

## **Job Costing**

### **Definition:**

Job costing may be defined as the process of forecasting the expenses that must be incurred to manufacture a product. These expenses take into consideration all expenditures involved in design and manufacturing, with all the related service facilities such as pattern making, tool making, as well as a portion of the general administrative and selling costs.

### **Object of Job Costing in Railway Workshop:**

The object of job costing is:

- (a) to compare the man hours and the costs of similar articles manufactured from time to time in the workshop and finding out reason for variation in labour hours and cost;
- (b) to compare the cost of articles manufactured in one workshop with those manufactured in other workshops or with the market price of similar articles; and
- (c) to determine issue-prices of components manufactured in workshops for issue to store for stocking purpose to meet demands of workshops at the time of repair of Rolling Stock.

### **Importance of Costing:**

The costing data enables the management to

- (i) assess whether the unit cost of manufacturing is as estimated and how it compares with the historical data of previous years.
- (ii) identify factors/inputs which have caused a variation in the unit cost.
- (iii) assess benefits of incentives given, mechanization done, material utilized.
- (iv) assess whether the activity as a whole or in part needs to be continued, depending upon the economics of the production.

**Principal Documents employed for costing purpose:**

**(i) Route Card:**

It is an authority for the shop to undertake manufacture of components/assembly, for which it is issued. It is printed and issued by Production Control to the shop through Progress Office and thereafter it travels with the job till its completion. Then it is sent to Accounts Office for completing cost sheet.

Form W 916

ROUTE CARD

Control Work Order No.	Quantity On order	Date Reqd.	Requisition No. shop
signature	Latest starting date	Requisition Date	Forwarded
Sub work order	Name of Part	Material Issued	
	date	Signature	
Component of	Drawing No.	Priority	Material Received
		date	Signature
Matle Specn.	Material size and length/piece	Posted	
		date	Signature
Route	Delivery to	Kgs.	Qty. REJECTS
			produced passed Mat. Man.
Dept.	M/C Class	Operation	Inspectors Signature
		Time No. off.	
		P.	
		A	
		P.	
		A	

Note: Operating Times and Prices given are "for each" Unless otherwise stated.

Reverse of from w. 916

Class of Stores					P. L. No.
Qty. Demanded	Kgs.	Rate	Unit	Value	Closing
Balance					
Qty. Issued					

**(ii) Job Card/Squad Summary Card:**

For each operation included in the Route Card, Job Cards/Squad Summary Cards are issued printed (by Progress Office) on which time taken is recorded with the help of Time Clocks and direct labour hours spent on the job determined. Direct Labour Cost is arrived by multiplying the time taken with average hourly rate of the category. Both direct labour hours and indirect labour cost is posted in the Cost sheets. In addition, the incentive bonus earned by workers is also posted from the Job Card.

**(iii) Material Requisition:**

It is an authority for the Shop Foreman to draw materials as specified there in accordance with the route card and is issued adrema printed by the Production Control to the Shop through the Progress Office. It is valued by the Stores Accounts Officer on the basis of book rate and forwarded to the Workshop Accounts Office where it is made use for posting direct material cost in the Cost Sheet.

From W 921

MATERIAL REQUISITION

Control Work Order No.	Quantity On order	Date Requd.	Requisition No. shop
signature	Latest starting date	Requisition Date	Forwarded
Sub work order	Name of Part	Material Issued	
	date	Signature	
Component of	Drawing No. Priority	Material Received	
	date	Signature	
Matle Specn.	Material size and length/piece	Recorded	
	date	Signature	
Route	Delivery to	Kgs.	
Issue Note No.....			P. L. No.....
Value	Price	Proof	Class of Store
Issued			Qty. Demanded Qty.

Depot Closing Balance

Quantity .....

Date .....

**(iv) Material Tag:**

It is adrema print by Production Control and issued to Shops through Progress Office. It remains tagged with material till the component/assembling is returned to stores when it is valued at the predetermined rate by the Stores Accounts Office and sent to Workshop Accounts Office in support of Advice of credit. In the Workshop Accounts Office it is posted in the Cost Sheet to determine the extent to which the price list rate need revision.

Form W. 923

MATERIAL TAG

Control Work Order No.	Quantity On order	Date Requd.	THIS LABEL STAY WITH WORK	
Sub work order	Name of Part			
Component of	Drawing No.	Priority		
Matl Specn.	Material size and length/piece			
Route	Delivery to	Kgs.		
Receipt Note No				
Value	Proof	Class of Store	Qty. Ordered	Qty. Recd.

Depot Closing Balance

Quantity .....

Date .....

Signature .....

**(v) Advice Note of Returned Stores:**

It is used for return of scrap or surplus materials to stores and getting credit there form for posting in the Cost Sheet.

Form W 926

ADVICE NOTE OF RETURNED STORES  
REJECTED ( OTHER STORES

Control Work order No. kgs.	Sub-work order No.	Unit	Wt. Returned kgs.	Wt. Regd. in word
Description	Allocation			
P. L. No. & CLASS	Rate		Rs. VALUE	P.
MATERIAL RETURNED	MATERIAL RECEIVED IN WARD		POSTED	
Date	Signature	Date	Signature	Date Signature

**(vi) Foundry Out-turn Statement:**

It is used for ascertaining and posting in the Cost Sheet, the cost of ferrous and non-ferrous castings.

**(vii) Cost Sheet:**

It is document issued by the Production Control in respect of job for which cost is to be determined. It covers the whole field of record of productive activity and is used to determine cost per unit.

Form W-934

COST SHEET  
(for articles manufactured for stock)

Railway .....  
Workshop .....  
Control W. O. No.....  
Sub Work Order No.....

