

Profile No.: 35

NIC Code: 33122

DIESEL ENGINE – PUMP REPAIRING

1. INTRODUCTION:

Diesel engines, generator, Electric motors and pump-sets etc. equipment are the nucleus of modern rural and urban centers. The demand for repairing and servicing of these items are steadily growing, and therefore there is a bright scope in this field.

2. PRODUCT & ITS APPLICATION:

Diesel engines and coupled generators and motor are essential for all sectors due to power and water needs in urban and rural area population, agriculture activities and industries.

Engines and pumps motors etc. used regularly by users, like all machines, need repair and servicing due to normal wear and tear in operation. There are also several faults that occur due to damage to worn components, overloading, corrosion, overheating, etc.

This equipment require experienced repair shops that can repair, rebuild and replace components as also carry out normal servicing of these equipment by cleaning and preventive maintenance for smooth operations.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

An ITI / Diploma / Graduate with relevant experience

4. MARKET POTENTIAL AND MARKETING ISSUES. IF ANY:

With growing population and also due to industrialization of our country there is wide use of standby power generating diesel engine generators, while pumps are widely used for water supply in commercial, residential and other buildings in rural as well as urban areas.

Electric motor/pump also has an extensive use in regular supply of water in almost every household and as well as industrial units, institutions, hotels and markets.

All these equipment need local repair and servicing and therefore, it can be taken up by experienced person in various rural, semi urban and urban centers.

5. RAW MATERIAL REQUIREMENTS:

Mostly equipment specific spare components are needed as per repair job requirement. The service unit may also need welding etc. consumables for the purpose.

6. MANUFACTURING PROCESS:

The repairing and servicing process is equipment specific. It involves steps like dismantling machines, inspection of components for wear tear and damage. The worn or damaged parts may be replaced with new or cleaned, repaired, or rebuilt as per the need and then assembled. The repaired equipment is then inspected for proper functioning and performance.

7. MANPOWER REQUIREMENT:

The unit shall require highly skilled service persons. The unit can start from 8 employees initially and increase to 23 or more depending on business volume.

Sr No	Type of Employees	Monthly Salary	No of Employees				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Skilled Operators	16000	1	1	2	2	3
2	Semi-Skilled/ Helpers	7000	2	2	2	2	3
3	Supervisor/ Manager	25000	0	0	0	1	1
4	Accounts/ Marketing	16000	0	0	0	1	1
5	Other Staff	7000	0	0	0	1	1
	TOTAL		3	3	4	7	9

8. IMPLEMENTATION SCHEDULE:

The unit can be implemented within 3 months from the serious initiation of project work.

Sr No	Activities	Time Required in Months
1	Acquisition of Premises	-
2	Construction (if Applicable)	-
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	1
	Total Time Required (Some Activities run concurrently)	3

9. COST OF PROJECT:

The unit will require total project cost of Rs 6.42 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	0.00
2	Building	0.00
3	Plant and Machinery	4.33
4	Fixtures and Electrical Installation	0.56
5	Other Assets/ Preliminary and Preoperative Expenses	0.30
6	Margin for working Capital	1.23
	TOTAL PROJECT COST	6.42

10. MEANS OF FINANCE:

The project will require promoter to invest about Rs 2.53 lakhs and seek bank loans of Rs 3.89 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	2.53
2	Loan Finance	3.89
	TOTAL:	6.42

11. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	0.23	40	0.09	0.14
2	Receivables	0.38	50	0.19	0.19
3	Overheads	0.90	100	0.90	0.00
4	Creditors	0.12	40	0.05	0.07
	TOTAL	1.62		1.23	0.40

12. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Quantity	Rate	Total Value
	Main Machines/ Equipment				
1	Electrical Test meters	Nos	1	60000	60000
2	Tool Boxes, Torque Wrenches etc.	Nos	1	80000	80000
3	Lathe	Nos	1	70000	70000
4	Drill machine	Nos	1	30000	30000
5	Motor/alternator Rewinding tools	Nos	1	20000	20000
6	Bench Grinder and Misc. tools	Nos	1	70000	70000
7	Welding Sets	Nos	1	30000	30000
8	Hand Tools for Bolting/ Drilling/ Threading/ slotting	Nos	1	50000	50000
9	Electrical Meters viz Megger etc.	Nos	1	10000	10000
	subtotal:				420000
	Tools and Ancillaries				
Sr No	Particulars	UOM	Quantity	Rate	Total Value

1	Misc. equipment Jack etc.	LS	1	3000	3000
2	Tools and gauges	LS	1	10000	10000
	subtotal:				13000
	Fixtures and Elect Installation				
	Storage and transport bins and trolleys	LS	1	3000	3000
	Office Furniture	LS	1	3000	3000
	Telephones/ Computer	LS	1	20000	20000
	Electrical Installation	LS	1	30000	30000
	subtotal:				56000
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	30000	30000
	TOTAL PLANT MACHINERY COST				519000

13. PROFITABILITY CALCULATIONS:

Sr No	Particulars	UOM	Year Wise estimates				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Capacity Utilization	%	40	50	60	70	70
2	Sales	Rs Lakhs	9.00	11.25	13.50	15.75	15.75
3	Raw Materials & Other Direct Inputs	Rs Lakhs	2.77	3.46	4.15	4.84	4.84
4	Gross Margin	Rs Lakhs	6.23	7.79	9.35	10.91	10.91
5	Overheads Except Interest	Rs Lakhs	4.88	4.88	4.88	4.88	4.88
6	Interest	Rs Lakhs	0.54	0.54	0.54	0.54	0.54
7	Depreciation	Rs Lakhs	0.52	0.52	0.52	0.52	0.52
8	Net Profit Before Tax	Rs Lakhs	0.29	1.85	3.41	4.97	4.97

14. BREAK EVEN ANALYSIS

The project is can reach breakeven capacity at 42.02 % of the installed capacity as depicted here below:

Sr No	Particulars	UOM	Value
1	Sales at Full Capacity	Rs Lakhs	22.50
2	Variable Costs	Rs Lakhs	6.92
3	Fixed Cost incl. Interest	Rs Lakhs	5.94
4	Break Even Capacity	% of Inst Capacity	38.13