

AUTOMOBILE BODY BUILDING



1.0 INTRODUCTION

Commercial Bus/Trucks are used as the most common public transport vehicle for transportation of goods and passengers. But, at the time of purchasing of these vehicles, they are supplied only in skeleton shape usually with chassis by the automobile manufacturers. After purchasing from the manufacturers, normally body of the vehicle is built by automobile body builders as per the requirements of the customers. Thus, automobile body building is an important activity.

This project profile is for setting up of an Automobile Body Building Unit based on 300 working days per annum and 8 working hours per day. The installed capacity of the unit per annum is as follows;

Complete Bus Body	-	60 Nos.
Complete Truck Body	-	120 Nos.

2.0 MARKET POTENTIAL

With rapid changes in the society, now a days it has become necessary to provide good and efficient transport

service to the public. Also with the rapid industrialization, public and goods are moving very frequently from one place to another using public transport. 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. Since more and more is expected in the coming years, the demand of public transport, private transport and luxury transport in the form of buses/Trucks will increase in the future.

3.0 PROCESS DETAILS:

Metal sheets are cleaned and de-rusted for grease/oil if any. Then sheets are cut to sizes for forming different parts and these parts are formed on press brake. Now different parts and their subassemblies are fabricated as per their design and size. These parts and subassemblies 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.

4.0.COST OF THE PROJECT

The estimated project cost is given below:

Particulars	(Rs. in lacs)
	Amount (Rs)
Land & site development	Own Land/On Lease
Building & civil works	3.96
Plant & Machinery	17.62
Misc. Fixed assets	1.16
Preliminary & pre-operative expenses	1.89
Contingencies & escalation @ 3%	0.68
Working capital	4.66
TOTAL	29.97

4.1 Land & Site Development: Nil. Covered Area: 1,200 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Work Shed cum Office	1200	275	330000
Sub total			330000
Add: Electrification, water supply and sanitation @20%			66000
TOTAL			396000
Say (Rs. in lacs)			3.96

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Motorized Sheet Shearing Machine	1	1402000
Power operated press brake bending machine	1	
Suspension type MIG Welding System with accessories	1	
Gas Welding machine	2	
Arc Welding Machine	2	
Air compressor with painting equipment	1	
Drilling Machine	3	
Pollution Control Equipment	1	
Miscellaneous items	LS	200000
Sub total		1602000
Add: Installation, transportation, etc @ 10%		160200
TOTAL		1762200
Say (Rs. in lacs)		17.62

4.4 Misc. Fixed assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer	1	200000	200000
Fixtures and Fittings	1	40000	40000
Furniture's	LS	--	15000
Miscellaneous items	LS	--	50000
Sub total			105000
Add: Installation, transportation, etc @ 10%			10500
TOTAL			115500
Say (Rs. in lacs)			1.16

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

Particulars	(Rs. In lacs) Amount (Rs)
Travelling expenses	10000
Professional & other fees	40000
Interest during implementation	88638

Miscellaneous expenses	50000
TOTAL	188638
Say (Rs. in lacs)	1.89

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)				
	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	4.34	5.06	5.78
Power & Utility	30	0.16	0.19	0.21
Salary	30	1.19	1.20	1.21
Finished Goods	15	2.89	3.28	3.66
Receivables	15	3.08	3.59	4.10
Total		11.66	13.31	14.96
Working capital margin in Year 1 (40%)	4.66			

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

(Rs. in lacs)		
Particulars	Percent	Amount
<u>EQUITY</u>		
A. Equity from Promoters	40%	11.99
B. Subsidy from Central/State Govt.	-	
<u>DEBT</u>		
Term Loan from Banks/Financial Institutions	60%	17.98
TOTAL	100%	29.97

