



# ROI CALCULATOR

## Capital



Capital	Input	Competition	Toyoda
Machine Model	Name	<input type="text"/>	<input type="text"/>
Machine cost (each)		<input type="text" value="225000"/>	<input type="text" value="300000"/>
No. of Machines Required	Hours	0.98	0.89
Total Machine Cost		\$225,000	\$300,000
Machine Shipping		<input type="text" value="10000"/>	<input type="text" value="10000"/>
Total Machine Shipping		\$10,000	\$10,000
Rigging Foundation Set Up		<input type="text" value="15000"/>	<input type="text" value="15000"/>
Total Rigging Foundation Set Up		\$15,000	\$15,000
Fixture Costs Per Machine	<input type="text" value="40000"/>	\$40,000	\$40,000
Durable Tooling Cost Per Machine	<input type="text" value="20000"/>	\$20,000	\$20,000
One Full Set of Perishable Tooling Cost per Machine	<input type="text" value="0"/>	\$0	\$0
Total Initial Investment		\$310,000	\$385,000

## Expense



Expense	Input	Competition	Toyoda
Operator Hourly Rate	<input type="text" value="30"/> \$	\$175,926	\$159,933
Estimated Yearly Maintenance Cost as a Percent of Machine Cost		<input type="text" value="2"/> %	<input type="text" value="1"/> %
Total Maintenance Costs		\$4,500	\$3,000
Perishable Tooling Cost Per Machine (Sets Consumed Per Year)	<input type="text" value="3"/>	\$31,350	\$28,500
Utilities per Machine	<input type="text" value="3000"/>	\$3,000	\$3,000
Annual Energy Consumption (see energy savings box)		\$15,200	\$8,700
Annual Operating Costs		\$229,976	\$203,133

## Hourly Wages

Savings / Year: 15,993.30



Hourly Wages	Year	Month
Hours Discrepancy at 1 Man Per Machine	533.11	44.43
Rate/Hour	\$30	\$30
Savings	\$15,993.30	\$1,332.90

## Energy Savings

Annual cost above Toyota: \$6,499.60



3 Phase Power Calculations	Input	Competitive Machine	Toyoda Machine
Total KVA		54	34
3-phase Voltage		208	208
3-phase Full Load Current (A)		149.89	94.37
Full Load Power Consumption kW (assume 0.8 P.F.)		43.20	27.20
Average Machining Current (A) (60% of full load assumed)		89.93	56.62
Average Power Consumption kW (assume 0.8 P.F., 60% of full load assumed)		25.92	16.32
Annual Production Hours		5,864.20	5,331.09
Cost Per kW/hour	0.1	0.100	0.100
Annual Cost To Run Equipment Per Machine		\$15,199.86	\$8,700.25
Monthly Cost To Run Equipment		\$1,266.65	\$725.02

## Simple Loan Calculator



### Loan Calculator

Interest Rate	3.95	%		
Initial Investment				
Competition	\$310000			
Toyoda	\$385000			
<b>Loan Duration</b>	<b>Competition</b>	<b>Toyoda</b>	<b>PMT Delta</b>	
72 (Months)	\$4842.95	\$6014.63	\$1171.68	

## Production



Production	Input	Unit	Competition	Toyoda
Annual Production Volume	9500	PPY	9,500	9,500
Assumed Cycle Time Per Part on a Toyoda	30	Minute	33	30
Scrap Rate		Percentage	1 %	1 %
Available Machining Hours Per Year	6000			
Required Hours per Year		Hours	5,278	4,798
Machine Uptime Percentage			90	90
Gross Production Hours Required		Hours	5,864	5,331
Number of Machines Required (Rounds up to the whole machine when calculating)		Hours	0.98	0.89

## Cycle Time Advantage on Toyoda



How much faster is the time you get on a Toyoda vs. competitor machine?

Cycle Time	10 %
Min Per Part	3.00

## Tool Life Advantage on Toyoda



How much longer tool life do you get on a Toyoda vs. competitor machine?

Tool Life	10 %
Savings Per Year	\$2,850
Savings Per Month	\$238

## Cost of Ownership



Cost of Ownership	Competition	Toyota
Total Initial Investment	\$310,000	\$385,000
Annual Operating Costs	\$229,976	\$203,133
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1st Year	\$539,976	\$588,133
2nd Year	\$769,952	\$791,266
3rd Year	<b>\$999,928</b>	<b>\$994,399</b>
4th Year	<b>\$1,229,904</b>	<b>\$1,197,532</b>
5th Year	<b>\$1,459,880</b>	<b>\$1,400,665</b>
6th Year	<b>\$1,689,856</b>	<b>\$1,603,798</b>
7th Year	<b>\$1,919,832</b>	<b>\$1,806,931</b>
8th Year	<b>\$2,149,808</b>	<b>\$2,010,064</b>
9th Year	<b>\$2,379,784</b>	<b>\$2,213,197</b>
10th Year	<b>\$2,609,760</b>	<b>\$2,416,330</b>

## Total Cost of Ownership

