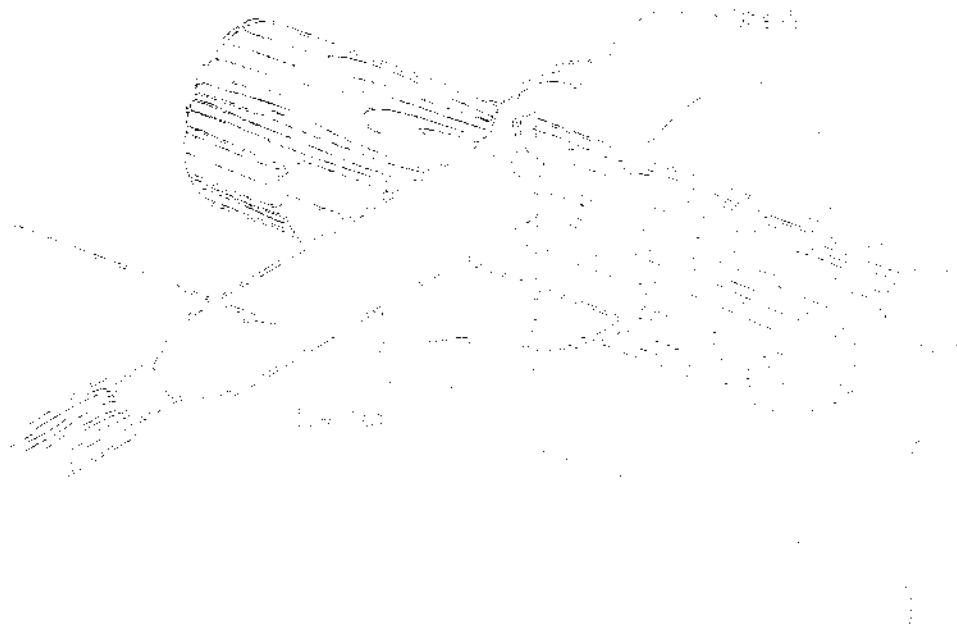


LESSON 9

ASSIGNMENT 57

6. Position tool rest at right end of skew and with edge nearly narrow, withdraw it to the left.
7. Make a light shearing cut between 6" and 7" from the right end of skew (see diagram, page 189 of textbook.)

Note: Do not permit point of skew to penetrate the floor. Remove wood with the narrow side of cutting edge. Depress the handle to decrease depth of cut. Raise handle to increase it.



LESSON 9

ASSIGNMENT 58

UNIT 10: HAND PLANING CUTS

UNIT 10.1: PARTING CUTS

Cuts made into the facing stock, which cut or part the grain of the wood, are parting cuts. The parting tool has a narrow cutting edge and is usually used in a scraping action.

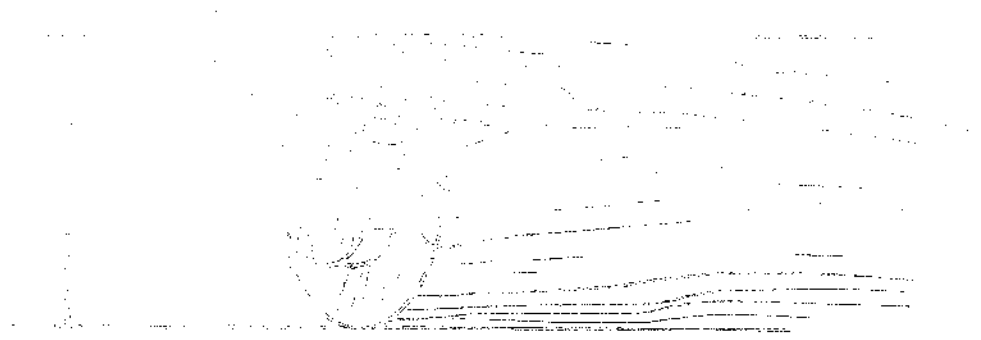
1.6.1a

Twisting both ends of a 100 mm length of 100 mm diameter, 100 mm diameter, clear or square (the ends of stock without stock in it) by turning them (see text page 199 and illustration page 191 of textbook.)

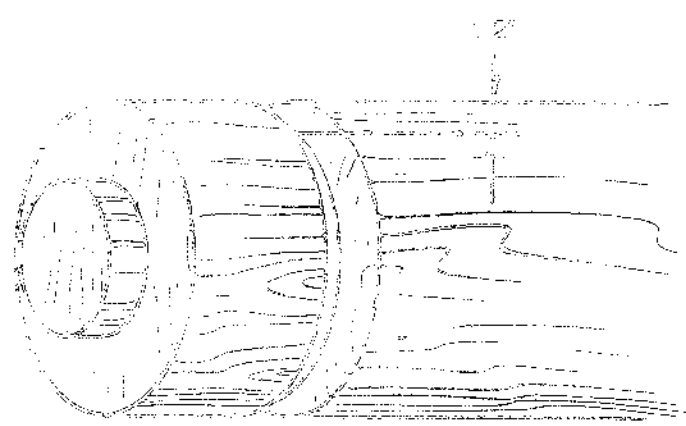
1.6.1b: Case

Use the machine with total speed 1.8 m/s.

1. Turn the motor with the 100 mm diameter of 5/4 between lathe centers, and turn on motor.
2. Turn the motor with the 100 mm diameter of 5/4 between lathe centers, and turn on motor.
3. Turn the motor with the 100 mm diameter of 5/4 between lathe centers, and turn on motor.



6. Use a 100 mm diameter of the stock, having a depth of 100 mm.



LESSON 14

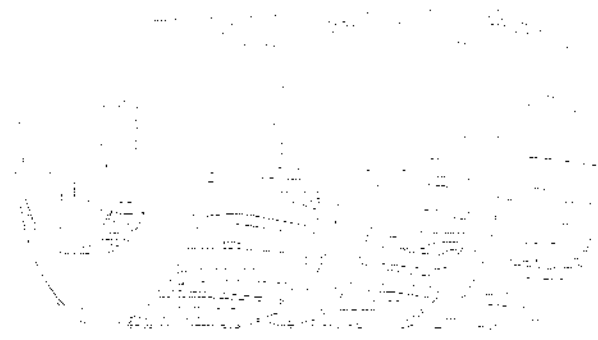
ASSIGNMENT 14

1. Cut a piece of wood 1/2" thick, 12" long, and 4" wide. Cut a piece of wood 1/2" thick, 12" long, and 4" wide.

2. Drill a hole through the center of the wood, 1/2" diameter.

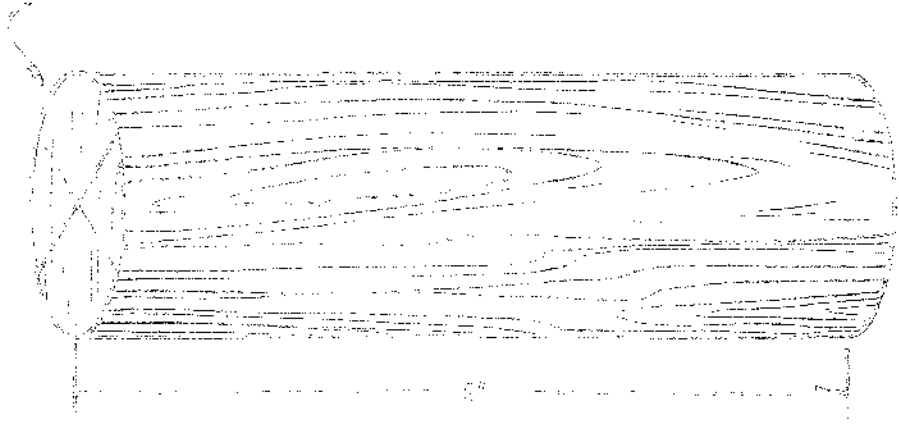


3. Use a hand plane to smooth the wood. Use a hand plane to smooth the wood. Use a hand plane to smooth the wood.



Note: Save the wood stock for use in next assignment. Use a hand plane and punch mark the center of the cut off end. Rub out the chips.

Fig. 14-1. Center and Round. 1/2" Diameter



Experiment 39

.....

.....

.....

A convex die forms an image that is the same size as the object and is inverted. It is a virtual image formed by a convex lens.

USE

.....



.....

.....

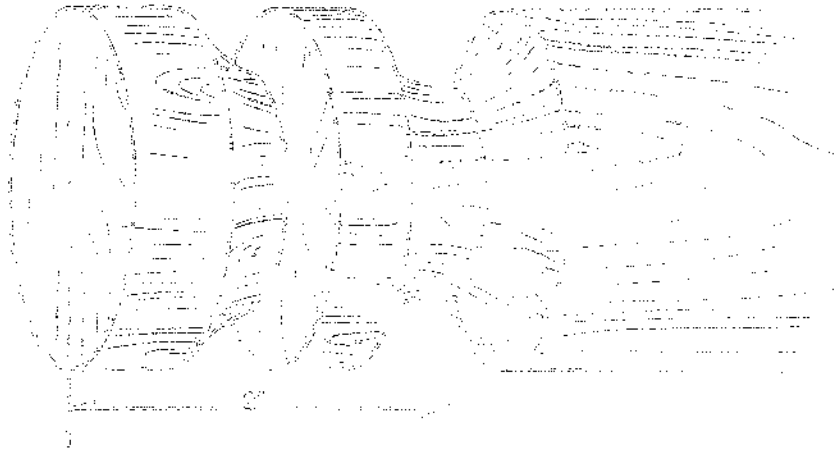
1. Mount the apparatus as shown in the diagram.
2. Position the object at the center of curvature of the lens.
3. Notice the size and position of the image.
4. Repeat the experiment for the other side of the lens.
5. Using a small gauge, measure the distance between the object and the image.



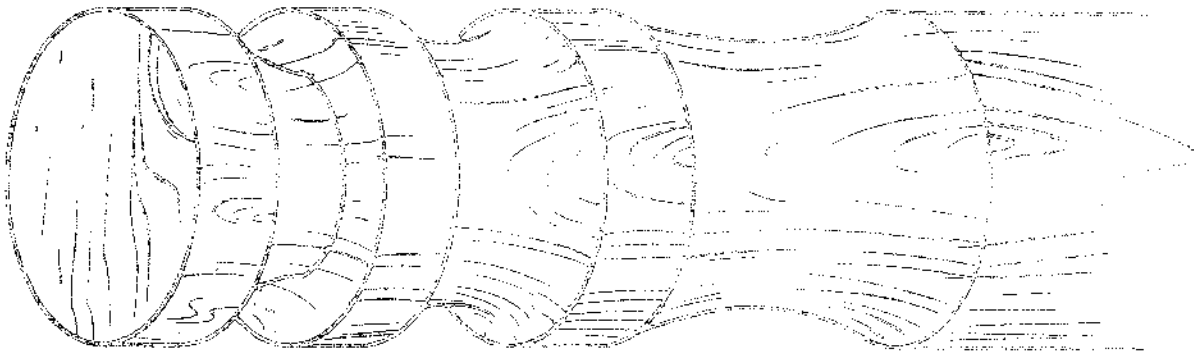
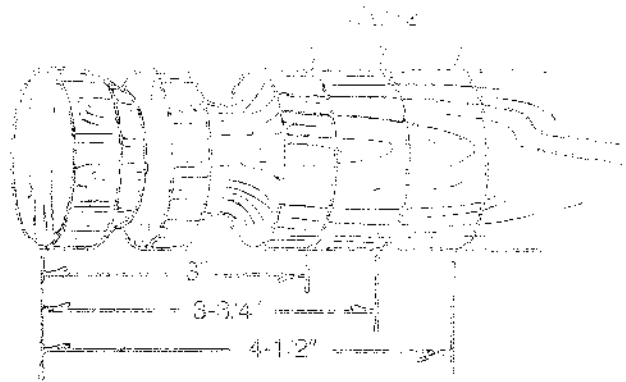
LESSON 9

ASSIGNMENT 59

1. Scribe a line 2" from left end.
2. Part the stock w/ pencil line to a depth of 1/8".
3. Using 3/4" gouge in horizontal position cut the 2" radius nose of the stock as shown.



