

CHAPTER 4

Job Costing

Basic Costing Terminology...

- Several key points from prior chapters:
 - Cost objects—including responsibility centers, departments, customers, products, and so on
 - Direct costs and tracing—materials and labor
 - Indirect costs and allocation—overhead

...logically extended

- Cost pool—any logical grouping of related cost objects
- Cost-allocation base—a cost driver is used as a basis upon which to build a systematic method of distributing indirect costs.
 - For example, let's say that direct labor hours cause indirect costs to change. Accordingly, direct labor hours will be used to distribute or allocate costs among objects based on their usage of that cost driver.

Costing Systems

- Job-costing—system accounting for distinct cost objects called jobs. Each job may be different from the next, and consumes different resources.
 - Wedding announcements, aircraft, advertising
- Process-costing—system accounting for mass production of identical or similar products.
 - Oil refining, orange juice, soda pop

Costing Systems Illustrated

	Service Sector	Merchandising Sector	Manufacturing Sector
Job Costing Used	<ul style="list-style-type: none">• Audit engagements done by Price Waterhouse Coopers• Consulting engagements done by McKinsey & Co.• Advertising-agency campaigns run by Ogilvy and Mather• Individual legal cases argued by Hale & Dorr• Computer-repair jobs done by CompUSA• Movies produced by Universal Studios	<ul style="list-style-type: none">• L. L. Bean sending individual items by mail order• Special promotion of new products by Wal-Mart	<ul style="list-style-type: none">• Assembly of individual aircrafts at Boeing• Construction of ships at Litton Industries
Process Costing Used	<ul style="list-style-type: none">• Bank-check clearing at Bank of America• Postal delivery (standard items) by U.S. Postal Service	<ul style="list-style-type: none">• Grain dealing by Arthur Daniel Midlands• Lumber dealing by Weyerhaeuser	<ul style="list-style-type: none">• Oil refining by Shell Oil• Beverage production by PepsiCo

Costing Approaches

- Actual costing—allocates:
 - Indirect costs based on the *actual* indirect-cost rates times the actual activity consumption.
- Normal Costing—allocates:
 - Indirect costs based on the *budgeted* indirect-cost rates times the actual activity consumption.
- Both methods allocate direct costs to a cost object the *same way*: by using actual direct-cost rates times actual consumption.

Costing Approaches Summarized

	Actual Costing	Normal Costing
Direct Costs	<i>Actual direct-cost rates</i> × actual quantities of direct-cost inputs	<i>Actual direct-cost rates</i> × actual quantities of direct-cost inputs
Indirect Costs	<i>Actual indirect-cost rates</i> × actual quantities of cost-allocation bases	<i>Budgeted indirect-cost rates</i> × actual quantities of cost-allocation bases

Seven-Step Job Costing

1. Identify the job that is the chosen cost object.
2. Identify the direct costs of the job.
3. Select the cost-allocation base(s) to use for allocating indirect costs to the job.
4. Match indirect costs to their respective cost-allocation base(s).

Seven-Step Job Costing

5. Calculate an overhead allocation rate:

$$\text{Budgeted Manufacturing Overhead Rate} = \frac{\text{Budgeted Manufacturing Overhead Costs}}{\text{Budgeted Total Quantity of Cost-Allocation Base}}$$

6. Allocate overhead costs to the job:

$$\text{Budgeted Allocation Rate} \times \text{Actual Base Activity For the Job}$$

