Automobile Body Building (Bus Body)

PRODUCT CODE	:	374103003
QUALITY AND STANDARDS	:	Buyer's Specifications
PRODUCTION CAPACITY	:	Qty. : 108 Nos.(per annum) Value : Rs. 162 Lakhs
MONTH AND YEAR OF PREPARATION	:	February, 2003
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Introduction

Automobile body (Bus Body) building is an important activity. The chasis are supplied by Automobile manufacturers, and body is built by automobile body builders as per the requirements of the customer and specifications of the different State Transport Undertakings.

Market Potential

Bus is used as the most common public transport vehicle in our country. Different State Transport Undertakings are plying their buses for commuting public from one place to another and from one State to another. Apart from these Undertakings, Private Bus Operators, travel agencies etc. are also operating buses on permit basis. With rapid changes in the society, now a days it has become necessary to provide good and efficient service to the public. Also with the rapid industrialisation, public is moving very frequently from one place to another using public transport. Since more and more development in the coming years, it is expected that demand of public transport, private transport and luxury transport in the form of buses will increase in the coming years.

Basis and Presumptions

1. Working will be for 1800 hours per annum at minimum 75% working efficiency on single shift basis to achieve the envisaged production capacity.
2. A time period of three years has been considered for achieving

the full capacity utilisation after start of commercial production.

3. Labour wages has been considered as per the prevailing market rates.
4. Interest on fixed and working capital investment has been calculated at an average rate of 16% per annum. A provision of 30% of the investment has to be made by the entrepreneur towards margin money.
5. The cost of land and building has been calculated as per the prevailing market prices, and these rates are likely to vary from place to place.

IMPLEMENTATION SCHEDULE

The following activities are to be completed and the approximate time for each activity is as mentioned against each of them:

Sl.No. Activity	Period (in Weeks)
1. Selection of product	4
2. Selection of Industrial site	2
3. Provisional registration	2
4. Preparation of project Report	2
5. Application for finance and getting Loan sanctioned	24
6. Recruitment of man power	4
7. Purchase and Installation of machinery	14
8. Trial Run	1

It is necessary to obtain permanent Registration Certificate from the concerned District Industries Centre after commencement of commercial production.

TECHNICAL ASPECTS

Process of Manufacture

Metal sheets are cleaned and derusted for grease/oil if any. Then sheets are cut to size for forming different parts and these parts are formed on press brake. Now different parts and their sub-assemblies are fabricated as per their design and size. These parts and sub-assemblies are fabricated– together to make them a complete bus body. The complete body is painted as per the requirements of the customer. Shower test is carried out for leakage etc.

Production Capacity (per annum)

Quantity : 108 Nos.
Value : Rs. 162 Lakhs.

Motive Power 85 HP (Approx.)

Pollution Control

The manufacturing/fabrication of bus body does not pose any problem for pollution. However, proper ventilation is to be done in shop floor area and painting area. Provision for pollution control equipments has been made in this Project Profile.

Energy Conservation

Suitable energy efficient motors are to be used on proposed machines with provision of recommended shunt capacitors.

FINANCIAL ASPECTS

A. Fixed Capital

(i) Built up Area	Amt. (In Rs.)
(a) Built up Land 2000 Sq.Mtrs. @ Rs. 50/ Sq.Mtr.	Rs. 1,00,000
(b) Office - 10 M×5 M. @Rs.1250/Sq.mtr.	62,500
(c) Store -15 M×7.5 M @Rs.900/Sq.mtr.	1,01,250

(i) Built up Area	Amt. (In Rs.)
(d) Working shed - 30 M × 25 M @ Rs. 900/Sq.mtr.	6,75,000
(e) Paint Shop (Preferably Dust Proof) - 10 M × 5 M @ Rs. 900 per Sq. mtr.	45,000
(f) Boundry Wall - 180 M long @Rs. 225	45,000
Total Cost of Land and Building	10,28,750