4. Surface the 1/2" end of the stock 2" from the left.
5. Round the nose of the stock to a 3/4" radius.
6. Using a round nose tool cut a 1/8" deep groove 2" from the left end.



Note: Save stock for use in next assignment.

LESSON 9

ASSIGNMENT 60

FORMING MINOR CURVED CUTS

OBJECTIVES:

1. Form a stock with a wide depth and a 90° turn of interior of a ball. Such cuts can be formed in cylindrical stock with a ball nose end mill.

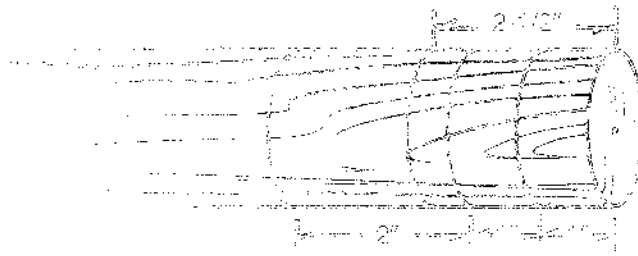
NOTE:

1. In general, the majority of curved patterns are formed in stock.



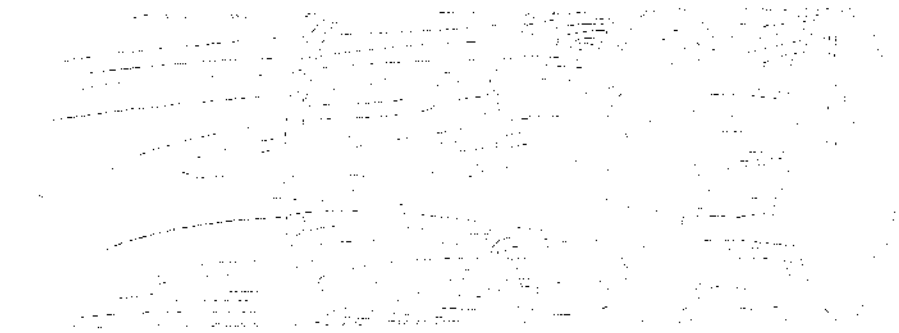
1. The workpiece is shown in a perspective view.

- 1. The workpiece is shown in a perspective view.
- 2. The workpiece is shown in a perspective view.
- 3. The workpiece is shown in a perspective view.
- 4. The workpiece is shown in a perspective view.
- 5. The workpiece is shown in a perspective view.
- 6. The workpiece is shown in a perspective view.
- 7. The workpiece is shown in a perspective view.
- 8. The workpiece is shown in a perspective view.
- 9. The workpiece is shown in a perspective view.
- 10. The workpiece is shown in a perspective view.

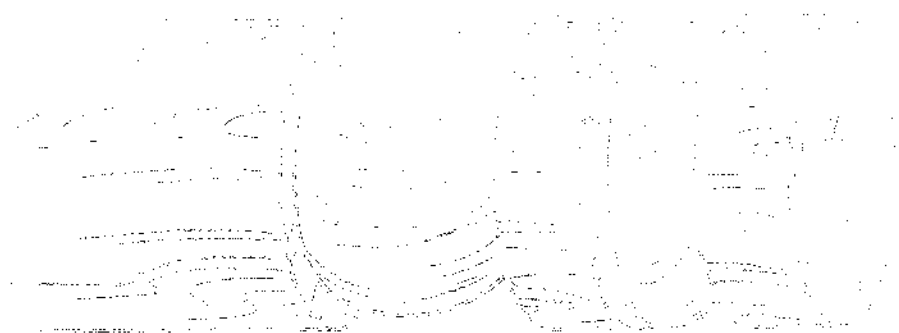


1. TASKING ASSIGNMENT 04

- Part the stock at pencil lines to a depth of ± 0.2 .
- Using the skew, cut a bend between them to set angle between 45° and 90° .



- Each round of bending - bend angle in 15° increments until a 90° bend is achieved.
- Parting with the skew, a 45° bend, 90° bend, 135° bend, 180° bend, 225° bend, 270° bend, 315° bend, 360° bend.



LESSON 9

ASSIGNMENT 61

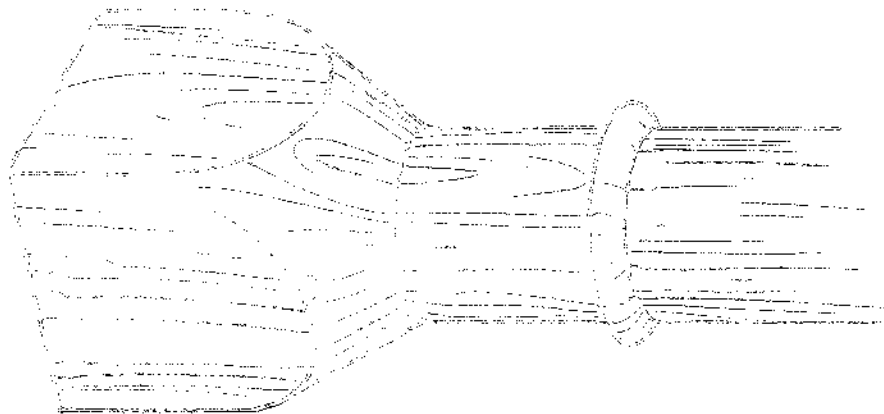
HOW TO ROUND OFF SQUARE CORNERS

DESCRIPTION:

Patterns which combine flat and curved surfaces usually blend the two where they meet by rounding the square corners. The corners formed by cutting the edges of square stock turning between centers can be rounded with a skew.

USE:

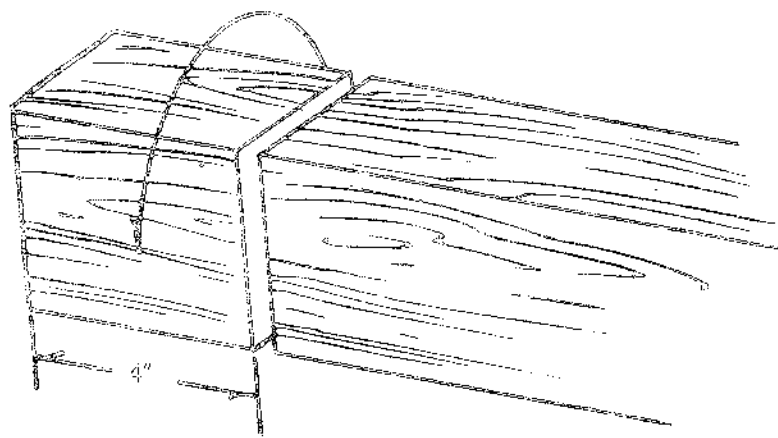
Rounding the square corners at the point where the flat surfaces become curved is done primarily for decorative purposes. Such rounding serves the additional purpose of making the pattern more durable by avoiding sharp edges.



OPERATIONS:

Let us round the corners on a section of square stock.

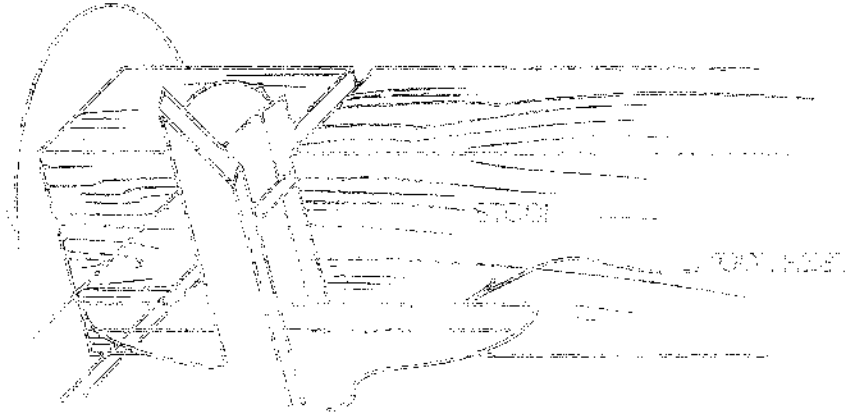
1. Prepare a piece of stock $1\text{-}1/2" \times 1\text{-}1/2" \times 14"$.
2. Mount stock between centers. Position tool rest at left end of stock, check for clearance and turn on motor.
3. Place edge of skew on the tool rest, **heel up** and cutting edge vertical. The "heel" is the shortest edge.
4. At a point about 4" from the left end, feed the cutting edge into the stock to a depth of $1/4"$. (Approximately equals the width of bevel on skew.)



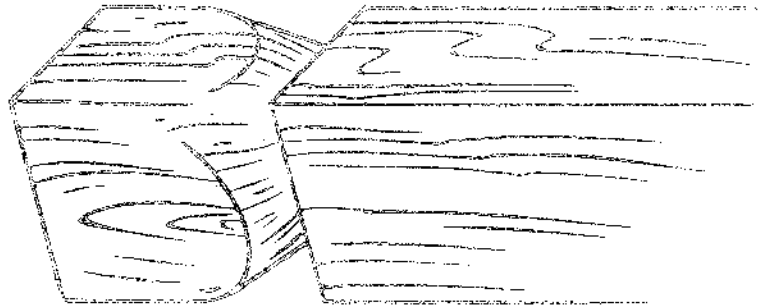
LESSON 9

ASSIGNMENT 61

5. Place skew on tool rest with heel down, cutting edge vertical and about 3/4" to the left of center line of "V" cuts.
6. Incline cutting edge 45° to the left. Hold blade of skew in firm contact with tool rest using the left hand. With the right hand, lower handle of skew and swing the end to the right.



7. As the cutting edge, heel, leading to, down and to the right, edge follows notch above and below. The cutting edge will pass the tool rest as the wood is cut. The wood will be cut.



Note: Save stock for use in next assignment.

LESSON 9

ASSIGNMENT 62

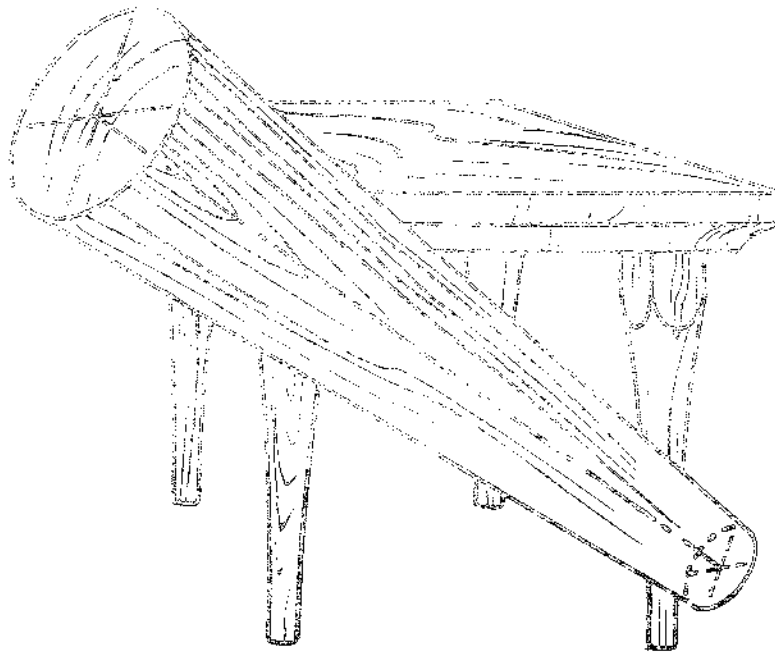
HOW TO TAPER

DESCRIPTION:

A taper is cut in cylindrical stock turning between centers by reducing the diameter progressively between any two points on the axis of the stock.