7. Compute total job costs by adding all direct and indirect costs together.

Sample Job Cost Document

	A	B	C	D	E	
1			JOB-COST RECORD			
2	JOB NO:	WPP 298		CUSTOMER:	Western Pulp and Paper	
3	Date Started:	Feb. 7, 2011		Date Completed	Feb. 28, 2011	
4						
5						
6	DIRECT MATERIALS					
7	<u>Date</u>	<u>Materials</u>		<u>Quantity</u>	<u>Unit</u>	<u>Total</u>
8	<u>Received</u>	<u>Requisition No.</u>	<u>Part No.</u>	<u>Used</u>	<u>Cost</u>	<u>Costs</u>
9	Feb. 7, 2011	2011: 198	MB 468-A	8	\$14	\$ 112
10	Feb. 7, 2011	2011: 199	TB 267-F	12	63	756
11						•
12						•
13	Total					<u>\$ 4,606</u>
14						
15	DIRECT MANUFACTURING LABOR					
16	<u>Period</u>	<u>Labor Time</u>	<u>Employee</u>	<u>Hours</u>	<u>Hourly</u>	<u>Total</u>
17	<u>Covered</u>	<u>Record No.</u>	<u>No.</u>	<u>Used</u>	<u>Rate</u>	<u>Costs</u>
18	Feb. 7-13, 2011	LT 232	551-87-3076	25	\$18	\$ 450
19	Feb. 7-13, 2011	LT 247	287-31-4671	5	19	95
20						•
21						•
22	Total					<u>\$ 1,579</u>
23						
24	MANUFACTURING OVERHEAD*					
25		<u>Cost Pool</u>		<u>Allocation Base</u>	<u>Allocation-</u>	<u>Total</u>
26	<u>Date</u>	<u>Category</u>	<u>Allocation Base</u>	<u>Quantity Used</u>	<u>Base Rate</u>	<u>Costs</u>
27	Dec. 31, 2011	Manufacturing	Direct Manufacturing	88 hours	\$40	\$ 3,520
28			Labor-Hours			
29						
30	Total					<u>\$ 3,520</u>
31	TOTAL MANUFACTURING COST OF JOB					<u>\$ 9,705</u>
32						
33						
34	*The Robinson Company uses a single manufacturing-overhead cost pool. The use of multiple overhead cost pools					
35	would mean multiple entries in the "Manufacturing Overhead" section of the job-cost record.					
36						

Sample Job Cost Source Documents

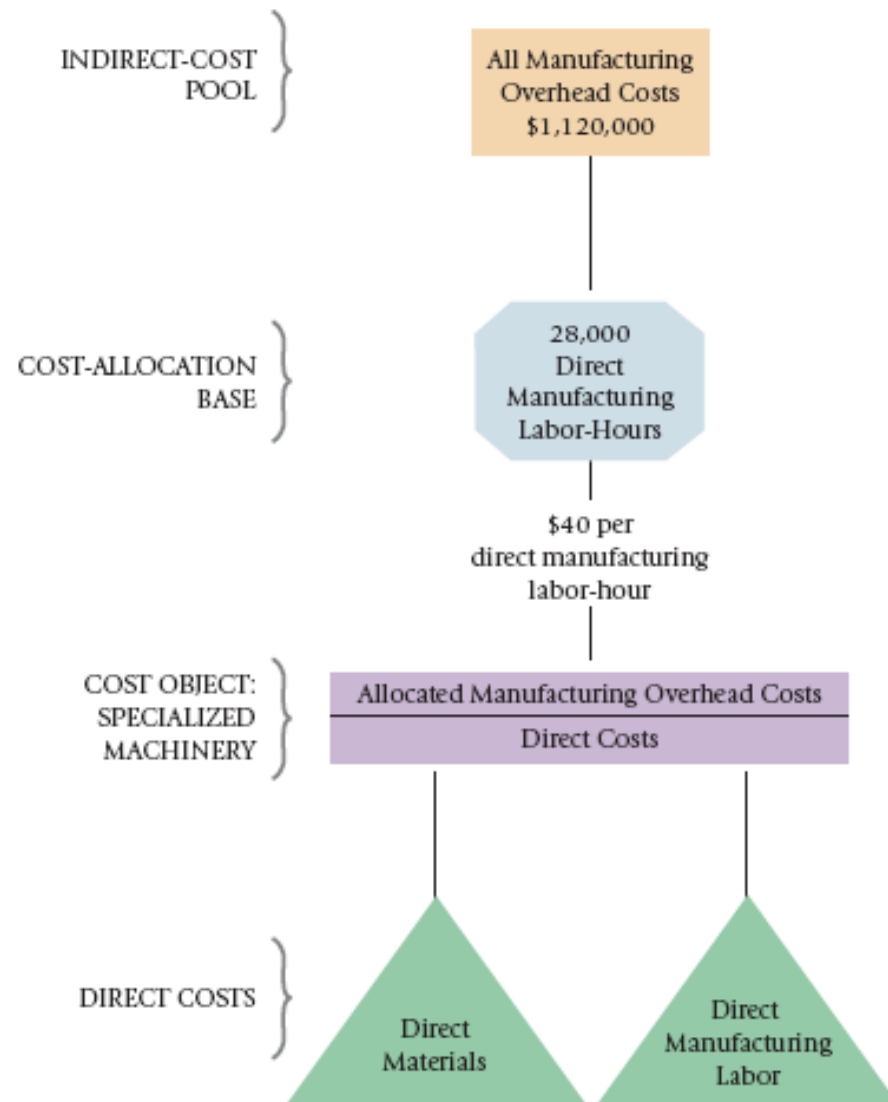
PANEL A:

