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PROJECT REPORT

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PROJECT:

Oil Filter Unit

PROJECT REPORT

Of

OIL FILTER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Oil Filter**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

PROJECT AT A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)		xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address		xxxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**OIL FILTER-TWO WHEELER**	
6	Name of the project / business activity proposed :		**OIL FILTER-TWO WHEELER UNIT**	
7	Cost of Project	:	Rs.20.13 Lakhs	
8	Means of Finance			
	Term Loan		Rs.15.12 Lakhs	
	Own Capital		Rs.2.01 Lakhs	
	Working Capital		Rs.3 Lakhs	
9	Debt Service Coverage Ratio	:	2.79	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	26%	
13	Employment	:	13	Persons
14	Power Requirement	:	40.00	HP
15	Major Raw materials	:	Mild steel sheet, Synthetic Filter fabric, Glue , Packing material	
16	Estimated Annual Sales Turnover (Max Capacity)	:	123.86	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 1000 Sq ft	6.00
Plant & Machinery	9.30
Furniture & Fixtures	1.50
Working Capital	3.33
Total	**20.13**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.01
Working Capital(Finance)	3.00
Term Loan	15.12
Total	**20.13**

OIL FILTER- TWO WHEELER

Introduction: **Oil filter** - as the name implies - is a filter designed to remove contaminants from engine oil, transmission oil, lubricating oil, or hydraulic oil. The oil filter helps remove contaminants from engine's oil that can accumulate over time as the oil keeps your engine clean. Most oil filters look very similar, but small differences in the threads or gasket size can determine whether or not a particular filter will work on your vehicle. Filters containing an adsorbent or catalyst such as charcoal (carbon) may also remove odors and gaseous pollutants such as volatile organic compounds or ozone.

Uses & Market Potential: Oil filters are used in many different types of machinery. Of our interest in particular is the use of the oil filter in internal-combustion engines in motor vehicles.
Other vehicle hydraulic systems, such as those in automatic transmissions and power steering, are often equipped with an Oil Filter of some type as well.

The demand of Oil Filters is closely linked with production of two wheelers in the country. These are required mainly as original equipment but these components have also replacement demand as a spare part. India automotive filter market is projected to grow at a CAGR of more than 10% during 2017 to 2023. Growth in the market is expected to be fueled by growing automobile

sales, expanding vehicle fleet size and increasing purchasing power of consumers in the country.

Raw Material: Basic raw materials are as follows:

1. Mild Steel Sheets of different sizes
2. Synthetic Filter Fabric
3. Glue
4. Packing material

Raw Material Requirement:

S No.	Raw Material	Quantity	Rate	Value
1.	Mild steel sheet	14000 kg	42	588000
2.	Synthetic Filter Fabric	57000 kg	150	8550000
3.	Glue	1500 kg	120	180000
4.	Packing material			150000

Manufacturing Process: The primary raw material is mild steel sheet which is formed into different metal component and synthetic filter fabric. The all raw materials are procured as per production plan and stored in raw material warehouse.

The sheet metal rolls of different sizes are taken from raw material inventory to their respective machine shop section so as to manufacture the required oil filter component out of them. A sheet metal roll is fed to unwinding station located at start of each metal component manufacturing unit.

There are 2 metal component manufacturing units; Core and Capping Disc

The first metal part is the core, for which the unwinding station unwinds the sheet metal roll and feeds it to a punching press with perforating tool and die. After the sheet metal is perforated a shearing station shears of the sheet metal at required

length followed by which at rolling station rolls the perforated piece of sheet metal into a cylinder which is then welded to make the form self-supporting.

The second metal part are the capping discs. The unwinding station unwinds the sheet metal and feeds it to a Blanking press, which blanks out a disc from metal sheet, followed by which a power press with progressive punching and forming tool and die forms the required shape in capping disc.

The last part of oil filter is filter element which in this case is made out of synthetic filter fabric, the filter fabric is folded manually and a steel clip is clipped at end of filter element to make it into a closed loop.

All the components manufactured are taken to oil filter assembly section where, glue spreading machine spreads glue over capping disc followed by which core is placed, then the filter element followed by another capping disc.

The assembled filter is then fed into hot plate press to cure the glue and obtain the finished filter. The oil filter are then cleaned and are now ready, they are inspected for quality, packaged and sent for sale.

Area: The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1000 - 1400Sqft. Civil work will cost around Rs. 6 Lac(Approx.)