USE:

Tapers are cut primarily for decoration. They are very frequently cut in the legs of tables and chairs of modern design.



OPERATIONS:

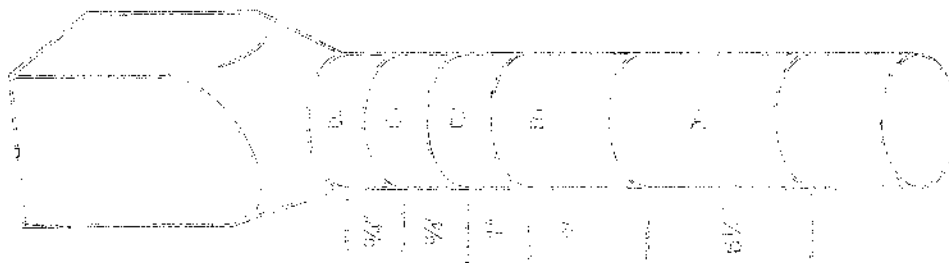
1. Mount the stock used in Assignment 62 between centers.
2. With a gouge, rough turn to a cylinder between right end and center line of "V" cut.
3. Size the cylinder to 1-1/4" diameter. The stock should now appear as follows:



LESSON 9

ASSIGNMENT 62

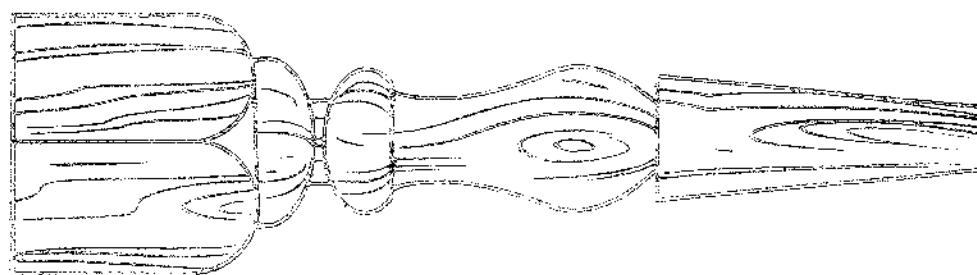
4. Portion the surface of stock by sorting lines at the points indicated in sketch below:



5. Take round stock. Offset dead center by rotating 90° to the lathe. Raise tailstock to bring jaws from the same height as drive center. Return lathe to square and to the left.
6. Cut taper in section A.
7. Sand surface of taper.

Note: Hand holding abrasive disc mounted on drive center will produce a smooth surface.

8. Part stock to a depth of 1/2 inch with a 3/8 inch vertical lathe tool.
9. Turn curves as follows:
 - Portion E - 1/4 square, but .001
 - Portion D - full beard
 - Portion C - Concave
 - Portion B - Convex
10. The stock should now appear as follows:



LESSON 8 TEST

TEST QUESTIONS ON LESSON NO. 8

TRUE OR FALSE: Circle your selection.

- T F 1. The cup center rotates with the stock.
- T F 2. Centering the stock prevents excessive vibration when rotated.
- T F 3. The drive center is driven into the stock with a wooden mallet.
- T F 4. The tool rest on the side parallel with the work wheel saves time and trouble.
- T F 5. It is not advisable to rotate the stock by hand before initial cutting of power.
- T F 6. Rough turning of square stock should be commenced using slow speed.
- T F 7. In making the first cut for roughing down a work, the cuts should be light.
- T F 8. When rough turning, the rotation rate of the lathe should be adjusted as required when turning stock.
- T F 9. The surface of cylindrical stock can be smoothed with a skew.
- T F 10. When rough turning, the gouge is rotated to increase the rate of waste removal.
- T F 11. Outside calipers can be used to determine the diameter of a round stock.
- T F 12. When using a gouge, scraping a fillet will result in a smoother surface than a section.
- T F 13. The blade of the skew should be as perfectly flat as possible and the level of the cutting edge with a shearing cut is made.
- T F 14. The parting tool is seldom used in a compound finish.
- T F 15. Concave bits are usually made with a skew.
- T F 16. The center of a concave bit in cylindrical stock is measured for general axis of the stock from the ends.
- T F 17. A bead is formed by making two back cuts.
- T F 18. Rounding corners with a skew requires special handling of the stock and a very careful cut.
- T F 19. When preparing to round the corners of square stock, the skew should be held at an angle to the work with the heel of the cutting edge down.
- T F 20. The amount of taper out in stock can be regulated with the eccentricity of the tail stock.

MULTIPLE CHOICE: Underscore your choice.

1. Stock is tightened between centers by (pushing hard on the head stock) (extending the quill) (driving stock into dead center).
2. The dead center is held in place by (set screw) (lock nut) (friction).
3. Normally, the top edge of the tool rest should be (even with) (well above) (well below) the axis of the stock.
4. To determine the diameter of a cylinder use (outside calipers) (steel square) (inside calipers).
5. The parting tool is usually used to (cut) (scrape) (shear).

LESSON 10

ASSIGNMENT 63

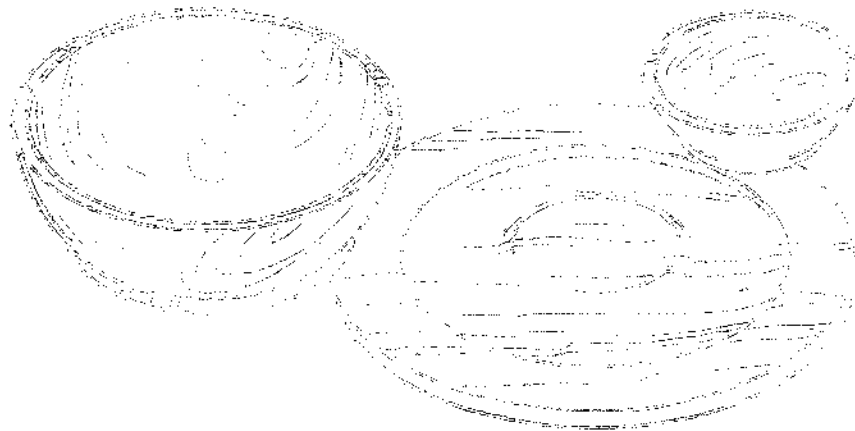
HOW TO TURN A SHALLOW BOWL.

DESCRIPTION:

Short stock, which has large cross-sectional area, can be turned by securing it directly to a faceplate which is, in turn, mounted on the main spindle. Since the cup center is not required for this operation, the tail stock may be removed. Positioning the headstock and the carriage at the right end of the tubes, permits free access to all surfaces of the stock being turned.

USE:

Faceplate turning is used to make bowls, trays, lamp bases, boxes and similar pieces having design of length not suited to turning between centers.



OPERATIONS:

Let us turn a shallow bowl.

1. Prepare a piece of stock $1\text{-}1/4" \times 7" \times 7"$.

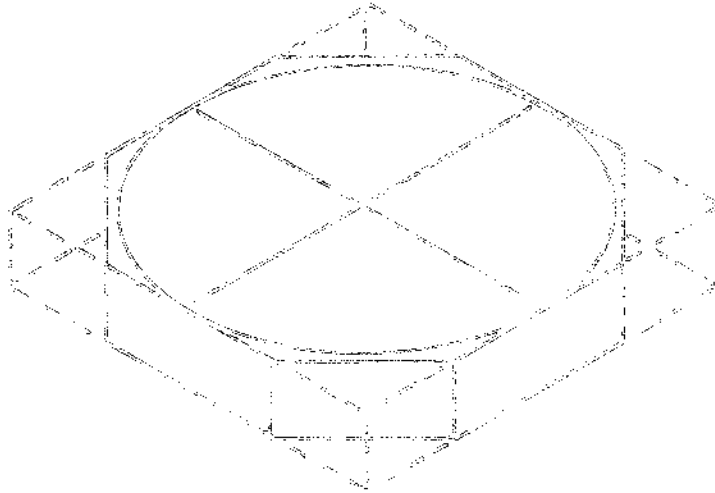
Note: Use of clear white sugar pine is recommended. A more satisfactory bowl can be made from hardwood. However, more turning and more precise processing will be required. In addition, keep chisels sharp.

WARNING: When turning glued up stock, make sure glue joints are strong. Glue the stock and leave it clamped for at least 24 hours prior to turning.

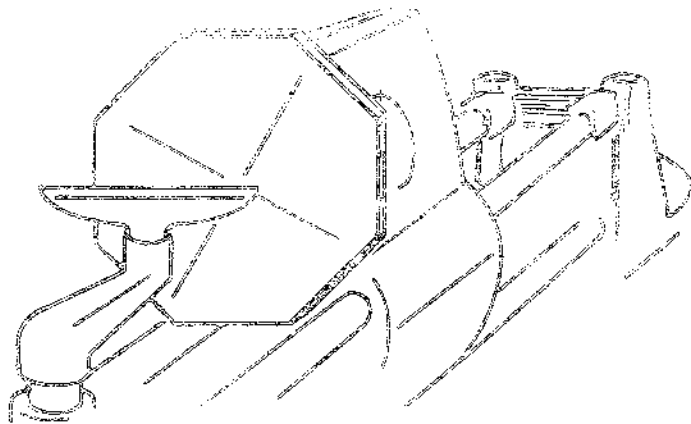
2. Draw diagonals on one side of stock. Scribe a circle having $3\text{-}1/8"$ radius centered at the intersection of the diagonals.
3. Make 45° miter cuts tangent to the circumference at the four corners.

LESSON 10

ASSIGNMENT 63



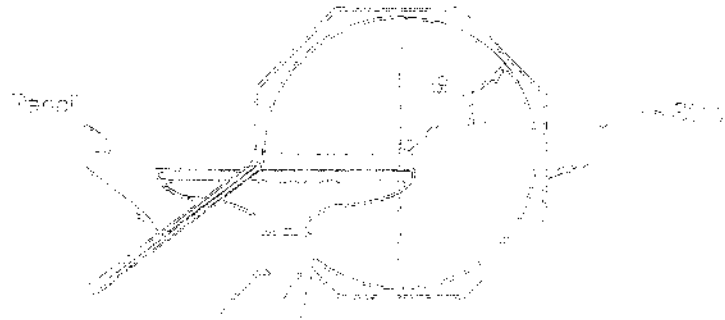
4. Center a 6-iron faceplate in the scribed circle. Punch mark the centers of the four outside screw holes. Secure faceplate to stock by driving 1-1/4" x #10 flat head wood screws at the punch marks.
5. Adjust speed setting to "SLOW". Remove tail stock. Position carriage and headstock at right end of piece.
6. Mount faceplate, with stock affixed, on main spindle. Adjust tail rest parallel to face of stock, edge no more than 1/4" from it, and right end slightly beyond die center.