MATERIALS-REQUISITION RECORD				
Materials-Requisition Record No.		<u>2011: 198</u>		
Job No.	<u>WPP 298</u>	Date:	<u>FEB. 7, 2011</u>	
Part	Part	Unit	Total	
<u>No.</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>	<u>Cost</u>
	Metal			
<u>MB 468-A</u>	<u>Brackets</u>	<u>8</u>	<u>\$14</u>	<u>\$112</u>
Issued By: B. Clyde		Date:	<u>Feb. 7, 2011</u>	
Received By: L. Daley		Date:	<u>Feb. 7, 2011</u>	

PANEL B:

LABOR-TIME SHEET								
Labor-Time Record No:		<u>LT 232</u>						
Employee Name:		<u>G. L. Cook</u>		Employee No: <u>551-87-3076</u>				
Employee Classification Code:		<u>Grade 3 Machinist</u>						
Hourly Rate:		<u>\$18</u>						
Week Start:		<u>Feb. 7, 2011</u>			Week End: <u>Feb. 13, 2011</u>			
Job. No.	M	T	W	Th	F	S	Su	Total
WPP 298	4	8	3	6	4	0	0	25
JL 256	3	0	4	2	3	0	0	12
Maintenance	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>0</u>	<u>0</u>	<u>40</u>
Supervisor: R. Stuart		Date: Feb. 13, 2011						

Job Costing Overview



Journal Entries

- Journal entries are made at each step of the production process.
- The purpose is to have the accounting system closely reflect the actual state of the business, its inventories, and its production processes.

Journal Entries

- All product costs are accumulated in the work-in-process control account.
 - Direct materials used
 - Direct labor incurred
 - Factory overhead *allocated or applied*
- *Actual* indirect costs (overhead) are accumulated in the manufacturing overhead control account.

Journal Entries

- Purchase of materials on mredit:

• Materials Control	XX	
Accounts Payable Control		XX

- Requisition of direct and indirect materials (OH) into production:

• Work-in-Process Control	X	
Manufacturing Overhead Control	Y	
Materials Control		Z

Journal Entries

- Incurred direct and indirect (OH) labor wages
 - Work-in-Process Control X
 - Manufacturing Overhead Control Y
 - Cash Control Z

Journal Entries

- Incurring or recording of various actual indirect costs:

• Manufacturing Overhead Control	X	
Salaries Payable Control		A
Accounts Payable Control		B
Accumulated Depreciation Control		C
Prepaid Expenses Control		D

Journal Entries

- Allocation or application of indirect costs (overhead) to the work-in-process account is based on a predetermined overhead rate.
- | | | |
|----------------------------------|---|---|
| Work-in-Process Control | X | |
| Manufacturing Overhead Allocated | | X |
- Note: Actual overhead costs are *never* posted directly into work-in-process.