(ii) Machinery and Equipments

Sl. No.	Description	Ind./ Imp.	Qty.	Total (In Rs.)
1.	Motorised Guillotine Sheet Shearing Machine Capacity 2500×4 mm with 10 HP electric motor and starter etc. also fitted with front and back side gauges, sheet holding devices etc.	Ind.	1	2,65,000
2.	Power operated Press Brake bending capacity 2440 × 4 mm, 100 Ton with 15 HP Main Motor and 2 HP raw adjustment Motor	Ind	1	3,25,000
3.	Suspension type M.I.G. Welding system 250 Amp. along with power source, wire feeder, Torch and flow Calibrated Co_2 regulator and Co_2 heated with core assembly OPC.	Ind.	1	42,000
4.	Gas Welding set with all the Accessories etc.	Ind.	2	15,000
5.	Arc welding machine 300 Amps. 15 kVA Air Cooled complete with all the accessories	Ind.	5	69,000
6.	Air Compressor with painting equipment and accessories for painting	Ind.	1	75,000
7.	Different types of power/Air operated tools like Nut runner, drilling gun etc.	Ind.	L.S.	1,00,000
8.	Drilling Machine 1½" capacity	Ind.	2	45,000
9.	Metal cutting bandsaw for cutting Aluminium sections complete with 2 HP Electric motor and accessories	Ind.	1	32,500
10.	Hoist chain pulley block crane and material handling trolley etc.	Ind.	L.S.	50,000
	Testing Equipment and others			
1.	Shower tester self fabricated (Nozzels are to be arranged at different orientations to cover the entire portion of the vehicle)	Ind.	1	50,000
2.	Portable digital paint thickness checking equipment (Coating thickness checking)	Ind.	-	5,000
3.	Small measuring tools:	Ind.	-	15,000
4.	Pollution Control Equipment		-	15,000
5.	Energy Conser-vation Equipment		-	15,000
6.	*Electrification and Installation charges @ 10% cost of machinery and equipment*		-	1,03,950
7.	*Cost of Jigs, Fixtures etc.*		L.S.	2,00,000
8.	*Cost of office equipment*		L.S.	25,000
(iii)	Pre-operative Expenses (Project cost non-refundable deposits)			20,000
			Total	14,67,450
	Total Fixed Capital (i+ii+iii)			24,96,200

B. Working Capital (per month)

(i) Personnel

Designation	No.	Salary	Total(In Rs.)
i) Administrative and Supervisory			
Manager	1	4500	4,500
Supervisor	2	3000	6,000
Purchase Officer	1	3000	3,000
Clerk-cum-Typist	1	1800	1,800
Accountant	1	2500	2,500
Store Keeper	1	1800	1,800
Chowkidar/Watchman	2	1500	3,000
ii) Technical			
Skilled Workers	10	1800	18,000
Semi-skilled workers	12	1650	19,800
Un-skilled Workers	15	1500	22,500
		Total	82,900
Add perquisites @ 15%			12,435
		Total	95,335
		Say	95,500

(ii) Raw Material

Sl. No.	Particulars	Ind./ Imp.	Qty.	Rate (Rs.)	Amount (In Rs.)
1.	M.S. Channel 75 × 40 to × 50 mm	Ind.	3 MT	15,500	46,500
2.	M.S. Equal Angle 25× 25×3 to 50×50×6 mm	Ind.	5 MT	15,500	77,500
3.	M.S. Flat 50 to 70 mm wide	Ind.	1.250 MT	15,000	18,750
4.	Aluminium chequered Plate 8 mm to ½ inch	Ind.	1 MT	12,5000	1,25,000
5.	CR/BP Sheet 10 to 26 SWG	Ind.	25 MT	20,500	5,12,500
6.	M.S. Pipe 3/4" to 1" Dia	Ind.	0.500 MT	15,000	7,500
7.	Aluminium Rolled Sections	Ind.	0.500 MT	1,25,000	62,500
8.	Bought out items and hardware items	Ind.	L.S.		20,000
9.	Other bought out items such as Raxine Ply,. PVC. Sheet. Foam OTC, Electrical fittings and fixtures, emblem etc.	Ind.	L.S.		61,000
			Total		9,31,250