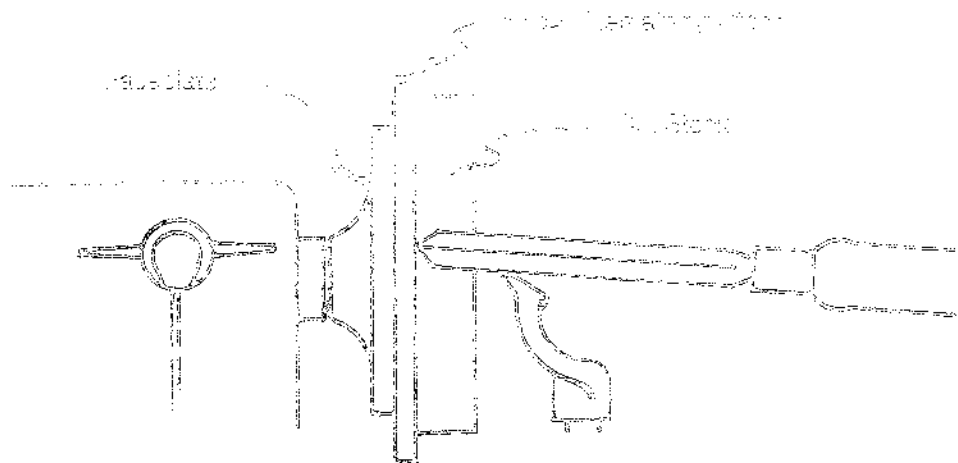
LESSON 10

ASSIGNMENT 63

- Take a light cutoff surface using the round nose chisel. Start cut at the center, and slide chisel to the left. Stop motor.
- Scribe a circle having 6-1/2" diameter by resting pencil on tool rest with point touching the stock 3-1/4" from the center and then turning stock through 360°.



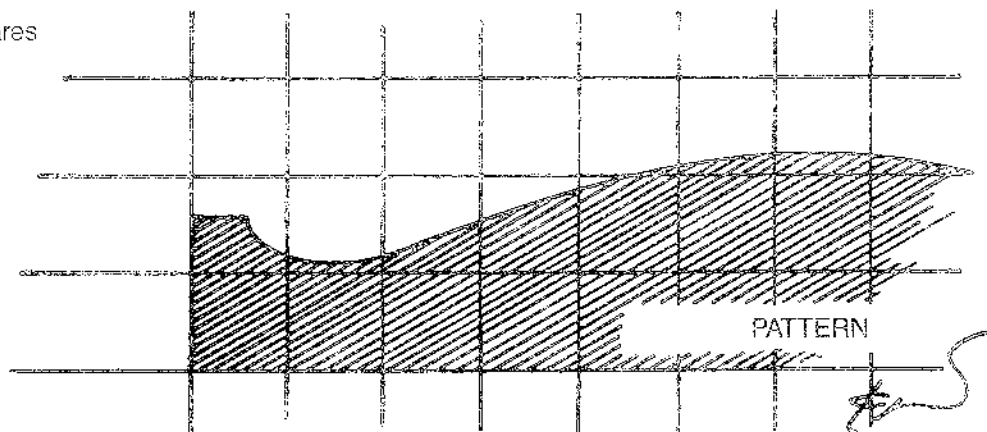
- Turn on motor. Position parting tool with right end of cutting edge tangential to circle and feed into stock until waste would be removed.



Note: Splintering the stock can be prevented by substituting the skew for the parting tool just before the cut is completed.

- Cut out a cross-section pattern conforming with finished inside dimensions, using cardboard or soft sheet metal. Use this design if you wish.

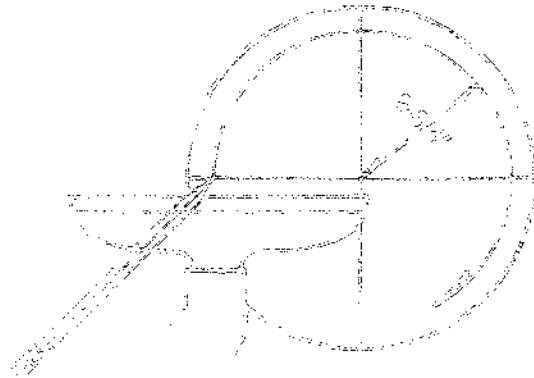
Note: 1/2" Squares



LESSON 10

ASSIGNMENT 63

11. Scribe a circle around center of stock having a diameter 5-1/2".

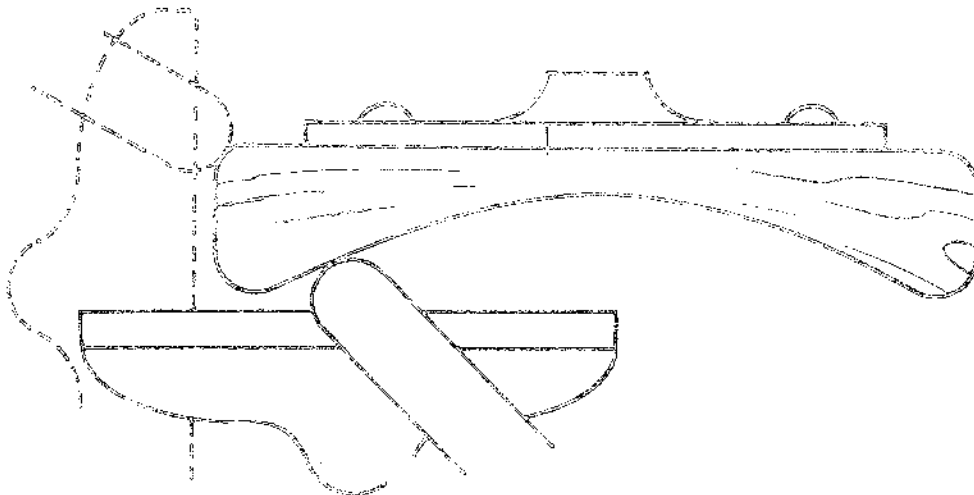


12. Using the round nose, shape the inside of bow. Make successive cuts from the circumference of the 5-1/2" circle to the center.



Note: Keep cutting edges sharp using rubber bonded wheel (if available) or hand stone. Make frequent checks of shape using pattern. Cutting deeper than 5/8" will result in damage due to contacting 5/8" wood screws. Final cuts should be very light to avoid scuffing the stock.

13. Round off all corners.



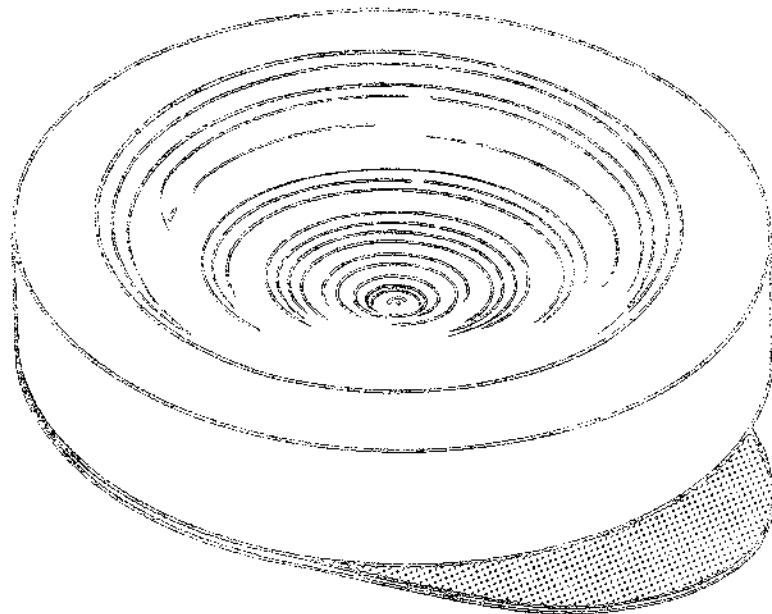
LESSON 10

ASSIGNMENT 63

Note: Use the skew to cut convex curves at the inner and outer edges of the top of the bowl. Make initial cuts at bottom outside corner with round nose. Make finishing cuts with the skew.



14. Draw the bowl on a flat, wide surface. Use a compass, skew, and other appropriate tools.
15. There is no need to glue the bowl or to glue the rim of the bowl. Any holes in the bowl can be filled with plastic wood or the base of the bowl can be covered with felt.



LESSON 16

ASSIGNMENT 64

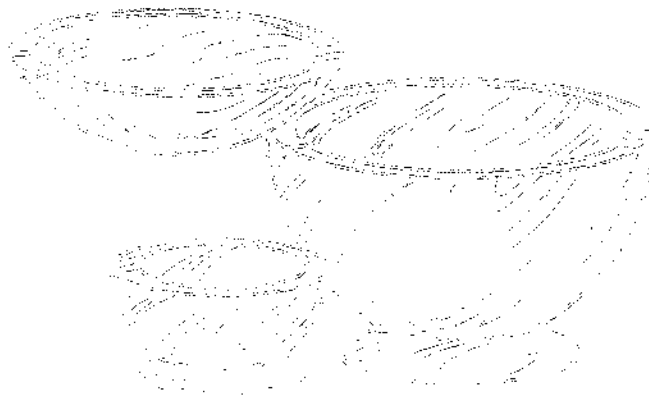
TURN TO MAKE A DEEP BOWL

DESCRIPTION:

Stock for a deep bowl can be mounted on the faceplate by gluing a mounting block, cut from scrap, to the faceplate with screws. A disc of paper followed by the stock to be turned is glued to the mounting block. When the turning is completed, separation of the paper is readily effected.

USE:

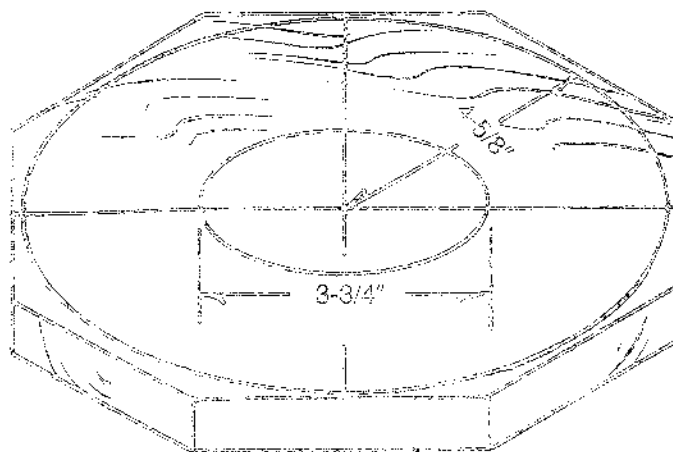
Faceplate turning with stock secured to a mounting block with glue is used to produce turned bottoms that result in a neat screw joint on a finished faceplate.



OPERATIONS:

Let us turn a deep bowl using mounting block.

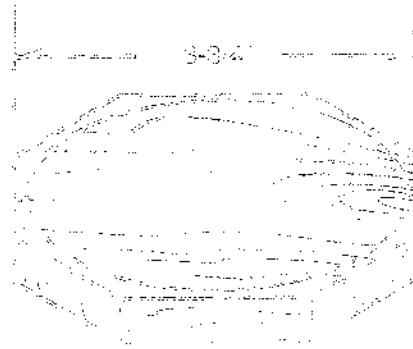
1. Prepare a piece of stock $1\text{-}3/4" \times 9\text{-}1/4" \times 3/4"$. (see "note" under Operation 1, Assignment 63).
2. Scribe a $9\text{-}1/4"$ diameter circle on one side and cut stock to octagonal shape as prescribed for shallow bowl. Scribe a $3\text{-}3/4"$ circle about the center.



