



*A PROJECT PROFILE
ON*

AUTOMOBILE SILENCER

2010 - 2011

Prepared by :

MSME-DEVELOPMENT INSTITUTE

(GOVT. OF INDIA, MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES)

A – Wing, 3rd Floor, CGO Complex, Sanjay Place,

AGRA – 282002 (UP)

*A Project Profile
On*

Automobile Silencers

PRODUCT CODE : 374761000

QUALITY STANDARD : Customer's Specification

PRODUCTION CAPACITY : **QUANTITY** : 15,000 Nos.
: **VALUE** : Rs. 41,25,000/-

MONTH & YEAR OF PREPARATION : Feb, 2011

PREPARED BY : **Mechanical Division**
MSME – Development Institute
*A-Wing, 3rd Floor, CGO Complex,
Sanjay Place, Agra – 282002 (UP)*
Ph. : (0562) 2523247,
Tel. Fax : (0562) 2520626

INTRODUCTION

Automobile Silencer is a device used in automobile vehicles to reduce the noise produced by the exhaust gases of the engine. Silencers are also used in many other engines and generators. The size, shape and construction of silencer differs according to the type and size of the engine.

MARKET POTENTIAL

The market for silencer has a very good potential as it can be sold to original equipment manufacturer and also in the replacement market. With increase in transport means on road like buses, cars, scooters, motorcycles, auto rickshaws, etc., the demand of auto silencer is growing.

The scope of auto silencer manufacturing unit as an ancillary unit to automobile manufacturing unit is also very good

BASIS AND PRESUMPTION

The basis and presumptions for the project will be as under:

1. The production of the unit has been worked out on the basis of single shift of 08 hours a day and 300 working days in a year.
2. It has been presumed that the capacity utilization of the unit will be 70% in the first year followed by 75% in the second year and 80% in the subsequent years.
3. The quoted salaries and wages have been taken as per the prevailing rate in state at the time of preparation of the project profile
4. The interest rate has been considered as 16% on capital investment on an average weather financed by any bank or financial institutions.
5. The margin money has been raised 25% of the capital investment.
6. The unit has been proposed to function in rented building. The rental value for accommodation of workshop, office and other covered / uncovered area is taken @ Rs. 50/- per sq. mtr.
7. The payback period has been considered as 5 years after loan disbursement.
8. The quoted cost of machinery, equipments and raw materials has been taken as per the rates prevailing in the market at the time of preparation of the project profile and likely to vary from place to place and supplier to supplier. When a tailor made project profile is prepared, necessary changes are to be made.

IMPLEMENTATION SCHEDULE

The detail of activities with duration for implementation schedule of project will be as under:

1. Procurement of technical know how / transfer of technology	- 15 days
2. Market survey, tie-ups and obtaining quotations	- 15 days
3. Selection of site	- 07 days
4. Preparation of project report	- 07 days
5. Registration and financing	- 70 days
6. Procurement of machines	- 45 days
7. Recruitment of staff and training	- 30 days
8. Addition / alteration in rental premises	- 30 days
9. Procurement of raw material / bought out components	- 15 days
10. Erection, electrification and commissioning of machines	- 30 days
11. Trail production	- 30 days
12. Commercial Production	- 15 days

In order to efficient and successful implementation of the project in the shortest period the slack period is curtailed to maximum possible extent and as far as possible simultaneous activities are carried out. According to critical path method, the approximate time required to commence production may be considered as about 08 to 09 months

TECHNICAL ASPECT

Manufacturing Process

The manufacturing process of automobile silencer involves a simple fabrication process & press working process of sheet metal. The sheets are cut into the required size and shape. These sheets are then given the desired shape with the help of power presses, edge folding machines and bending rollers. The mufflers are also made out of sheet with the help of presses. These mufflers are then gas welded in one half of the silencer and in other half, MS tubes are gas welded according to the size and design of the silencer. Finally, these two halves are assembled, gas welded and painted. The silencers are then cleaned and packed for dispatched.

