PROJECT PROFILE

ON

AUTOCRANK GRINDING

****

PART-I

NAME OF THE PRODUCT : **AUTO CRANK GRINDING**

QUALITY & STANDARD : As per Specification of Automobile Manufacturers.

PRODUCTION CAPACITY : The production capacity of the unit at 75% capacity utilization.

Item	Quantity(Nos.)	Value (Rs.)
AUTO CRANK GRINDING	3120	3120000

MONTH & YEAR OF PREPARATION : March, 2013.

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PART-II

A) INTRODUCTION

Automobile industry has a sufficient share in the industrial world. Any trade related to Auto industry has enough scope for creating a healthy wealthy enterprise. Every Automobile/Utilities engine is equipped with crank, which is the vital part of an engine. Definition wise, A *crank* is an arm attached at right angles to a rotating shaft by which reciprocating motion is imparted to or received from the shaft. It is used to convert circular motion into reciprocating motion, or vice-versa. The arm may be a bent portion of the shaft, or a separate arm or disk attached to it. Attached to the end of the crank by a pivot is a rod, usually called a connecting rod. The end of the rod attached to the crank moves in a circular motion, while the other end is usually constrained to move in a linear sliding motion.

Crank as a vital component of every engine is always in contact with connecting rod through bushes, and faces a regular wear and tear which results in frequent break-down of the engine. Therefore crank needs to repaired/grinded and fitted with new set of bushes.

Probable causes for grinding/repair of crank are:

1. Scratches on OD
2. Breaking of crank casting
3. Rusted Crank
4. Misalignment of Crank

B) MARKET POTENTIAL

The demand of the Auto crank Grinding is closely linked with production of automobiles in the country.

India is second largest automobile market in the world.

Some of the important statistics for auto sector of this country are as follows:

1. Gross Turnover of the Automobile Manufacturers in India

(Rs. Crores)

Year	2006-07	2007-08	2008-09	2009-10	2010-11
Turnover	137142	146448	152950	203491.2	269481.8

2. Installed capacity:

(Lakh Nos.)

Four Wheelers	31.7
Two & Three Wheelers	121.5

3. Domestic Market Share for 2011-12:

(%)

Passenger Vehicles	15.07
Commercial Vehicles	4.66
Three Wheelers	2.95
Two Wheelers	77.32

4. Automobile Production Trends

Category	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Passenger Vehicles	1,309,300	1,545,223	1,777,583	1,838,593	2,357,411	2,982,772	3,123,528
Commercial Vehicles	391,083	519,982	549,006	416,870	567,556	760,735	911,574
Three Wheelers	434,423	556,126	500,660	497,020	619,194	799,553	877,711
Two Wheelers	7,608,697	8,466,666	8,026,681	8,419,792	10,512,903	13,349,349	15,453,619
Grand Total	**9,743,503**	**11,087,997**	**10,853,930**	**11,172,275**	**14,057,064**	**17,892,409**	**20,366,432**

5. Automobile Domestic Sales Trends

Category	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Passenger Vehicles	1,143,076	1,379,979	1,549,882	1,552,703	1,951,333	2,501,542	2,618,072
Commercial Vehicles	351,041	467,765	490,494	384,194	532,721	684,905	809,532
Three Wheelers	359,920	403,910	364,781	349,727	440,392	526,024	513,251
Two Wheelers	7,052,391	7,872,334	7,249,278	7,437,619	9,370,951	11,768,910	13,435,769
Grand Total	**8,906,428**	**10,123,988**	**9,654,435**	**9,724,243**	**12,295,397**	**15,481,381**	**17,376,624**

6. Automobile Exports Trends:

Category	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Passenger Vehicles	175,572	198,452	218,401	335,729	446,145	444,326	507,318
Commercial Vehicles	40,600	49,537	58,994	42,625	45,009	74,043	92,663
Three Wheelers	76,881	143,896	141,225	148,066	173,214	269,968	362,876
Two Wheelers	513,169	619,644	819,713	1,004,174	1,140,058	1,531,619	1,947,198
Grand Total	**806,222**	**1,0111,529**	**1,238,333**	**1,530,594**	**1,804,426**	**2,319,956**	**2,910,055**

C) BASIS & PRESUMPTIONS

1. The basis for calculation of production capacity is on single shift basis, working of 25 days per month on 75% efficiency. The required for achieving envisaged capacity utilization is assumed as one year.

2. BEP for the scheme has been calculated on full capacity utilization.

3. Rate of interest has been taken as 15% on an average. This, however, is likely to vary depending upon the financial outlay and the location of the unit.

4. Labour wages have been taken on the basis of minimum applicable. These are likely to change depending upon the location of the project.

5. Rental charges of Rs.40/- per sq. mtr. Per month has been taken on an average. This figure is likely to vary depending upon the location of the unit.

6. Margin money requirement differs from project to project and type of entrepreneurs such as women, SC/ST, physically handicapped etc. and the minimum margin money usually asked by the financial institutions and banks is 15%. Margin money upto 25% in some cases is also asked. The entrepreneurs may check the margin money requirement from financial institutions for the project.

7. Term of loan differs from one financial institution to another and in gestation minimum period is normally 6 months and it could be 2 years. Maximum period for repayment of loan is 7 years including gestation period. The exact terms and conditions may be found by the entrepreneurs from the concerned financial institutions.

8. The cost of machinery & equipments as indicated in the scheme are approximate those ruling at the time of preparation of the scheme. The entrepreneur may check the exact price for specific make and model of the machine selected.

9. Non-refundable deposits, cost of preparation of project report etc. may be considered under pre-operative expenses.

10. The provision made in other respect viz; raw materials, utilities, overheads etc. are drawn on the basis of standard variation and output. The cost indicated against each are approximate and based on local market condition and observations. The entrepreneur may find out the exact cost from the concerned sources.