(iii) Utilities		Amount (In Rs.)
Power 5760 kWH @ Rs. 3.00 per unit		17,280
Water	L.S.	1,200
	Total	18,480
	Say	18,500

(iv) Other Contingent Expenses	Amt. (In Rs.)
Lubricants	2,000
Postage and Stationery	500
Telephone	1,250
Consumable stores (Redoxide, Paint, Putty, Kerosene, Emery paper, Welding electrode, tools etc.)	25,000
Transport Charges	5,000
Advertisement and Publicity	2,500
Insurance Charges	3,500
Sales Expenses	5,000
Misc. Expenses	5,000
Total	49,750

(v) Total Recurring Expenditure (per month)	(Rs.)
Staff and labour	95,500
Raw material	9,31,250
Utilities	18,500
Other Contingent Expenses	49,750
Total	10,95,000

(vi) Working capital for 3 months Rs. 32,85,000

C. Total Capital Investment

(i) Fixed Capital	Rs. 24,96,200
(ii) Working Capital for 3 months	Rs. 32,85,000
Total	Rs. 57,81,200

MACHINERY UTILISATION

It is assumed that machinery will be utilised at 75% efficiency.

FINANCIAL ANALYSIS

(1) Cost of Production (per year)	Amt. (In Rs.)
Total recurring cost	1,31,40,000
Depreciation on building @ 5%	46,200
Depreciation on Dies, Jigs and Fixtures etc. @ 20%	40,000
Depreciation on machinery and equipments @ 10%	1,03,950
Depreciation on office equipment etc.	5,000
Interest on total capital investment @ 16%	9,25,000
Total	1,42,60,150
Say	1,42,60,000

(2) Turn-over (per year)

Sl. No.	Item	Qty.	Rate (Rs.)	Total (In Rs.)
i)	Full size Bus body	108 Nos.	150 Lakhs	1,62,00,000
ii)	Sale of scrap	30 MT	5500	1,65,000
			Total	1,63,65,000

(3) Net Profit (per year) *(before tax)*
Rs. 1,63,65,000 - 1,42,60,000 = Rs. 21,05,000

(4) Profit Ratio $= \frac{\text{Net Profit (per year)} \times 100}{\text{Total Sale}}$

$= \frac{21,05,000 \times 100}{1,63,65,000}$

$= 12.86\%$

$=$ Say 13%

(5) Rate of Return $= \frac{\text{Net Profit (per year)} \times 100}{\text{Total investment}}$

$= \frac{21,05,000 \times 100}{57,81,200}$

$= 36.4\%$

(6) Break-even Point

Fixed Cost	(Rs.)
Depreciation on machinery and equipment, tools, fixtures, office equipment etc.	1,48,950
Depreciation on building	46,200
Interest on total investment	9,25,000
40% of Salary and wages	4,58,400
40% of utilities and other contingent expenses	3,27,600
Total	19,06,150

B.E.P. $= \frac{\text{Fixed cost} \times 100}{\text{Fixed cost + Profit}}$

$= \frac{1906150 \times 100}{1906150 + 21,05,000}$

$= 47.5\%$

Additional Information

The unit can install degreasing and phospating plant for obtaining long life and good quality paint of bus body.

Addresses of Machinery and Equipment Suppliers

1. M/s. Parekh Machine Tools
   5, Khetra Das Lane, Behind Broad Way Hotel, Kolkata.
2. M/s. Economic Machine Tools
   21, Dr. V.B. Gandhi Marg, (Forbes Street), Fort, Mumbai-1
3. M/s. Master Engg. Works (Regd.)
   G.T. Road (Dholewal), Opp. Indian Oil Petrol Pump, Ludhiana-3.
4. M/s. International Machine Tools Corporation
   5, Nyayamurti G.N. Vaidhya Marg, Bank Street, Post Box No-2, Behind State Bank of India, Fort, Mumbai-1.

Raw Material Suppliers

1. M/s. Steel Authority of India.
2. State Laghu Udyog Nigam.
3. Local Market.