Machinery: Basic machineries requirement are as follows:

1. Blanking Press
2. Punching Press with Perforation Tool
3. Power Press with Progressive Punching and Forming Die
4. Sheet Metal Rolling and Welding Machine
5. Hot Plate Press

6. Glue Spreading Machine
7. Steel Clipping Machine
8. Conveyor
9. Other machines and equipments

Cost of Machines:

S No.	Machine	Unit	Price
1.	Blanking Press	1	81000
2.	Punching Press with Perforation Tool	1	100000
3.	Power Press with Progressive Punching and Forming Die	1	100000
4.	Sheet Metal Rolling and Welding Machine	1	350000
5.	Hot Plate Press	1	28000
6.	Glue Spreading Machine	1	20000
7.	Steel Clipping Machine	1	90000
8.	Conveyor	1	150000
9.	Other machines & equipments		11000

Power Requirement– The power consumption required to run all the machinery could be approximated as 40 hp.

Manpower Requirement –There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 13 including 1 Supervisor, Plant operator and unskilled worker 3 each , 2 Helper, 1 Security guard. 3 Skilled worker including Accountant, Manager and Sales person.

Bank Term Loan: Rate of Interest is assumed to be at 11%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

Approvals & Registration Requirement:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require

Implementation Schedule:

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIALS

PROJECTED CASH FLOW STATEMENT					
PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.01	-			
Reserve & Surplus	5.23	8.53	10.70	14.36	18.64
Depriciation & Exp. W/off	2.15	1.86	1.62	1.40	1.22
Increase In Cash Credit	3.00				
Increase In Term Loan	15.12	-	-	-	-
Increase in Creditors	1.42	0.24	0.17	0.17	0.17
TOTAL :	**28.93**	**10.62**	**12.48**	**15.93**	**20.03**
APPLICATION OF FUND					
Increase in Fixed Assets	16.80	-	-	-	-
Increase in Stock	1.74	0.28	0.26	0.27	0.28
Increase in Debtors	3.58	0.64	0.62	0.66	0.69
Repayment of Term Loan	1.68	3.36	3.36	3.36	3.36
Taxation	0.52	1.28	3.21	4.31	5.59
Drawings	3.00	4.00	5.00	6.00	7.00
TOTAL :	**27.33**	**9.56**	**12.45**	**14.60**	**16.92**
Opening Cash & Bank Balance	-	1.60	2.66	2.69	4.03
Add : Surplus	1.60	1.06	0.03	1.34	3.10
Closing Cash & Bank Balance	**1.60**	**2.66**	**2.69**	**4.03**	**7.13**

PROJECTED BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.72	6.97	9.45	13.51
Add: Additions	2.01	-	-	-	-
Add: Net Profit	4.71	7.25	7.49	10.06	13.05
Less: Drawings	3.00	4.00	5.00	6.00	7.00
Closing Balance	3.72	6.97	9.45	13.51	19.56
CC Limit	3.00	3.00	3.00	3.00	3.00
Term Loan	13.44	10.08	6.72	3.36	-
Sundry Creditors	1.42	1.66	1.82	1.99	2.15
TOTAL :	**21.58**	**21.70**	**21.00**	**21.86**	**24.71**
APPLICATION OF FUND					
Fixed Assets (Gross)	16.80	16.80	16.80	16.80	16.80
Gross Dep.	2.15	4.01	5.62	7.02	8.24
Net Fixed Assets	14.66	12.79	11.18	9.78	8.56
Current Assets					
Sundry Debtors	3.58	4.22	4.84	5.50	6.19
Stock in Hand	1.74	2.03	2.29	2.55	2.83
Cash and Bank	1.60	2.66	2.69	4.03	7.13
TOTAL :	**21.58**	**21.70**	**21.00**	**21.86**	**24.71**