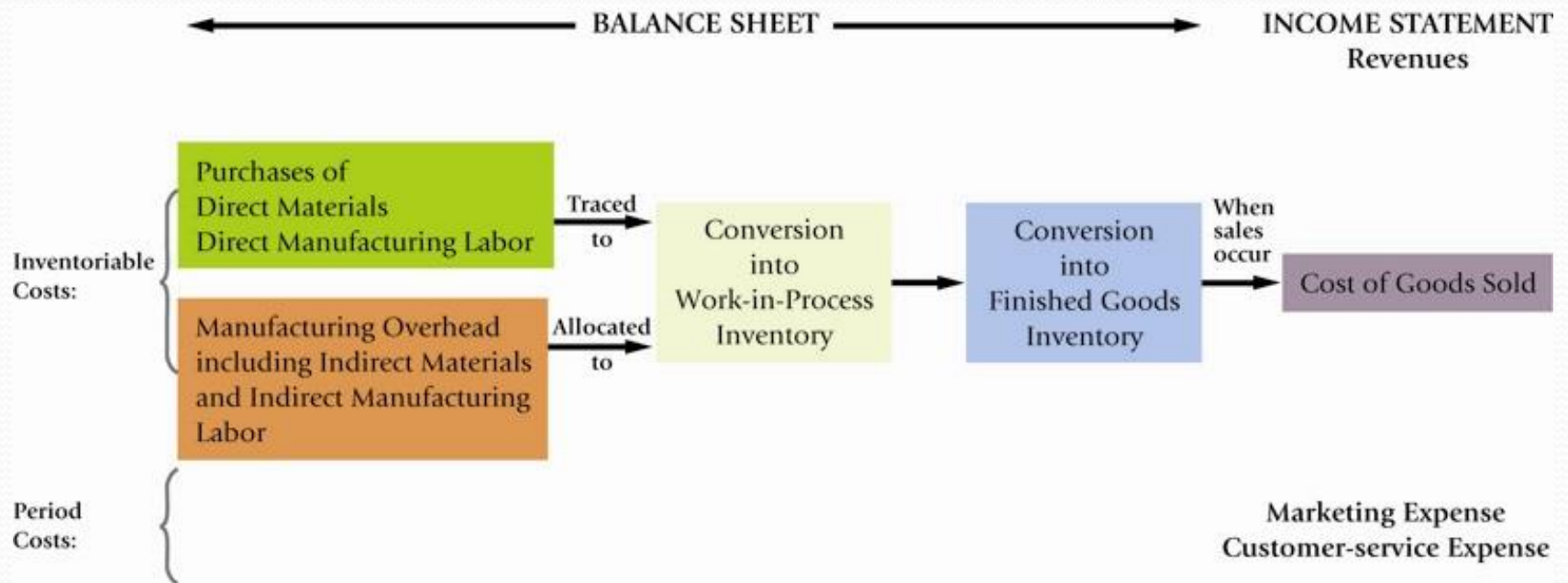
Journal Entries

- Products are completed and transferred out of production in preparation for being sold.
 - Finished Goods Control X
 - Work-in-Process Control X

Journal Entries

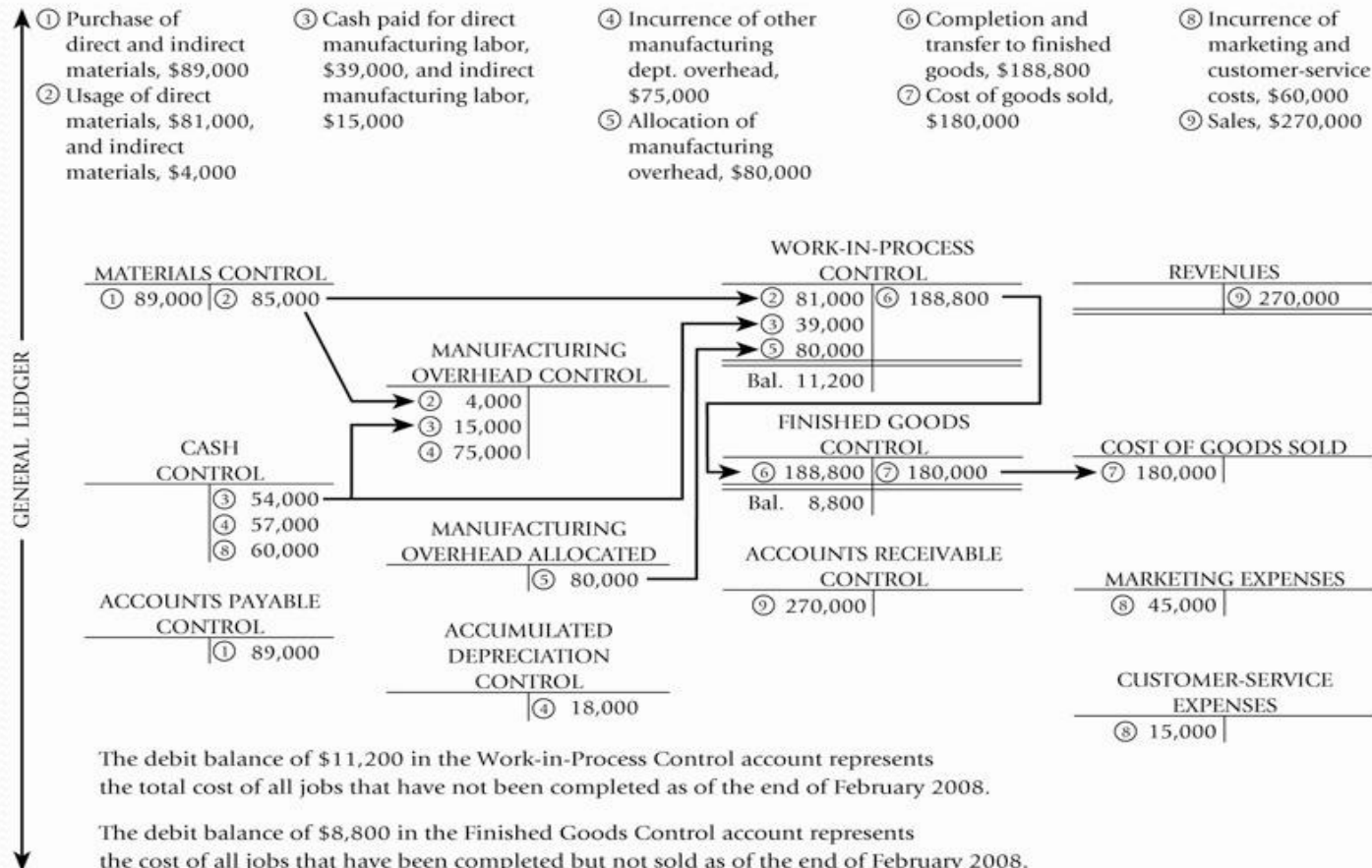
- Products are sold to customers on credit.
 - Accounts Receivable Control X
 - Sales X
- The associated costs are transferred to an expense (cost) account.
 - Cost of Goods Sold Y
 - Finished Goods Control Y
- Note: The difference between the sales and cost of goods sold amounts represents the gross margin (profit) on this particular transaction.