ASSIGNMENT 04

1. Design a shaft-hub assembly with a shaft diameter of 30 mm and a hub diameter of 40 mm. Use a standard fit.

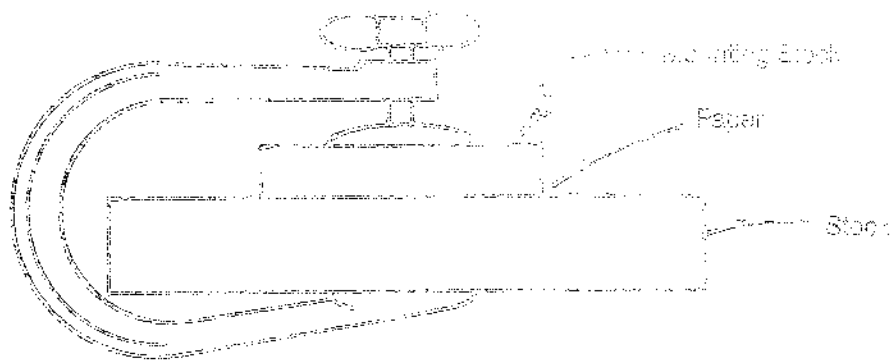
2. Design a lognormal mounting block (width length is 5-8 mm diameter dia) from 24 stock.



3. Design a shaft-hub assembly with a shaft diameter of 30 mm and a hub diameter of 40 mm. Use a standard fit. The shaft is made of steel and the hub is made of cast iron.

4. Design a shaft-hub assembly with a shaft diameter of 30 mm and a hub diameter of 40 mm. Use a standard fit. The shaft is made of steel and the hub is made of cast iron. The shaft is subjected to a torque of 100 Nm.

5. Design a shaft-hub assembly with a shaft diameter of 30 mm and a hub diameter of 40 mm. Use a standard fit. The shaft is made of steel and the hub is made of cast iron. The shaft is subjected to a torque of 100 Nm. The hub is subjected to a radial load of 1000 N.

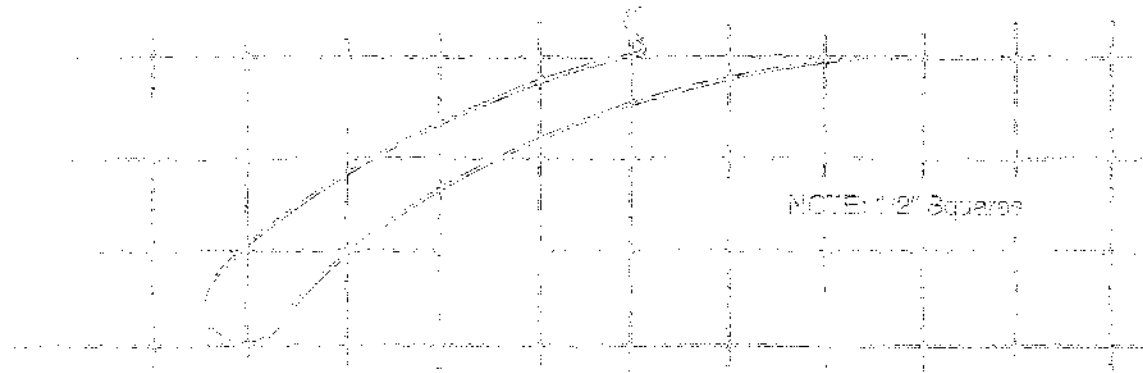


LESSON 10

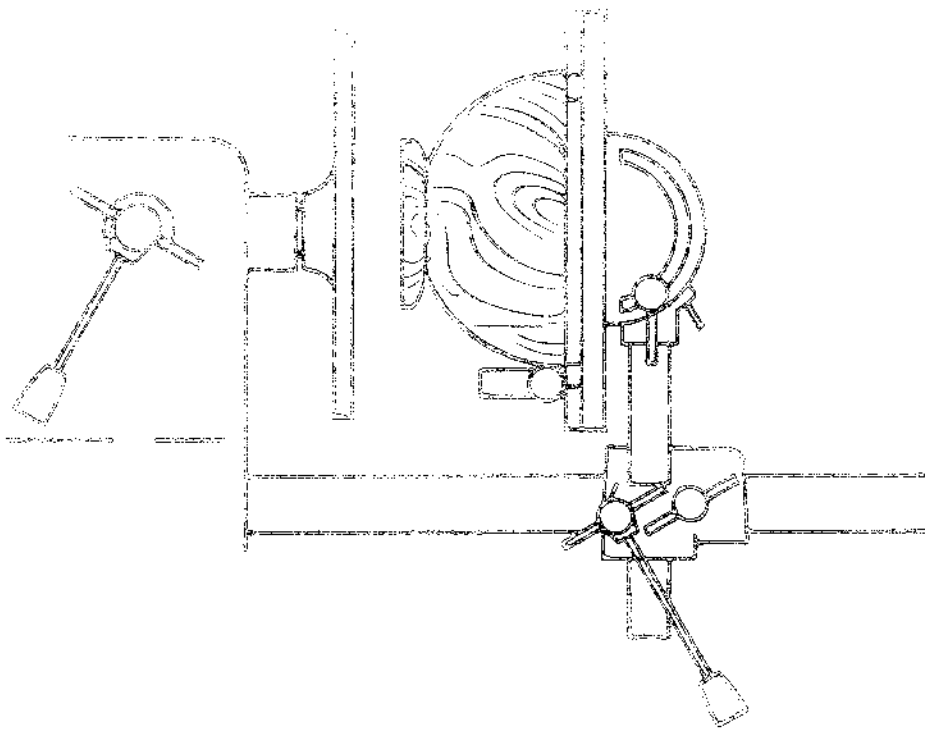
ASSIGNMENT 64

Note: When clamped, check that all circumferences are matched.

6. Turn deep bowl to desired pattern using procedure outlined for turning shallow bowl. Use this design if you wish.



7. Sand the outside, inside, and rim of bowl with fine, medium, and putty knives.
8. Use two narrow strips of paper from bowl to dry bowl with warm water or by sanding.



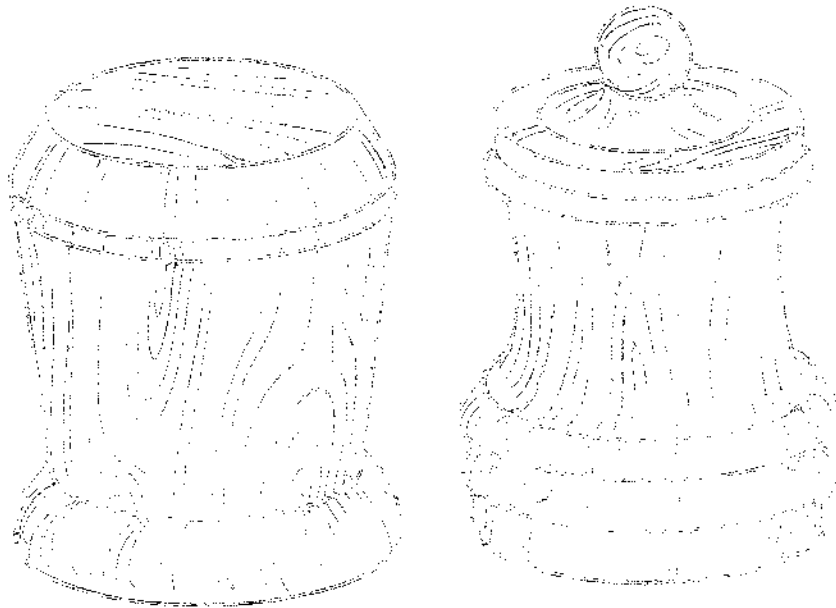
LESSON 19

ASSIGNMENT 65

HOW TO MAKE BOWL AND COVER

DESCRIPTION:

Stock for the cover of a completed box or bowl can be turned by using the box or bowl as a chuck. A flange, turned on the cover stock to size which makes a tight fit in the base, positions the stock for turning. When the cover is completed, the tight fit can be relieved by sanding.



USE:

Many types of jewel, candy, and powder boxes require covers. Many bowls, including those of large size, are more useful and decorative if made with a well fitting cover.

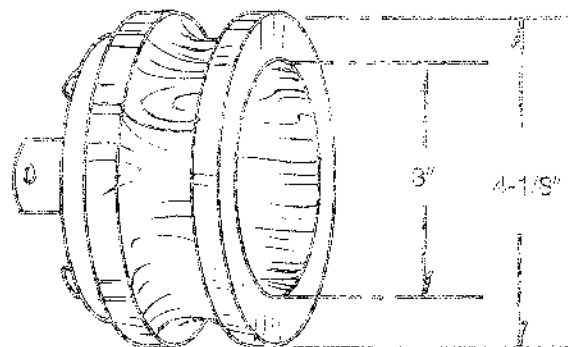
OPERATIONS:

Let us turn a jewel box with a cover.

1. Prepare a piece of hardwood $2'' \times 4\text{-}1/2'' \times 4\text{-}1/2''$. Prepare second piece of hardwood $1\text{-}1/2'' \times 4\text{-}1/2'' \times 4\text{-}1/2''$.

Note: Medium hardwood, such as mahogany, is recommended.

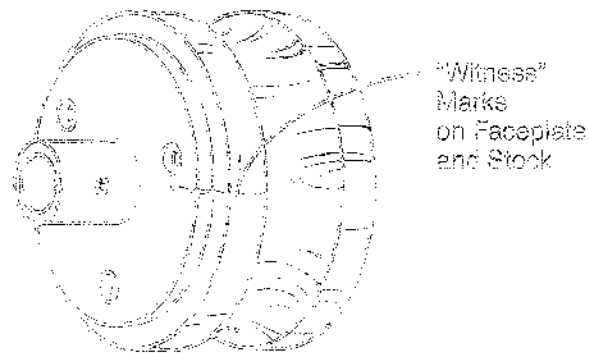
2. Attach $2''$ stock to $3\text{-}3/4''$ faceplate. Turn the base as shown.



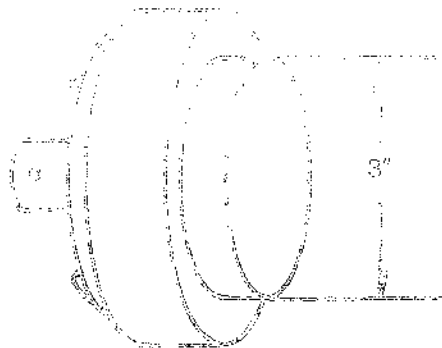
LESSON 10

ASSIGNMENT 65

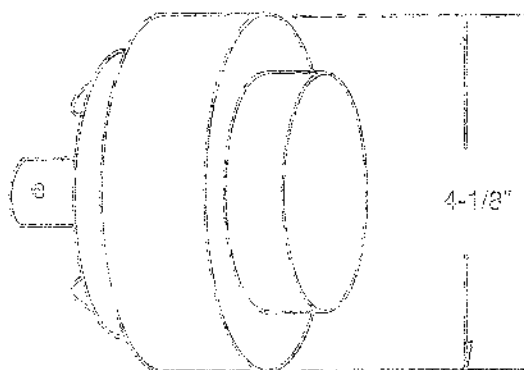
- Before removing the finished box from the faceplate, mark both the outside bottom edge of work and the faceplate so that box can be remounted in the original position.



- Rough out an outside diameter of 3" at 1/4" depth on the faceplate. If cover is to be deep-draw it, use mounting block; if not, use short round screws and, subsequently, remove screw holes by outside turning.
- Turn a flange which has an outside diameter equal to the inside diameter of the box.



- Turn the outside diameter of the cover to equal the outside diameter of the base.