Alternate Technology

No alternative technology is suggestive in small-scale sector for this project. The use of proper tools and fixtures will not only increase rate of production but will also ensure quality of the product.

Production Targets

The unit will have the capacity to produce 15,000 Nos. of automobile silencers of different sizes for automobile industries per annum.

Quality Control and Standards

Raw material should be inspected to ensure the required specification. The product under process should also be checked at every stage of production to control the specified quality and standards. For the purpose of checking/inspection, proper instruments/gauges must be used and these instruments/gauges must be calibrated periodically.

Energy Conservation

The revolving / reciprocating parts of plant and machinery should be properly lubricated every time to avoid extra energy consumption. Layout of the unit should be in such manner to avoid backtracking of material. All electric switches may be kept off, when not required. Fluorescent tube with electronic chokes / Compact Fluorescent Tube (CFT) for general lighting may be used for energy saving. As far as possible, motor of correct inductive load should be used with improved power factor. Power factor may be improved by using the capacitors of appropriate rating.

Pollution Control

The unit does not come under the category of polluting industries. Although, the minimum height of shed may be maintained with exhaust fans for removing decongestion, fumes, dust, etc. and to provide proper ventilation.

FINANCIAL ASPECTS

1. Land and Building

On rent 200 Sq. Mtr. Covered area
@ Rs. 50/- Sq. Mtr.

10,000.00 PM

2. Machinery and Equipment

<u>S.No.</u>	<u>Description</u>	<u>HP/KW</u>	<u>Ind/Imp.</u>	<u>Qty.</u>	<u>Value (Rs)</u>
i.	Shearing Machine Blade Cap. 4 Ft x16 SWG	05HP	Ind.	01	1,30,000.00
ii.	Power Press Cap. 30 Ton	03HP	Ind.	01	95,000.00
iii.	Power Press Cap. 05 Ton.	01HP	Ind.	02	70,000.00
iv.	Fly Press Nos. 18	-	Ind.	02	35,000.00
v.	Sheet Bending Roll	02HP	Ind.	01	60,000.00
vi.	Double Ended Bench Grinder 8" wheel dia.	0.5HP	Ind.	01	8,000.00

vii.	Edge Folding Machine 16SWGx1200mm	-	Ind.	01	25,000.00
viii.	Welding Set (Gas) complete	-	Ind.	02	30,000.00
ix.	Spot Welding Machine	-	Ind.	02	50,000.00

- Electrification and installation charges	30,000.00
- Testing and measuring equipments	20,000.00
	<u>5,53,000.00</u>

- Other tools and fixtures	40,000.00
- Office equipments	20,000.00
	<u>6,13,000.00</u>

3. Pre-Operative Expenses

(Project cost, non-refundable deposits etc.)	<u>20,000.00</u>
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4. Fixed Capital

i. Land and Building	Rented
ii. Machinery and Equipments	6,13,000.00
iii. Pre-Operative Expenses	20,000.00
	<u>6,33,000.00</u>

5. Staff and Labour (per month)

<u>S.No.</u>	<u>Description</u>	<u>No.</u>	<u>Salary@</u>	<u>Value (Rs)</u>
i.	Supervisor / Foreman	01	6,000/-	6,000.00
ii.	Clerk cum cashier	01	5,000/-	5,000.00
iii.	Skilled workers	03	4,500/-	13,500.00
iv.	Semi-skilled workers	04	3,500/-	14,000.00
v.	Helpers	02	3000/-	6,000.00
vi.	Peon / Watchman	02	3000/-	6,000.00
				50,500.00
	- Perquisites @ 15% of salary			7,500.00
				<u>58,000.00</u>

6. Raw Material (per month)

CRCA Sheets (4MT @ Rs. 42000/per MT)	1,68,000.00
MS Tube (500 Mtrs. @ Rs. 38/-per Mtr)	19,000.00