Flow of Costs Illustrated



Illustrated General Ledger in a Job Cost Environment

GENERAL LEDGER



Illustrated Subsidiary Ledger in a Job Cost Environment

**PANEL A:
Materials Records
by Type of Materials**

Metal Brackets Part No. MB 468-A					
Received	Issued				Balance
①	Req.				
	Date	No.	Qty.	Rate	Amt.
	2-7	2011:	8	\$14	\$112
		198			
		②			
Copies of invoices or receiving reports					
Copies of materials requisition records					
Total cost of all types of materials received in February, \$89,000			Total cost of all types of materials issued in February, \$85,000		

**PANEL B:
Labor Records
by Employee**

G. L. Cook Empl. No. 551-87-3076					
Week	Job No.	Hours	Rate	Amt.	
Endg.		Worked			
2-13	WPP				
	298	25	\$18	\$450	
	JL 256	12	18	216	
	Mntnce.	3	18	54	
				<u>\$720</u>	
2-20					
		③			
Copies of labor-time sheets					
Total cost of all direct and indirect manufacturing labor incurred in February, \$54,000 (\$39,000 + \$15,000)					

**PANEL C: Manufacturing
Department Overhead
Records by Month**

February 2011				
Indir. Matr. Issued	Indir. Manuf. Labor	Supervn. & Eng.	Plant Ins. & Utilities	Plant Deprn.
②	③	④	④	④
Copies of materials requisitions				
Manuf. labor-time record or payroll analysis				
Payroll analysis, invoices, special authorizations				
<u>\$4,000</u>	<u>\$15,000</u>	<u>\$44,000</u>	<u>\$13,000</u>	<u>\$18,000</u>
Other manufacturing overhead costs incurred in February, \$75,000				

¹The arrows show how the supporting documentation (for example, copies of materials requisition records) results in the journal entry number shown in circles (for example, journal entry number 2) that corresponds to the entries in Exhibit 4-7.

Accounting for Overhead

- Recall that two different overhead accounts were used in the preceding journal entries:
 - Manufacturing overhead control was debited for the actual overhead costs incurred.
 - Manufacturing overhead allocated was credited for estimated (budgeted) overhead applied to production through the work-in-process account.

Accounting for Overhead

- Actual costs will almost never equal budgeted costs. Accordingly, an imbalance situation exists between the two overhead accounts.
 - If $\text{Overhead Control} > \text{Overhead Allocated}$, this is called **Underallocated Overhead**
 - If $\text{Overhead Control} < \text{Overhead Allocated}$, this is called **Overallocated Overhead**

Accounting for Overhead

- This difference will be eliminated in the end-of-period adjusting entry process, using one of three possible methods.
- The choice of method should be based on such issues as materiality, consistency, and industry practice.

Three Methods for Adjusting Over/Underapplied Overhead

- Adjusted allocation rate approach—all allocations are recalculated with the actual, exact allocation rate.
- Proration approach—the difference is allocated between cost of goods sold, work-in-process, and finished goods based on their relative sizes.
- Write-off approach—the difference is simply written off to cost of goods sold.



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