

**I. Product and its uses**

Hydraulic jack is a device used invariably in the lifting of heavy machinery and equipment. With the industrial development taking place rapidly, the use of hydraulic Jacks of different capacities is bound to increase in the years to come.

**II. Market Potential**

This equipment is a necessary item for Automobile Servicing centres, Engineering Industries, material handling equipment manufacturers, Heavy structural fabricators etc. and as such market potential for this item is considered good.

**III. Production Target**

This scheme envisages the manufacture of Hydraulic jacks upto 30 tonnes lifting capacity @ 2000 jacks per month.

**IV. Basis and Assumptions**

- (i) The prices has been worked on the basis of 25 working days in a month on single shift basis.
- (ii) The machinery prices are inclusive of cost of electric motors, starters, transportation & insurance costs etc.

**V. Process of Manufacture**

The casting for the main body is to be purchased from outside. The production process involves rough turning, fine turning, drilling and slot cutting, grinding, inspection of parts, assembly and testing.

**VI. Quality Control & Standards**

Strict quality control is to be observed in the manufacture of hydraulic Jacks, as the failure of Jack will be hazardous for the safety of men and material.

**VII. Land and Building**

Covered area 300 sq. metres rented at the rate of Rs. 3000.00 per month.

**VIII. Machinery and Equipment**

Machinery	Nos.	Rs.
1. SS and SC Lathe 2400 mm bed length, heavy duty, complete with all accessories	2	1,40,000
2. SS and SC Lathe, 1800 mm length heavy duty, complete with all accessories	4	2,00,000
3. Turret Lathe 38 mm bore size, complete with collects and other accessories	1	60,000
4. Shaping machine 600 mm stroke, complete with machine vice and other accessories	1	45,000

Machinery	Nos.	Rs.
5. Pillar type Drilling Machine 30 mm capacity, all geared heavy duty, complete with rotating table, machine vice etc.	1	35,000
6. Bench Drilling machine 19 mm cap.	2	14,000
7. Power Hack-saw Hydraulic type 350 mm stroke complete with adjustable feed control device, automatic lifting and lowering arrangement	1	15,000
8. Bench grinder 200 mm wheel size	1	4,000
9. Cylindrical grinding M/C. 1000 mm height of centre 130 mm, complete with all accessories	1	1,30,000
10. Vertical surface grinder with automatic feeding device	1	1,30,000
11. Tool post grinder 1 H.P. external grinding wheel 175 x 12 mm Internal grinding wheel 20 x 6mm, complete with all fittings	1	20,000
12. Tapping attachment	1	10,000
13. Inspection accessories, Measuring instruments, hand tool etc.		50,000
14. Jigs & Fixtures	1 set	50,000
15. Hydraulic testing equipment		15,000
Total Rs.		9,18,000
Electrification and installation charges		92,000
		10,10,000
Office equipment & furniture		25,000
Pre-operate expenses		10,000
Grand Total		10,55,000

**IX. Salaries & Wages (Per month)**

	Nos.	Rs.
1. Works Manager	1	3,000
2. Foreman	1	2,000
3. Supervisor	2	2,400
4. Skilled workers	10	8,000
5. Semi-skilled workers	5	3,000
6. Helpers	5	2,500
7. Accountant	1	1,000
8. Stores Clerk.	1	800
9. Clerk-cum-typist	1	600
10. Watchman	1	500
		24,000
Welfare expenses @ 15%		3,600
Total Rs.		27,600

**X. Raw Materials (Per month)**

	Rs.
1. Castings average weight per Jack 7.5 kg. Therefore for 2000 nos. 15000 kg. of castings are required @ Rs. 8/- per kg.	1,20,000

2. M.S. Round-average weight per Jack 4 Kg. Therefore for 2000 Jack=8000 Kg. M.S. Round are required @ Rs. 8 per Kg.	Rs. 64,000
	1,84,000

**XI. Other Expenses (Per month)**

<i>Utilities :</i>	
1. Power . . . . .	3,000
2. Water . . . . .	200
<i>Other expenses :</i>	
3. Rent . . . . .	3,000
a. Postage, Stationery & Telephone . . . . .	500
b. Consumable Stores . . . . .	1,000
c. Repairs and maintenance . . . . .	1,000
d. Transportation . . . . .	4,000
e. advertisement & Publicity . . . . .	1,000
f. Insurance & Taxes . . . . .	1,000
g. Misc. expenses . . . . .	2,000
Total Rs.	16,700

**XII. Working Capital (Per month)**

Salary & Wages . . . . .	27,600
Raw Materials . . . . .	1,84,000
Other expenses . . . . .	16,700
	2,28,300

**XIII. Total Capital Investment**

1. Fixed Capital . . . . .	10,55,000
2. Working Capital for 3 months . . . . .	6,84,900
	17,39,900

**XIV. Cost of Production (Per year)**

1. Total recurring expenses . . . . .	27,39,600
2. Depreciation on Machinery @ 10% . . . . .	1,03,500
3. Interest on capital investment (13.5% on fixed capital and 16% on working capital) . . . . .	2,52,000
	30,95,100

**XV. Sales Proceeds (Per year)**

Sl. No.	Cap. (Tonnes)	Qty. Nos.	Rate	Value Rs.
1. . . . .	3	3000	80	2,40,000
2. . . . .	5	3000	100	3,00,000
3. . . . .	7	3000	120	3,60,000
4. . . . .	10	3000	130	3,20,000
5. . . . .	15	3000	150	4,50,000
6. . . . .	20	3000	170	5,10,000
7. . . . .	25	3000	200	6,00,000
8. . . . .	30	3000	250	7,50,000
				36,00,000

**XVI. Profitability**

Sale Proceeds—Cost of Production = Profit

36,00,000—30,95,100=Rs. 5,04,900

Percentage return over Sales

$$\frac{5,04,900 \times 100}{36,00,000} = 14\%$$

Percentage of return in investment

$$\frac{5,04,900 \times 100}{17,39,900} = 29\%$$

**XVII. Break Even Analysis**

Cost (Annual) :

	Rs.
1. Depreciation . . . . .	1,03,500
2. Interest . . . . .	2,52,000
3. 40% of wages . . . . .	1,32,480
4. 40% of other expenses . . . . .	64,800
	5,52,780

$$\text{BPE} = \frac{\text{Fixed Cost} \times 100}{\text{Fixed cost} + \text{Profit}}$$

$$= \frac{5,52,780 \times 100}{5,52,780 + 5,04,900} = 52\%$$

**XVIII. Names and Addresses of Machinery & Equipment Suppliers**

- M/s. Chanana Brothers 26, Okhla Centre and Tu-Industries Estate, New Delhi-110 020.
- M/s. Acme Machine Tools Mfg. Co. -De- No. 167/1, Bellion Road, Kadamtala, Howrah-1
- M/s. Sewac Industries (Regd.) 649, -De- Industrial Area B, Ludhiana-3
- M/s. Kela Mochine Tools No. 119, Shiv ji Road, Shivji Nagar, Bengalore-51. Drilling Machine
- M/s. Cooper Engg. Co. Ltd., Chin- chwad Poona. Shaping Machine
- M/s. New Bijli Foundry works Hacksaw (Regd.) G. T. Road, Batala.
- M/s. Indu Udyog Co. (P) Ltd., Testing Equip- Okhla Industrial Estate, New Delhi -20. pments