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	71.69	84.46	96.87	110.01	123.86
Total (A)	**71.69**	**84.46**	**96.87**	**110.01**	**123.86**
B) COST OF SALES					
Raw Material Consumed	42.61	49.71	54.68	59.65	64.62
Elecricity Expenses	2.66	2.95	3.25	3.55	3.84
Repair & Maintenance	3.58	5.07	7.27	8.80	9.91
Labour & Wages	9.32	9.88	10.77	11.85	13.04
Depreciation	2.15	1.86	1.62	1.40	1.22
Cost of Production	60.32	69.47	77.58	85.25	92.62
Add: Opening Stock /WIP	-	0.33	1.20	1.37	1.56
Less: Closing Stock /WIP	0.33	1.20	1.37	1.56	1.76
Cost of Sales (B)	59.99	68.60	77.41	85.06	92.43
C) GROSS PROFIT (A-B)	11.70	15.85	19.47	24.94	31.43
	16.32%	**18.77%**	**20.10%**	**22.68%**	**25.38%**
D) Bank Interest (Term Loan)	1.64	1.34	0.97	0.60	0.23
ii) Interest On Working Capital	0.33	0.33	0.33	0.33	0.33
E) Salary to Staff	3.78	3.97	4.56	5.25	6.04
F) Selling & Adm Expenses Exp.	0.72	1.69	2.91	4.40	6.19
TOTAL (D+E)	**6.47**	**7.33**	**8.77**	**10.58**	**12.79**
H) NET PROFIT	5.23	8.53	10.70	14.36	18.64
	7.3%	**10.1%**	**11.0%**	**13.1%**	**15.1%**
I) Taxation	0.52	1.28	3.21	4.31	5.59
J) PROFIT (After Tax)	4.71	7.25	7.49	10.06	13.05

Raw Material Consumed	Capacity Utilisation		Amount (Rs.)		
I	45%		42.61		
II	50%		49.71	5% Increase in Cost	
III	55%		54.68	5% Increase in Cost	
IV	60%		59.65	5% Increase in Cost	
V	65%		64.62	5% Increase in Cost	

COMPUTATION OF SALE					
Particulars	**I**	**II**	**III**	**IV**	**V**
Op Stock	-	2,700.00	3,000.00	3,300.00	3,600.00
Production	1,62,000.00	1,80,000.00	1,98,000.00	2,16,000.00	2,34,000.00
	1,62,000.00	1,82,700.00	2,01,000.00	2,19,300.00	2,37,600.00
Less : Closing Stock(5 Days)	2,700.00	3,000.00	3,300.00	3,600.00	3,900.00
Net Sale	1,59,300.00	1,79,700.00	1,97,700.00	2,15,700.00	2,33,700.00
Sale Price per pc	45.00	47.00	49.00	51.00	53.00
Sale (in Lacs)	**71.69**	**84.46**	**96.87**	**110.01**	**123.86**

COMPUTATION OF MAKING OF OIL FILTER-TWO WHEELER			
Item to be Manufactured Oil Filter-Two wheeler			
Manufacturing Capacity per day		1,200	pcs
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		3,60,000	pcs
Total Production per Annum		3,60,000	pcs
Year		Capacity	OIL FILTER-TWO WHEELER
		Utilisation	
I		45%	1,62,000.00
II		50%	1,80,000.00
III		55%	1,98,000.00
IV		60%	2,16,000.00
V		65%	2,34,000.00

COMPUTATION OF RAW MATERIAL					
Item Name		Quantity of Raw Material	Unit	Unit Rate of	Total CostPer Annum (100%)
Mild steel sheet		14,000.00	kg	42.00	5,88,000.00
Synthetic Filter Fabric		57,000.00	kg	150.00	85,50,000.00
Glue		1,500.00	kg	120.00	1,80,000.00
Packing material					1,50,000.00
					-
Total					**94,68,000.00**
Total Raw material in Rs lacs					94.68

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(5 Days requirement)	1.03	1.20	1.37	1.56	1.76
Raw Material					
(5 Days requirement)	0.71	0.83	0.91	0.99	1.08
Closing Stock	**1.74**	**2.03**	**2.29**	**2.55**	**2.83**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	1.74		
Less:			
Sundry Creditors	1.42		
Paid Stock	**0.32**	**0.03**	**0.29**
Sundry Debtors	3.58	0.36	3.23
Working Capital Requirement			**3.52**
Margin			0.39
MPBF			**3.52**
Working Capital Demand			**3.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		12,000.00	1	12,000.00
Plant Operator		10,000.00	3	30,000.00
Unskilled Worker		6,000.00	3	18,000.00
Helper		4,000.00	2	8,000.00
Security Guard		6,000.00	1	6,000.00
				74,000.00
Add: 5% Fringe Benefit				3,700.00
Total Labour Cost Per Month				77,700.00
Total Labour Cost for the year (In Rs. Lakhs)			10	9.32

BREAK UP OF SALARY				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		12,000.00	1	12,000.00
Accountant cum store keeper		10,000.00	1	10,000.00
Sales		8,000.00	1	8,000.00
Total Salary Per Month				30,000.00
Add: 5% Fringe Benefit				1,500.00
Total Salary for the month				31,500.00
Total Salary for the year (In Rs. Lakhs)			3	3.78