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)							
Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
<u>A. INCOME</u>							
Production capacity (Nos./annum)	132	132	132	132	132	132	132
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	79	92	106	106	106	106	106
Total income/annum	74.88	87.36	99.84	99.84	99.84	99.84	99.84
<u>B. OPERATING EXPENSES</u>							
Raw materials	52.78	61.57	70.37	70.37	70.37	70.37	70.37
Power & Utility	1.94	2.26	2.58	2.58	2.58	2.58	2.58
Salary	14.52	14.59	14.67	14.74	14.81	14.89	14.96
Repair & Maintenance	0.41	0.42	0.43	0.43	0.44	0.45	0.46
Other Expenses	0.75	0.87	1.00	1.00	1.00	1.00	1.00
Total Operating Expenses	70.39	79.72	89.04	89.12	89.20	89.29	89.37
Operating profit	4.49	7.64	10.80	10.72	10.64	10.55	10.47
<u>C. FINANCIAL EXPENSES</u>							
Depreciation	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Interest on Term Loan	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Interest on Working Capital Loan	0.56	0.64	0.72	0.72	0.72	0.72	0.72
Net Profit	1.36	4.54	7.86	8.01	8.17	8.33	8.49

Net cash accruals	2.49	5.68	8.99	9.15	9.31	9.46	9.62
Principal Repayment	0.00	3.00	3.00	3.00	3.00	3.00	3.00

6.1 Production capacity and Sales Realisation: Total production of Automobile Body at 100% capacity utilization is estimated as below.

Complete Bus Body	48 Nos.
Complete Truck Body	84 Nos.
Total production per annum at 100% capacity	132 Nos.

Particulars	Qty	Price per Unit (Rs.)	Amount (Rs.)
Complete Bus Body	24 Nos.	400000	9600000
Complete Truck Body	60 Nos.	48000	2880000
Total Sale Turnover at 100% capacity (Rs)			12480000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price per Unit (Rs.)	Amount (Rs.)
M S Channel 75X40X50 mm	36 Ton	43000	1548000
M S Equal Angle	48 Ton	46000	2208000
M S Flat	6 Ton	46000	276000
Aluminium Chequered Plate	6 Ton	200000	120000
CR/BP Sheet	120 Ton	52000	624000
M S Pipes	6 Ton	45000	270000
Aluminium Rolled Sections	3 Ton	250000	750000
Hardware Items	LS	--	1200000
Other Consumables like Raxine Ply, PVC Sheet, Foam OTC, Electrical Fittings and Fixures etc.	LS	--	1800000
Expenses on raw material at 100% capacity (Rs)			8796000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 45)	--	33.57	33.57
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			35.57
No. of hrs/day	8		
Nos. of days/annum	300		
Annual power requirement (kwh)	85368		
Rate per unit (Rs)	3.50		
Expenses on power (Rs)	298788		
Estimate of Utility			
Expenses on other Utility (Rs)	24000		
Expenses on power & Utility at 100% capacity (Rs)	322788		

6.4 Salary: Total expenses on salary in the 1st year are estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/ Month (Rs)	Cost/annum (Rs)
Production Manager	1	20000	240000
Maintenance Engineer	2	15000	360000
Skilled workers	4	8000	384000
Semi-skilled workers	5	6000	360000
Unskilled workers	3	3000	108000
Expenses on salary in the 1st year (Rs)			1452000

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year. (Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	3.96	1.00%	0.04
Plant & Machinery	17.62	2.00%	0.35
Misc. Fixed assets	1.16	1.50%	0.02
Expenses on repair & maintenance in year 1			0.41

6.6 Other Expenses: Other expenses have been assumed at 1% of sales realisation.

6.7 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)			
Description	Cost (Rs)	Rate	Amount/annum (Rs)
Building & civil works	3.96	3.34%	0.13
Plant & Machinery	17.62	5.28%	0.93
Misc. Fixed assets	1.16	6.33%	0.07
TOTAL			1.14

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	17.98	17.98	14.98	11.99	8.99	5.99	3.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest (8%)	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	17.98	17.73	14.73	11.74	8.74	5.74	2.75
Month 2	Opening balance	17.98	17.73	14.73	11.74	8.74	5.74	2.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	17.98	17.48	14.48	11.49	8.49	5.49	2.50
Month 3	Opening balance	17.98	17.48	14.48	11.49	8.49	5.49	2.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	17.98	17.23	14.23	11.24	8.24	5.24	2.25
Month 4	Opening balance	17.98	17.23	14.23	11.24	8.24	5.24	2.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25