LESSON 10 ASSIGNMENT 65

Use the following procedure to inspect and rework the base.

Check the length of cone to the top.

Check the axial force with each base. If necessary, inside diameter of base can be enlarged by sanding. If the inside fits too loose, use a paper shim around flange.



FIGURE 10-13



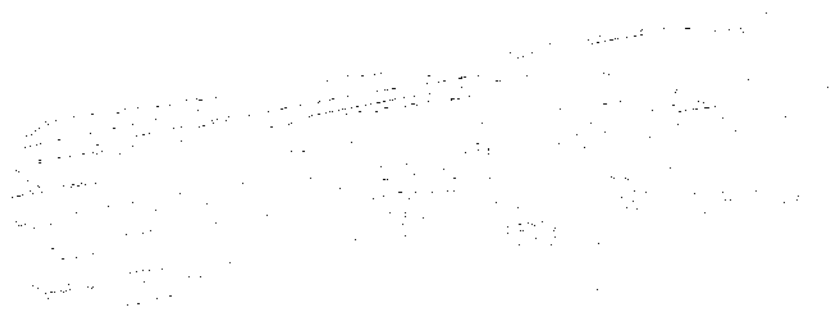
LESSON TO ASSIGNMENT 06

PREPARED BY THE STAFF OF THE NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH

CONSTRUCTION DRAWING

DESCRIPTION:

hardwood stock, 18" long, to turn a matching cylinder and a matching frustum. The 3/4" diameter cylinder and a matching frustum is drilled to match a turning process. A 3/4" diameter hole is drilled from front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The paper is placed in a position 2" away from the center of the cylinder. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished.

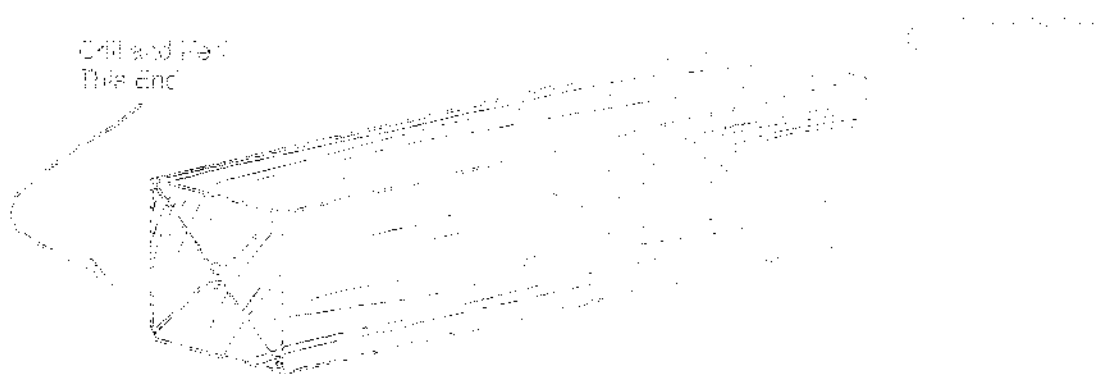


NOTE:

The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished.

OPERATIONS:

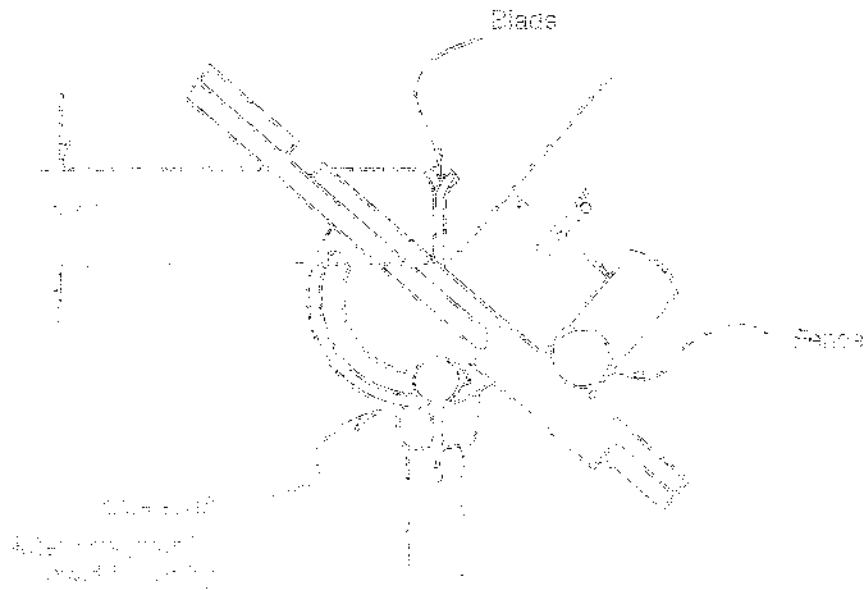
1. Prepare a piece of hardwood 3/4" x 1 1/2" x 18". (Medium hardwood) Cut down to size.
2. Scribe diagonals on both ends and drill 3/4" diameter hole to a depth of 1/2". The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished. The 3/4" diameter hole is drilled from the front and the edges are finished. The 3/4" diameter hole is drilled from the back and the edges are finished.



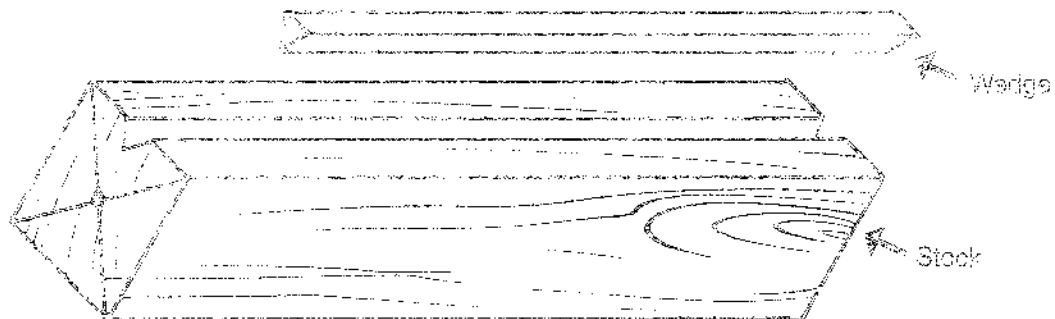
LESSON 10

ASSIGNMENT 66

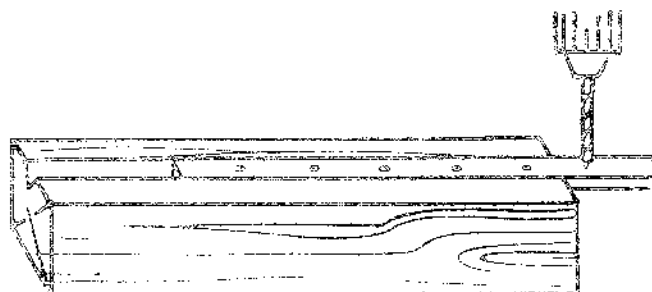
- Set mark V in saw position. (Mount hollow ground blade, if available.)
- Tilt table at 31°. Adjust saw blade height to 7/8". Lock fence 1-3/15" to right of inside saw blade tooth.



- Use a pencil to mark the groove on the stock. Use a square to mark the groove on the stock. Use a square to mark the groove on the stock.



- Get stock on work bench, wedge out up. Put wedge in groove. Center punch marks on outside surface of wedge, measuring from one end, as follows: 3/4", 2-1/4", 6", 10-1/2", 15". Using V-cut as support, drill 3/16" clearance holes at punch marks.



SECTION 10

ASSIGNMENT 10

QUESTIONS: 1. How many times does the word "and" appear in the text? 2. How many times does the word "the" appear in the text?

When does the word "and" appear in the text? How many times does the word "the" appear in the text?

1. How many times does the word "and" appear in the text? 2. How many times does the word "the" appear in the text?

QUESTIONS: 1. How many times does the word "and" appear in the text? 2. How many times does the word "the" appear in the text?

1. How many times does the word "and" appear in the text? 2. How many times does the word "the" appear in the text?

8. Mount every other page of the text in a binder. How many pages are there in the text?

1. How many times does the word "and" appear in the text? 2. How many times does the word "the" appear in the text?

SECTION 43 ENVIRONMENTAL PROTECTION

SECTION 43 ENVIRONMENTAL PROTECTION

SECTION 43 ENVIRONMENTAL PROTECTION



SECTION 43 ENVIRONMENTAL PROTECTION



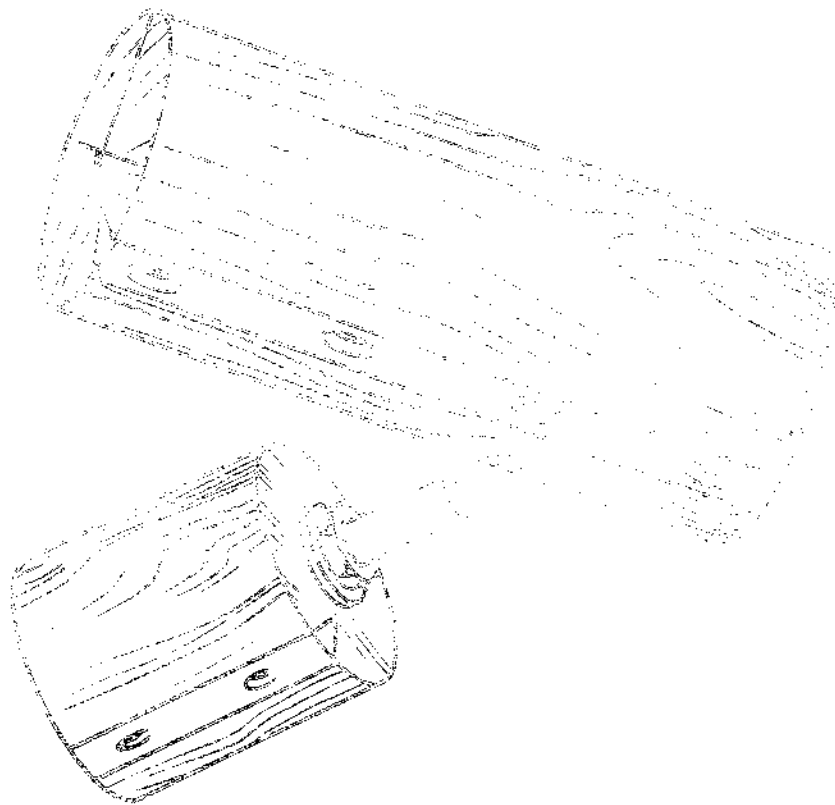
LESSON 10

ASSIGNMENT 66

14. Cut off 3" length of wedge. (Cut off section with two clearance holes.)
15. Cut abrasive paper to length equal to circumference plus twice depth of V cut. Clamp paper by screwing on wedges.

Note: The length of a standard sheet of abrasive paper should exactly fit both drums.

The completed drums should appear as follows:



Handwritten notes or scribbles in the top right corner.

Faint horizontal lines of text, possibly a header or a list of items.

Handwritten title or section header in the center of the page.

Main body of handwritten text, consisting of several paragraphs of cursive script.

A section of text, possibly a list or a specific paragraph, located in the lower middle part of the page.

A final section of text at the bottom of the page, possibly a conclusion or a signature area.

1. The following are the steps in the process of a cell dividing to form two daughter cells:

1. The DNA in the nucleus is replicated.
2. The DNA in the nucleus is condensed into chromosomes.
3. The chromosomes are separated into two groups.
4. The two groups of chromosomes are pulled to opposite sides of the cell.
5. The cell membrane and cell wall pinch together to form two daughter cells.