COMPUTATION OF DEPRECIATION					
Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**10.00%**	**15.00%**	**10.00%**	
Opening Balance	Leased		-	-	-
Addition	-	6.00	9.30	1.50	16.80
	-	6.00	9.30	1.50	16.80
		-	-	-	
TOTAL		6.00	9.30	1.50	16.80
Less : Depreciation	-	0.60	1.40	0.15	2.15
WDV at end of Ist year	-	5.40	7.91	1.35	14.66
Additions During The Year	-	-	-	-	-
	-	5.40	7.91	1.35	14.66
Less : Depreciation	-	0.54	1.19	0.14	1.86
WDV at end of IInd Year	-	4.86	6.72	1.22	12.79
Additions During The Year	-	-	-	-	-
	-	4.86	6.72	1.22	12.79
Less : Depreciation	-	0.49	1.01	0.12	1.62
WDV at end of IIIrd year	-	4.37	5.71	1.09	11.18
Additions During The Year	-	-	-	-	-
	-	4.37	5.71	1.09	11.18
Less : Depreciation	-	0.44	0.86	0.11	1.40
WDV at end of IV year	-	3.94	4.85	0.98	9.78
Additions During The Year	-	-	-	-	-
	-	3.94	4.85	0.98	9.78
Less : Depreciation	-	0.39	0.73	0.10	1.22
WDV at end of Vth year	-	3.54	4.13	0.89	8.56

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl Balance**
I	Opening Balance						
	Ist Quarter	15.12	-	15.12	0.42	-	15.12
	Iind Quarter	15.12	-	15.12	0.42	-	15.12
	IIIrd Quarter	15.12	-	15.12	0.42	0.84	14.28
	Ivth Quarter	14.28	-	14.28	0.39	0.84	13.44
					1.64	1.68	
II	Opening Balance						
	Ist Quarter	13.44	-	13.44	0.37	0.84	12.60
	Iind Quarter	12.60	-	12.60	0.35	0.84	11.76
	IIIrd Quarter	11.76	-	11.76	0.32	0.84	10.92
	Ivth Quarter	10.92		10.92	0.30	0.84	10.08
					1.34	3.36	
III	Opening Balance						
	Ist Quarter	10.08	-	10.08	0.28	0.84	9.24
	Iind Quarter	9.24	-	9.24	0.25	0.84	8.40
	IIIrd Quarter	8.40	-	8.40	0.23	0.84	7.56
	Ivth Quarter	7.56		7.56	0.21	0.84	6.72
					0.97	3.36	
IV	Opening Balance						
	Ist Quarter	6.72	-	6.72	0.18	0.84	5.88
	Iind Quarter	5.88	-	5.88	0.16	0.84	5.04
	IIIrd Quarter	5.04	-	5.04	0.14	0.84	4.20
	Ivth Quarter	4.20		4.20	0.12	0.84	3.36
					0.60	3.36	
V	Opening Balance						
	Ist Quarter	3.36	-	3.36	0.09	0.84	2.52
	Iind Quarter	2.52	-	2.52	0.07	0.84	1.68
	IIIrd Quarter	1.68	-	1.68	0.05	0.84	0.84
	Ivth Quarter	0.84		0.84	0.02	0.84	0.00
					0.23	3.36	

Door to Door Period	60	Months
Moratorium Period	6	Months
Repayment Period	54	Months

CALCULATION OF D.S.C.R					
PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	6.85	9.11	9.10	11.46	14.27
Interest on Term Loan	1.64	1.34	0.97	0.60	0.23
Total	8.49	10.45	10.07	12.06	14.50
REPAYMENT					
Repayment of Term Loan	1.68	3.36	3.36	3.36	3.36
Interest on Term Loan	1.64	1.34	0.97	0.60	0.23
Total	3.32	4.70	4.33	3.96	3.59
DEBT SERVICE COVERAGE RATIO	**2.56**	**2.22**	**2.33**	**3.04**	**4.04**
AVERAGE D.S.C.R.			**2.79**		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	40	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				5,37,120.00
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			**0.54**	
Total cost of Power & Fuel at 100%				5.91
Year		**Capacity**		**Amount**
				(in Lacs)
I		45%		2.66
II		50%		2.95
III		55%		3.25
IV		60%		3.55
V		65%		3.84

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