11. The operative period of this project is estimated to be about 10 years considering technology obsolescence.

D) IMPLEMENTATION SCHEDULE:

Sl. No.	Activity	Period
1.	Quotation period	1 month
2.	Provisional Registration	
3.	Sanction of loan	2 months
4.	Delivery of machines & equipments, installation, electrification, testing etc.	4 months

E) TECHNICAL ASPECTS:

(i) Process of Repairing/Grinding

The crank is first cleaned and made oil free. Chalk Powder is put on the crank body and hammered to find out the crack if any. Alignment of crank is checked on lathe and then it is ready for grinding.

(ii) Quality Control and Standards

The crank is repaired according to the requirement of matting face i.e. ID of connecting rod bushes, because any deviation beyond the tolerance limits will definitely lead to fitment problem as these components are subjected to close assembling.

The surface treatments should be done as per the prescribed norms only if required.

(i) Production Capacity (per annum):

Item	Quantity(Nos.)	Value (Rs.)
Auto Crank Grinding	3120	3120000

(ii) Approximate Power Requirement:

10 KW

(iii) Pollution Control:

Not required.

F.FINANCIAL ASPECTS

1 **Fixed capital**

a)Land & Building	**200 sq.mtrs.** Rented	Rs.	7500

	Two months Deposit			Rs.	**15000**
b) Machinery and Equipment			**Quantity**		
1	Lathe 6 Feet		1	Rs.	500000
2	Portable Drill M/c		1	Rs.	20000
3	Crank Grinding Machine 6 Feet		1	Rs.	200000
4	Connecting Rod Bush Boring Machine		1	Rs.	200000
5	Portable Boring Machine 8 Feet				150000
6	Bench Grinder				5000
		Total		Rs.	**1075000**
10	Electro -civil installation @ 10% of the cost of Machinery			Rs.	107500
11	Dies, Punches,Jigs and Fixtures, Hand tools & Measuring Instuments etc.			Rs.	5000
12	Office Furniture, computer with UPS and Printer and other appliances			Rs.	50000
				Rs.	**1237500**
c) Pre Operative Expenses @5% of Machinery and Equipment				**Rs.**	**61875**
Total Fixed Capital=a+b+c				**Rs.**	**1314375**

2 Working Capital

i) Personnel

Sl. No.	**Designation**	**No.**	**Salary/wages**		**Total**		
1	Engineer	1	15000		15000		
3	SemiSkilled	1	6000		6000		
4	Contractual	2	3000		6000		
				Total	27000		
	Perqusites @15% of Salary & wages				**4050**		
				Total	31050	Rs.	**31050**

ii) Raw Material Requirement

Sl.No.	**Item**	**Ind/Imp**	**quantity**	**Rate (Rs)**	**Value(Rs)**
1	Consumables(kerosene, Diesel Cloth etc.	indian	125	40	5000
2	Bushes etc.	indian	3120	20	62400
				Total	67400

iii) Utilities

		Consumption KWH/Unit	**Rate**			
1	Power	1000	7		7000	
2	water			L.S.	2000	
				Total	9000	Rs. **9000**

iv)Other Contigent expenses

Sl.No.		
1	Rent	7500
2	Telephone/Cellphone	500
3	postage& Stationary	500
4	Repair & Maintenance	2000

5	Transportaion Charges		500		
6	Insurance		20000		
7	Sales Expanses		20000		
8	Misc.Expanses		10000		
		Total	61000		**61000**

Total Recurring Expanses =i+ii+iii+iv Rs. **101050**

Total working Capital = Recurring expenses for 1.5 months Rs. **151575**

Total Capital Investment= Fixed Capital+ working Capital Rs. **1465950**

G.FINANCIAL ANALYSIS

1 Cost of Production(per annum)

i) Total recurring expenditure		Rs.	1212600
ii) Depreciation on Machinery & Equipment @10%		Rs.	107500
iii) Depreciation on Dies, Tools, Fixtures, office equipment& appliances etc @20%		Rs.	11000
iv) Interest On Total Capital Investment @15%		Rs.	219893
	Total	Rs.	**1550993**

2 Turn Over(per annum)

	Rate	Monthly production			
i) By repair/servicing of different type of fuel pump per month	700	260		Rs.	182000
			Turn Over(per annum)	Rs.	**2184000**

3 Net Profit per annum=

Turn Over(per annum)- Cost of Production(per annum) Rs. **633007**

4 Net Profit Ratio = $\frac{\text{Net Profit per annum X100}}{\text{Turn Over(per annum)}}$ **28.98**

5 Rate of Return= $\frac{\text{Net Profit per annum*100}}{\text{Total Capital investment}}$ **43.18**

6 Break even Point

Fixed Cost

Total depreciation		Rs.	118500
Interest		Rs.	219893
40% of salary & wages		Rs.	12420
Rent		Rs.	90000
40% of other contingent expenses excluding rent		Rs.	256800
	Total	Rs.	**697613**

BEP= $\frac{\text{Fixed Cost X100}}{\text{Fixed Cost+Profit}}$ **52.43**

Names & Address of Machinery & Equipment Suppliers:

1. M/s Global Exports, 34/313A, Chiramel, Near Govt. LPS, Padivattom, Edappally, Kochi, Kerala, India.
2. M/s Ilahi Mechanical Works, 700/66 St. No.24, Vijay Park, Near Yamuna Vihar, Delhi, India

3. M/s Riat Machine Tools Pvt. Ltd. 138/140 G.T. Road, Millerganj, Ludhiyana, Punjab, Pin-141003, India.
4. Bharat Jyotee Mechanicals, B-18, Focal Point, Phase-II, Ludhiyana-141010