2. The following are the steps in the process of a cell dividing to form two daughter cells:

1. The DNA in the nucleus is replicated.
2. The DNA in the nucleus is condensed into chromosomes.
3. The chromosomes are separated into two groups.
4. The two groups of chromosomes are pulled to opposite sides of the cell.
5. The cell membrane and cell wall pinch together to form two daughter cells.

3. The following are the steps in the process of a cell dividing to form two daughter cells:

1. The DNA in the nucleus is replicated.
2. The DNA in the nucleus is condensed into chromosomes.
3. The chromosomes are separated into two groups.
4. The two groups of chromosomes are pulled to opposite sides of the cell.
5. The cell membrane and cell wall pinch together to form two daughter cells.

4. The following are the steps in the process of a cell dividing to form two daughter cells:

1. The DNA in the nucleus is replicated.
2. The DNA in the nucleus is condensed into chromosomes.
3. The chromosomes are separated into two groups.
4. The two groups of chromosomes are pulled to opposite sides of the cell.
5. The cell membrane and cell wall pinch together to form two daughter cells.

LESSON 2 TEST

Time: 45 minutes (including marking)

Printed in 2013

TRUE OR FALSE: Circle your answer.

1. F 1. In cutting tapers on wide braid (70°) (80°) (90°) angle on the lathe, the angle is set by the operator. **Lesson 2**
2. F 2. In assembling the machine, the lead screw is assembled with the lathe. **Lesson 2**
3. F 3. The tapering jig remains until it is used to cut a taper. **Lesson 2**
4. F 4. The tapering jig and stock are mounted on lathe. **Lesson 2**
5. F 5. The tapering jig is used to cut a taper. **Lesson 2**
6. F 6. In cutting a chamfer the cut is started at the end of the work, then the operator moves the lathe. **Lesson 2**
7. F 7. The stock is turned over the lathe to cut a chamfer. **Lesson 2**
8. F 8. The tapering jig is used to cut a taper. **Lesson 2**
9. F 9. The tapering jig is used to cut a taper. **Lesson 2**
10. F 10. The tapering jig is used to cut a taper. **Lesson 2**
11. F 11. The tapering jig is used to cut a taper. **Lesson 2**
12. F 12. The tapering jig is used to cut a taper. **Lesson 2**
13. F 13. The tapering jig is used to cut a taper. **Lesson 2**
14. F 14. The tapering jig is used to cut a taper. **Lesson 2**
15. F 15. The tapering jig is used to cut a taper. **Lesson 2**
16. F 16. The tapering jig is used to cut a taper. **Lesson 2**
17. F 17. The correct setting of scriber and miller gauge is set by the operator. **Lesson 2**
18. F 18. If it is applied to the bottom and side of the tapering jig, it is used to cut a taper. **Lesson 2**
19. F 19. When cutting compound angles the miller gauge must always be used. **Lesson 2**
20. F 20. In cutting long tapers with the tapering jig the operator should use the lathe. **Lesson 2**
21. F 21. Standard 1" stock measures exactly 1.00" in diameter. **Lesson 2**

MULTIPLE CHOICE: Circle the correct answer.

22. In cutting tapers on wide braid (70°) (80°) (90°) angle on the lathe, the angle is set by the operator. **Lesson 2**
23. In cutting tapers with a tapering jig the operator stands to the left of the lathe. **Lesson 2**
24. The angle in the tapering jig remains the same. **Lesson 2**
25. Underneath the sketch of a bevel, draw a sketch of a bevel. **Lesson 2**
26. The angular cut on the edge of a board to be used for the appearance is the (bevel) (chamfer). **Lesson 2**
27. In cutting compound angles the work angle is (less) (greater) than the miller gauge setting. **Lesson 2**
28. In cutting compound angles on a four foot lathe, the work angle is (less) (greater) than the miller gauge setting. **Lesson 2**
29. In making the second cut in cutting a taper on a lathe, the operator should use the lathe. **Lesson 2**

LESSON 3 TEST

Multiple Choice: Circle the correct answer.

CHARACTERISTICS

Circle the correct answer.

1. A Vertical boards are used for the sole purpose of holding the work against the rip fence. Lesson 3
2. The grain of a spline runs in opposite directions. Lesson 3
3. One member of a half-joint must be a stock. Lesson 3
4. When removing the surplus material in a half-joint joint, the same method can be used as half-joint. Lesson 3
5. In making the halber, the width of the miter is 1/2" more than the width of the stock. Lesson 3
6. The saw blade height remains the same when cutting a wide board or a tenon. Lesson 3
7. The half-joint is made by cutting a wide board with the miter gauge. Lesson 3
8. The groove in stock is formed by a pair of shears in a half-joint. Lesson 3
9. Half-joint must be made over a miter gauge. Lesson 3
10. The half-joint shoulder is cut by a hand plane. Lesson 3
11. The spring rate of a half-joint is determined by the width of the edge of the tenon. Lesson 3
12. The width of the spring is determined by the width of the stock. Lesson 3
13. The width of the half-joint is determined by the width of the stock. Lesson 3
14. The half-joint is made by cutting a wide board with the miter gauge. Lesson 3
15. The half-joint is made by cutting a wide board with the miter gauge. Lesson 3
16. If the rail is 3/4" thick the tenon should be 1-1/2" long. Lesson 3
17. The stock is held against the face of the miter gauge and the rip fence when making cheek cuts. Lesson 3
18. The vertical cuts for forming the cheeks on the tenon are made before the crosscuts. Lesson 3
19. The purpose of the haunch on a haunched mortise and tenon joint is to increase the strength of the joint. Lesson 3
20. It is good practice to make the thickness of the tenon equal to 1/2 the thickness of the stock. Lesson 3

MULTIPLE CHOICE: Underline your choice.

1. Splines should fit in the grooves (fairly loose) (very tight) (just snug). Lesson 3
2. Half-joint-miter joints are used because (they are stronger) (better outward appearance) (easier to make). Lesson 3
3. In making the spline joint in Assignment 16, a (round) (corner) (thin expressed) spline is used. Lesson 3
4. There (is only one) (are two) ways of sawing off the surplus material on stock in a half joint. Lesson 3
5. The thickness of a tenon is determined by (the width of the rail) (the thickness of the rail) (the length of the rail). Lesson 3
6. In cutting the shoulders on a tenon the waste stock is (between the saw and ripping fence) (drops off on table to left of saw). Lesson 3
7. In making the vertical cuts on a tenon, you should stand (to left) (to right) (directly behind) the line of saw blade cut. Textbook, page 85
8. In cutting the cheek out on the haunched mortise and tenon joint, the saw is set at (3/8") (9/16") (1/2") from the ripping fence. Lesson 3
9. Mortise and tenon joints are used most in (furniture) (picture frames). Lesson 3
10. The tenon made in Assignment 16 is fair (round) (haunched) (rived) (square) and when joint. Lesson 3

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial data and for providing a clear audit trail. The records should be kept up-to-date and should be accessible to all relevant parties.

2. The second part of the document outlines the procedures for handling incoming payments. It is important to ensure that all payments are recorded promptly and accurately. This includes verifying the amount and the source of the payment, and ensuring that the correct account is credited.

3. The third part of the document discusses the process of issuing invoices. Invoices should be issued promptly and accurately, and should clearly state the amount due and the terms of payment. It is also important to keep a record of all invoices issued, and to follow up on any outstanding payments.

4. The fourth part of the document outlines the procedures for handling outgoing payments. This includes ensuring that all payments are made to the correct recipient, and that the correct amount is paid. It is also important to keep a record of all outgoing payments, and to reconcile the accounts regularly.

5. The fifth part of the document discusses the importance of regular reconciliation of the accounts. This involves comparing the records with the bank statements and ensuring that they match. Any discrepancies should be investigated and resolved promptly.

6. The sixth part of the document outlines the procedures for handling any errors or discrepancies. It is important to identify the cause of the error and to take steps to prevent it from happening again. This may involve reviewing the records and the procedures used.

7. The seventh part of the document discusses the importance of maintaining a clear and concise record of all transactions. This is essential for ensuring the integrity of the financial data and for providing a clear audit trail. The records should be kept up-to-date and should be accessible to all relevant parties.

8. The eighth part of the document outlines the procedures for handling incoming payments. It is important to ensure that all payments are recorded promptly and accurately. This includes verifying the amount and the source of the payment, and ensuring that the correct account is credited.

9. The ninth part of the document discusses the process of issuing invoices. Invoices should be issued promptly and accurately, and should clearly state the amount due and the terms of payment. It is also important to keep a record of all invoices issued, and to follow up on any outstanding payments.

10. The tenth part of the document outlines the procedures for handling outgoing payments. This includes ensuring that all payments are made to the correct recipient, and that the correct amount is paid. It is also important to keep a record of all outgoing payments, and to reconcile the accounts regularly.

10/10/2020

1. The first part of the question asks you to identify the type of sampling method used in each of the following scenarios.

(a) A researcher interviews 100 people who are waiting at a bus stop.

(b) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town.

2. The second part of the question asks you to identify the type of sampling method used in each of the following scenarios. In each case, explain why you think this is the case.

(a) A researcher interviews 100 people who are waiting at a bus stop. This is a convenience sample because the researcher has chosen people who are easy to reach.

(b) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(c) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(d) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(e) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(f) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(g) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(h) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(i) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(j) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(k) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(l) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

(m) A researcher interviews 100 people who are randomly selected from a list of all the people living in a town. This is a simple random sample because every person in the population has an equal chance of being selected.

LESSON 8 TEST

TEST QUESTIONS (100 MARKS)

CONCLUSION ON PAGE 5:

TRUE OR FALSE? Circle your selection.

1. T F Mortars should have tapping sites on a base edge with the mortar class should be parallel.
2. T F When forming a wall and mortar, no. 10 should be drilled one after the other starting at one end.
3. T F The approximate distance the gate will press on, be extended to 4 inches. Lesson 8
4. T F All corners of a frame having deviated miter joints are assembled at the same time. Lesson 5
5. T F The holes for the miter joints are drilled at an angle of 10° to the miter surfaces. Textbook page 107
6. T F Holes for screws in rafter joints are drilled in each piece separately. Textbook page 111
7. T F The end rafter is always placed in the same position. Lesson 5
8. T F Holes in end rafters are drilled and a drill bit is finally used in every case. Lesson 5
9. T F Working on the ridge requires the use of a miter saw.
10. T F The rafters and purlins should be tapered with a tapering machine. Lesson 5
11. T F When the plan is being completed, the roof may be done in one step using the same method as for the walls. The roof may be done in one step using the same method as for the walls.