	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	16.98	13.98	10.99	7.99	4.99	2.00
Month 5	Opening balance	17.98	16.98	13.98	10.99	7.99	4.99	2.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	16.73	13.74	10.74	7.74	4.74	1.75
Month 6	Opening balance	17.98	16.73	13.74	10.74	7.74	4.74	1.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	16.48	13.49	10.49	7.49	4.50	1.50
Month 7	Opening balance	17.98	16.48	13.49	10.49	7.49	4.50	1.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	16.23	13.24	10.24	7.24	4.25	1.25
Month 8	Opening balance	17.98	16.23	13.24	10.24	7.24	4.25	1.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	15.98	12.99	9.99	6.99	4.00	1.00
Month 9	Opening balance	17.98	15.98	12.99	9.99	6.99	4.00	1.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	17.98	15.73	12.74	9.74	6.74	3.75	0.75
Month 10	Opening balance	17.98	15.73	12.74	9.74	6.74	3.75	0.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	17.98	15.48	12.49	9.49	6.49	3.50	0.50
Month 11	Opening balance	17.98	15.48	12.49	9.49	6.49	3.50	0.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	17.98	15.23	12.24	9.24	6.24	3.25	0.25
Month 12	Opening balance	17.98	15.23	12.24	9.24	6.24	3.25	0.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	17.98	14.98	11.99	8.99	5.99	3.00	0.00
	Principal Repayment	0.00	3.00	3.00	3.00	3.00	3.00	3.00
	Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	1.36	4.54	7.86	8.01	8.17	8.33	8.49
Depreciation	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Total	3.93	7.01	10.08	10.00	9.92	9.83	9.75
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Loan repayment	0.00	3.00	3.00	3.00	3.00	3.00	3.00
Total	1.44	4.33	4.09	3.85	3.61	3.37	3.13
DSCR	2.73	1.62	2.47	2.60	2.75	2.92	3.12

Average DSCR = 2.54

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	74.88	87.36	99.84
B. Variable cost			
Raw materials	52.78	61.57	70.37
Power & Utility	1.94	2.26	2.58
Other expenses	0.75	0.87	1.00
Interest on Working Capital Loan	0.56	0.64	0.72
Total variable cost	56.02	65.34	74.67
C. Contribution (A-B)	18.86	22.02	25.17
D. Fixed & Semi-fixed Costs			
Salary	14.52	14.59	14.67
Repair & maintenance	0.41	0.42	0.43
Interest on Term Loan	1.44	1.33	1.09
Depreciation	1.14	1.14	1.14
Total fixed cost	17.50	17.47	17.32
E. BREAK EVEN POINT	92.81%	79.37%	68.79%
F. BEP at operating capacity	55.69%	55.56%	55.03%
G. Cash BEP	52.07%	51.95%	51.42%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	23.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	11.66	1.65	1.65	0.00	0.00	0.00	0.00
Total (A)	23.42	11.66	1.65	1.65	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		1.36	4.54	7.86	8.01	8.17	8.33	8.49
Add: Depreciation		1.14	1.14	1.14	1.14	1.14	1.14	1.14
Add: Interest		1.44	1.33	1.09	0.85	0.61	0.37	0.13
Add: Salvage Value								
Total (B)	0.00	3.93	7.01	10.08	10.00	9.92	9.83	9.75
NET FLOW (B-A)	-23.42	-7.73	5.35	8.43	10.00	9.92	9.83	9.75

IRR = 19%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Mika Engineering (India) Private Limited	64, Mestry Building, Gaothan Lane No.1, Andheri (West) Mumbai, Pin - 400 058, Maharashtra
2.	M/s Ace Automation	228/1, M. G. R. Street, Sivanandapiram, Saravanampatti, Coimbatore, Pin- 641035
3.	M/s G S Azad Industry.	A-31, Naraina Industrial Area Phase I, New Delhi, Pin-110 028