Shop No. Col. 8	Month	Labour Hours	Labour Cost	Material Cost	On Cost	Total cost Col 4 to
		Direct Wages	Piece Work profit	Labour	Material	
1	2	3	4	5	6	7 8 9
Total						
Credit received for supply of articles to stores	Difference between the actual total cost and the credit recd. col 9 minus col 10	Unit cost of Manufacture		Labour	Material	On Cost Total
10	11	12	13	14	15	

Total

Unit Cost @ approved Cost Card Posted

Section officer (Accounts) W.A.O

**(viii) Works Manager's Cost Sheet:**

It is posted from Cost Sheet and is used for comparison of cost from time to time and from workshop to workshop etc.

Form W. 944

.....Railway  
COST CARD

UNL No. .... Description..... Drawing No.....

Date of Manufacture	Number ordered	Order No.	Estimated labour time		Estimated labour Cost	Estimated Material quantity	Estimated Cost	
1	2	3	4	5	6	7	8	9
.								
Actual		Total cost			Labour time per unit			
Material Remarks	Labour Cost	on cost	Total cost	Estimated	Time allowed	Time taken	Percentage	
Cost	Cost		Actual			Wastage		
8	9	10	11	12	13	14	15	16

**Costing Procedure:**

1. A work order system is used in the workshops for costing procedures and system. A work order is a unit used for recording and analyzing workshop expenditure. It is also an authority under which work is undertaken in the workshops. There are many types of work orders each serving a specific purpose for booking and analysis of expenditure in the workshops.
2. The main elements of cost which go into any of the activity undertaken in the workshops are:
  - (a) Materials
  - (b) Labour
  - (c) On costs

**(a) Material cost:** Material Requisitions Notes and Issue notes are used for drawal of Stores from the Stores depot showing among other particulars the work order number. For non-stock items the cost of materials are charged directly to the work order concerned. The document used for the purpose is the Receipt note.

**(b) Labour:** Accounts of labour employed in the workshops are maintained in two series:-

- (i) for the purpose of payment.
- (ii) for the allocation of labour charges to the jobs upon which the workmen are employed.

**(c) On-cost(Overheads):** In addition to the expenses on direct labour and direct materials there are various items of expenditure which cannot be directly charged to the cost of article manufactured or work done e.g. indirect material, indirect labour. Charges of this nature are termed as "On Cost" which in the Railway workshops are classified into three categories:-

- (i) Shop-on-cost:- This includes all on-cost incurred within an accounting unit such as a shop or department or a section. These are mainly indirect material, indirect labour and other indirect charges which cannot be directly charged to a job and which can be identified with a particular shop or section.
- (ii) Proforma-on-cost:- The indirect expenses which are normally included in the cost of manufacture under the principles of commercial costing but are not so included in the cost of works done in Railway Workshops are classified as Proforma-on-cost charges. Under the Railway classification rules such expenses are charged of directly to the final heads of working expenses.
- (iii) General-on-cost:- This includes all indirect costs other than Proforma-on-cost that is incurred in common with more than one shop or department within a workshop.

### **Job Card:**

Job card is defined as the record that shows the time worked by workmen on individual operations. These are used in shops covered by the Incentive Scheme. Job cards are printed by the PCO separately for each operation indicated on the route card and sent to the shop concerned. The job cards for section will be kept by the Sectional Chargeman. When an operator has to commence an operation, the chargeman will give it to operator after entering his Ticket No. and after punching 'ON' it will be handed over to Time Booth Clerk. When the job is completed the worker will take the job card from Time Booth for punching 'OFF'. And after punching it will again handed over to Time Booth. The time booth clerk will book the time put in

by the worker from day to day on the job card in the space provided. Now the card is handed over to stage inspector for inspection and according the outturn passed under his dated initials. The time booth clerk will then total up the booked, and send it to the Accounts Office for further calculation of unit cost of the work and incentives of the workers etc.

**Q. What is Route Card? What purpose does it serve?**

**Ans.** The route card is the authority for the shops to undertake manufacture of the component/assembly for which it is issued. This is an exact replica of the Process sheet with adequate space provided for the inspection staff to record the results inspection or checking on completion of each operation. The Route Card is issued by the Production Control to the shop initiating manufacture and thereafter it accompanies the material till its delivery to stores on completion of all operations. The Stores Depots acknowledges, on the Route Card, receipt of the component/assembly sent to the Depot from the Shops. The Shop Foreman thereafter passes on the Route Card to the Progress Office. The Progress Office sorts out the Route Cards by different control work orders after scrutinizing that necessary reference of material requisitions and piecework job cards have been entered therein and forwards the Route Cards to Job Costing Section of the Workshop Accounts Office. Normally, only one Route Card is issued to cover the number of components/assembly against the sub-work order.

Route Cards serve the purpose of a completion certificate in respect of individual sub work orders. A progressive record of the receipt of route cards, their scrutiny and costing of relevant cost sheets, point referred to the Works Manager for the clarification and final disposal should be maintained in the job costing section so as to be readily in a position to ascertain the movement of the cost sheets.

**Q. What is Cost Card? Explain briefly.**

**Ans.** From the information available in the route card and the cost sheet, particulars of the manufacture of articles should be posted by the job costing section in the cost cards to be maintained in Form W-944. This card would enable the Workshop authorities to see if there is any improvement as successive orders passes through the Workshops. These cards should be used for fixing and revising prices of the workshop manufactured articles.

The variations in cost or man-hours per unit from work order to work order, if significant, should be immediately investigated with reference to the operation laid down in the Route cards, vouchers for labour and materials charges, man-hours and average rates for labour, the quantity, specifications and rates for material utilized, etc. If the investigation does not reveal the causes for variations, which can be considered as reasonable, satisfactory clarification should be obtained from the Office-in-charge of workshops for further scrutiny.

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