1. $\frac{1}{2} \int_0^1 x^2 dx = \frac{1}{2} \left[\frac{x^3}{3} \right]_0^1 = \frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6}$

2. $\int_0^1 x^3 dx = \left[\frac{x^4}{4} \right]_0^1 = \frac{1}{4}$

3. $\int_0^1 x^4 dx = \left[\frac{x^5}{5} \right]_0^1 = \frac{1}{5}$

4. $\int_0^1 x^5 dx = \left[\frac{x^6}{6} \right]_0^1 = \frac{1}{6}$

5. $\int_0^1 x^6 dx = \left[\frac{x^7}{7} \right]_0^1 = \frac{1}{7}$

6. $\int_0^1 x^7 dx = \left[\frac{x^8}{8} \right]_0^1 = \frac{1}{8}$

7. $\int_0^1 x^8 dx = \left[\frac{x^9}{9} \right]_0^1 = \frac{1}{9}$

8. $\int_0^1 x^9 dx = \left[\frac{x^{10}}{10} \right]_0^1 = \frac{1}{10}$

9. $\int_0^1 x^{10} dx = \left[\frac{x^{11}}{11} \right]_0^1 = \frac{1}{11}$

10. $\int_0^1 x^{11} dx = \left[\frac{x^{12}}{12} \right]_0^1 = \frac{1}{12}$

11. $\int_0^1 x^{12} dx = \left[\frac{x^{13}}{13} \right]_0^1 = \frac{1}{13}$

12. $\int_0^1 x^{13} dx = \left[\frac{x^{14}}{14} \right]_0^1 = \frac{1}{14}$

13. $\int_0^1 x^{14} dx = \left[\frac{x^{15}}{15} \right]_0^1 = \frac{1}{15}$

14. $\int_0^1 x^{15} dx = \left[\frac{x^{16}}{16} \right]_0^1 = \frac{1}{16}$

15. $\int_0^1 x^{16} dx = \left[\frac{x^{17}}{17} \right]_0^1 = \frac{1}{17}$

16. $\int_0^1 x^{17} dx = \left[\frac{x^{18}}{18} \right]_0^1 = \frac{1}{18}$

17. $\int_0^1 x^{18} dx = \left[\frac{x^{19}}{19} \right]_0^1 = \frac{1}{19}$

18. $\int_0^1 x^{19} dx = \left[\frac{x^{20}}{20} \right]_0^1 = \frac{1}{20}$

19. $\int_0^1 x^{20} dx = \left[\frac{x^{21}}{21} \right]_0^1 = \frac{1}{21}$

20. $\int_0^1 x^{21} dx = \left[\frac{x^{22}}{22} \right]_0^1 = \frac{1}{22}$

21. $\int_0^1 x^{22} dx = \left[\frac{x^{23}}{23} \right]_0^1 = \frac{1}{23}$

22. $\int_0^1 x^{23} dx = \left[\frac{x^{24}}{24} \right]_0^1 = \frac{1}{24}$

23. $\int_0^1 x^{24} dx = \left[\frac{x^{25}}{25} \right]_0^1 = \frac{1}{25}$

24. $\int_0^1 x^{25} dx = \left[\frac{x^{26}}{26} \right]_0^1 = \frac{1}{26}$

25. $\int_0^1 x^{26} dx = \left[\frac{x^{27}}{27} \right]_0^1 = \frac{1}{27}$

26. $\int_0^1 x^{27} dx = \left[\frac{x^{28}}{28} \right]_0^1 = \frac{1}{28}$

27. $\int_0^1 x^{28} dx = \left[\frac{x^{29}}{29} \right]_0^1 = \frac{1}{29}$

28. $\int_0^1 x^{29} dx = \left[\frac{x^{30}}{30} \right]_0^1 = \frac{1}{30}$

LESSON 9 TEST

© 2010 The American Society of Mechanical Engineers. All rights reserved. This document is intended solely for the personal use of the individual user and is not to be disseminated broadly.

THIS QUESTION IS ON 1 PAGE OF 3

CONSTRUCTION SHEET

1. 4. 10. 15. 20. 25. 30. 35. 40. 45. 50. 55. 60. 65. 70. 75. 80. 85. 90. 95. 100.

1. The chip is first, traces with the tool. Lesson 2
2. As the cutting wheel advances and moves forward, the workpiece rotates. Lesson 2
3. The chip is removed from the stock with a wooden mallet. Lesson 2
4. The tool is used to shape the workpiece with a 2° bevel. Use and handle the tool properly. Lesson 2
5. All work is done with the workpiece held in the lathe. Lesson 2
6. Roughening of square stock should be done in a lathe using slow speed. Assignment 58
7. The amount of material to be removed should be determined by the lathe. Assignment 58
8. A good rough turning job is obtained when the workpiece is held in the lathe. Assignment 58
9. The amount of material to be removed should be determined by the lathe. Assignment 58
10. When rough turning, the pressure should be applied to the workpiece. Assignment 58
11. Outside calipers are used to measure the diameter of a cylinder. Textbook, page 184
12. The amount of material to be removed should be determined by the lathe. Assignment 58
13. The amount of material to be removed should be determined by the lathe. Assignment 58
14. The amount of material to be removed should be determined by the lathe. Assignment 58
15. Corners are usually made with a skew. Assignment 58
16. The center of a concave cylindrical shape is nearer the longitudinal axis of the stock than the ends. Assignment 58
17. A bead is formed by making two convex cuts. Textbook, page 180
18. Rounding corners with a skew requires special handling of the chisel not used for any other way. Lesson 8
19. When preparing to round the corners of square stock, the skew should be placed on the tool rest with the heel of the cutting edge down. Assignment 51
20. The amount of taper cut in stock can be regulated with the eccentric in the tail stock.

2. MULTIPLE CHOICE: Underline your answer.

1. Stock is lightened between centers by (pushing) end on the head stock) (extending the quill) (driving stock into dead center). Textbook, page 185
2. The dead center is held in place by (set screw) (lock nut) (friction). Textbook, page 184
3. Normally, the top edge of the tool rest should be (even with) (well above) (well below) the axis of the stock. Textbook, page 185
4. To determine the diameter of a cylinder use (outside calipers) (steel square) (inside calipers). Textbook, page 195
5. The paring tool is usually used to (cut) (scrape) (shear). Textbook, page 190

QUESTION 1

10/10

1. The following table shows the results of a regression analysis:

Dependent Variable: Sales

Independent Variable: Price

2. The regression equation is:

$Sales = 1000 - 200 \cdot Price$

3. The regression coefficient for Price is -200.

4. The regression coefficient for Price is -200.

5. The regression coefficient for Price is -200.

6. The regression coefficient for Price is -200.

7. The regression coefficient for Price is -200.

8. The regression coefficient for Price is -200.

9. The regression coefficient for Price is -200.

10. The regression coefficient for Price is -200.

11. The regression coefficient for Price is -200.

12. The regression coefficient for Price is -200.

13. The regression coefficient for Price is -200.

14. The regression coefficient for Price is -200.

15. The regression coefficient for Price is -200.

16. The regression coefficient for Price is -200.

17. The regression coefficient for Price is -200.

18. The regression coefficient for Price is -200.

QUESTION 2

1. The surface of a face plate being turned on a lathe is shown in the figure.

2. The surface of a face plate being turned on a lathe is shown in the figure.

3. To remove the burr from the mounting ring on a screw, the following procedure should be used:

4. The top of the burr on a jewel box is turned (see figure) by using the following procedure:

5. When sanding a long handle, the following procedure should be used to remove the burr:

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories for housing, utilities, food, and entertainment. The goal is to allocate funds wisely to avoid overspending and to save for future needs.

The third section covers the topic of debt management. It suggests creating a repayment schedule for all outstanding loans and credit cards. Regular payments are crucial to avoid penalties and to improve one's credit score.

Finally, the document concludes with advice on emergency savings. It recommends setting aside a portion of each month's income into a separate account. This fund can be used in case of unexpected expenses or job loss, providing a financial safety net.

INDEX

- Align saw, 1-1
Angles, drilling, 5-9
Angles, sawing, 1-13
- Bending, kerfs for, 4-11
Bowls, sanding, 3-4
Bowls, sawing, 2-3
Bowl and cover, turning, 10-9
Bowl, deep, turning, 10-8
Bowl, shallow, turning, 10-1
- Centering stock, turning, 9-1
Chamfers, sanding, 8-1
Chamfers, sawing, 2-10
Circles, sanding, 7-15
Compound angles, drilling, 5-11
Compound angles, sawing, 2-12
Concave cuts, turning, 9-9
Convex cuts, turning, 9-11
Corners, sanding, 7-12
Counterboring, 5-7
Cove molding, 4-7
Crosscuts, sanding, 7-5
Crosscutting, 1-6
Crown molds, sanding, 8-9
Curves, outside, sanding, 3-7
- Dado joints, 2-14, 4-1
Doweled miter joints, 6-9
Doweled table leg joints, 5-14
Doweled table top joints, 5-16
Drilling (vertical and horizontal)
 angles, 5-9
 compound angles, 5-12
 counterboring, 5-7
 doweled miter, 6-9
 doweled table leg, 5-14
 doweled table top, 5-16
 glass, 6-17
 long holes, 6-7
 metal, 6-15
 pegged joint, 6-12
 pilot holes in hardwood, 5-4
 pilot holes in softwood, 5-1
Drums, sanding, 3-17, 10-12
Duplicate short stock, sanding, 7-7
- End lap joints, 3-6
Equal lengths, sawing, 1-8
Exact length, sanding, 7-5
Exact width, sanding, 7-10
- Glass, drilling, 6-17
- Half lap miter joints, 3-8
Haunched mortise joints, 6-4
Haunched tenon joints, 3-15
- Joints
 dado, 2-14, 4-1
 doweled miter, 6-9
 doweled table leg, 5-14
 doweled table top, 5-16
 end lap, 3-6
 half lap miter, 3-8
 haunched mortise, 6-4
 haunched tenon, 3-15
 mortise, 3-1
 notch, 2-17
 pegged, 6-12
 rabbit, 1-10, 2-14
 spline, 3-2
 stop dado, 4-5
 stop rabbit, 6-13
 tenon, 3-12
 tongue and groove, 1-13
- Kerfs for bending, sawing, 4-11
- Long holes, drilling, 6-7
- Metal, drilling, 6-15
Miter, doweled, 6-9
Miter gauge extension, 4-11
Molding, cove, 4-7
Molding head, 4-16
Mortise, haunched, 6-4
Mortise joints, 6-1
- Notch joints, 2-17
- Parting, turning, 9-7
Patterns, sanding, 8-14
Pegged joints, 6-12
Pilot holes in hardwood, drilling, 5-4
Pilot holes in softwood, drilling, 5-1
- Rabbit joints, 1-10, 2-14
Resawing, 4-15
Ripping, 1-3
Rough turning, 9-3
Rounding square corners,
 turning, 9-13
- Sanding, 7-1
 bevels, 8-4
 chamfers, 8-1
- circles, 7-15
corners, 7-12
crosscuts, 7-3
curves, inside, 8-9
curves, outside, 8-7
drums, 3-17, 10-12
duplicate short stock, 7-7
exact length, 7-5
exact width, 7-10
patterns, 3-14
surface, 8-12
tricks, 8-17
- Sawing
 angles, 1-16
 bevels, 2-8
 chamfers, 2-10
 compound angles, 2-12
 crosscutting, 1-6
 equal lengths, 1-8
 kerfs for bending, 4-11
 resawing, 4-15
 ripping, 1-3
 sheet materials, 4-13
 tapering jig, 2-4
 tapers, crosscutting, 2-2
 tapers, ripping, 2-6
- Sheet materials, sawing, 4-13
Sizing, turning, 9-5
Spline joints, 3-2
Stop dado joints, 4-5
Stop rabbit joints, 6-13
Surface, sanding, 8-12
- Tapering jig, sawing, 2-4
Tapers, crosscutting, 2-2
Tapers, ripping, 2-6
Tapers, turning, 9-15
Tenon, haunched, 3-15
Tenon joints, 3-12
Tongue and groove joints, 1-13
Tricks, sanding, 8-17
- Turning
 bowl and cover, 10-9
 bowl, deep, 10-6
 bowl, shallow, 10-1
 centering stock, 9-1
 concave cuts, 9-9
 convex cuts, 9-11
 parting, 9-7
 rough turning, 9-3
 rounding square corners, 9-13
 sizing, 9-5
 tapers, 9-15