1,87,000.00

7. Utilities

i. Electricity (L.S.)	12,000.00
ii. Water (L.S.)	500.00
	<u>12,500.00</u>

8. Other Contingent Expenses (per month)

i. Rent	10,000.00
ii. Postage and Stationary	500.00
iii. Advertisement	1,000.00
iv. Repair and Maintenance	2,000.00
v. Telephone	1,500.00
vi. Transportation	3,000.00
vii. Consumables	3,000.00
viii. Insurance	4,000.00
ix. Misc. Expenses	1,000.00
	<u>26,000.00</u>

9. Working Capital (per month)

i. Staff and Labour	58,000.00
ii. Raw Material	1,87,000.00
iii. Utilities	12,500.00
iv. Other Contingent Expenses	26,000.00
	<u>2,83,500.00</u>

10. Total Capital Investment

i. Fixed Capital	6,33,000.00
ii. Working Capital for 3 months	8,50,500.00
	<u>14,83,500.00</u>

MACHINERY UTILIZATION

It is expected that during first year machine utilization will be 70% and during second year 75% and 80% in subsequent years. The suggested Plant & Machinery are sufficient to achieve the target, if utilized as per the recommendations made.

FINANCIAL ANALYSIS

1. Cost of Production (per annum)

i. Total Recurring Cost per annum	34,02,000.00
ii. Depreciation on Machinery & Equipments @ 10%	55,500.00
iii. Depreciation on Tools, Fixtures etc. @ 25%	10,000.00
iv. Depreciation on Office Equipments @ 25%	5,000.00
v. Interest on Total Capital Investment @ 16%	2,37,500.00

37,10,000.00

2. Turn Over (per annum)

By sales of 10,000 Nos. large silencers @ Rs. 300/- each	30,00,000.00
By sales of 5,000 Nos. small silencers @ Rs. 225- each	11,25,000.00

41,25,000.00

(Rates to be amended after getting confirmation from AD(ME) Agra)

3. Net Profit (per annum before Income Tax)

$$\begin{aligned}
 &= \text{Turn Over (per annum)} - \text{Cost Of Production (per annum)} \\
 &= 41,25,000 - 37,10,000 \\
 &= \mathbf{4,15,000}
 \end{aligned}$$

4. Net Profit Ratio

$$\frac{\text{Net profit} \times 100}{\text{Turn over}}$$

$$\frac{4,15,000 \times 100}{41,25,000} = \mathbf{10\%}$$

5. Rate of Return

$$\frac{\text{Net profit} \times 100}{\text{Total investment}}$$
$$\frac{4,15,000 \times 100}{14,83,500} = 28 \%$$

BREAK EVEN ANALYSIS

1. Fixed Cost (per annum)

i. Total Depreciation	70,500.00
ii. Rent	1,20,000.00
iii. Interest on Total Capital Investment	2,37,500.00
iv. Insurance	48,000.00
v. 40% of Staff and Labour	2,78,500.00
vi. 40% of Other Contingent Expenses (Excluding rent & insurance)	58,000.00

8,12,500.00

2. Break Even Point

$$\frac{\text{Fixed Cost} \times 100}{\text{Fixed cost} + \text{profit}}$$
$$\frac{8,12,500 \times 100}{8,12,500 + 4,15,000} = 66.20 \%$$

LIST OF MACHINERY AND RAW MATERIAL SUPPLIERS

1. M/s, Sant Machine Tools,
G.T. Road, Near Dholewal Chowk, Ludhiana..
2. M/s, Kalsi Machine Tools,
Gill Road, Ludhiana.
3. M/s, Leading Engineering Corpn.,
Anand Prabhat Industrial Estate, New Delhi.
4. M/s, Ess Kay Engineering Corpn. ,
21/6 A, Freeganj Chowk, Agra
5. M/s, Jeet Machine Tools Corpn. ,
G. B. Road, Delhi
6. M/s, Batliboi and Co.,
Parliament Street, New Delhi.
7. M/s, Associated Engg. Projects,
Opp. Modi Bagh, Delhi Road, Modinagar, Distt. Gaziabad.