



TUNGALOY TEST TOOL EVALUATION REPORT

DATE:	06/01/05
REPORT# :	

COMPANY:	Automotive Tier One	SALESMAN:	Jerry Zimmerman
CONTACT:		PART DESCRIPTION:	Manifold
TEL:		WORK MATERIAL:	grey cast iron
FAX:		MAT'L HARDNESS:	250 bhn

TYPE OF OPERATION	rough & finish milling	MACHINING OPERATION (SKETCH)
MACHINE TOOL & TYPE	Mori-MH50	
RIGIDITY	poor	
COOLANT TYPE	dry	
COOLANT METHOD		

	COMPANY / COMPETITOR	COMP4	TUNGALOY	TUNGALOY	TUNGALOY
		CURRENT	FIRST TEST	SECOND TEST	THIRD TEST
TOOLING REQUIRED	TOOL DESCRIPTION	seco 45^		seco 45^	
	HOLDER/BODY TYPE	R220-13		R220-13	
	INSERT	SEAN1203AFTN		SEKN42AFTN	
	INSERT GRADE	COMP4		FX105	
CUTTING PARAMETERS	WORKPIECE/CUTTER DIAMETER	3"		3"	
	FEED RATE (IPR = f or IPM = F)	72 F		72 F	
	CUTTING SPEED (RPM=R or SFM=V)	3500 R		3500 R	
	H.P. REQUIRED (% or ACTUAL)				
	DEPTH OF CUT (INCHES)	0.200		0.200	
TOOL PERFORMANCE	CYCLE TIME FOR TOOL (min)	1.000		1.000	
	PIECES PER EDGE	24		55	
	TOOL LIFE (min per edge)	24.000		55.000	
	EDGES USED PER INSERT	4		4	
	PIECES PER INSERT	96		220	
	SURFACE FINISH (RMS)	35-40		35-40	
	REASON FOR INDEXING	WEAR		WEAR	
	EST ANNUAL INSERT USAGE (pcs)	21875		9545	
COST EVALUATION	INSERT COST	\$7.00		\$7.05	
	NUMBER OF INSERTS IN TOOL (multi)	6		6	
	INSERT COST PER PIECE	\$0.44		\$0.19	
	INSERT INDEX TIME (min)	10.00		10.00	
	HOURLY MACHINE DEPT. COST	\$40.00		\$40.00	
	TOTAL ANNUAL PIECES	350,000		350,000	
	MACH TIME + TOOL COST FOR TOOL	\$1.104		\$0.859	
	WON or LOST			WON	

COMMENTS:



TOSHIBA TUNGALOY AMERICA, INC

COST ANALYSIS AND SAVINGS REPORT

Company: Automotive Tier One
Contact: 0

DATE: 01-Jun-05
TTA Rep: Jerry Zimmerman

TUNGALOY

HIGH OUTPUT TECHNOLOGY

	Competitor COMP4	TUNGALOY HIGH OUTPUT TECHNOLOGY	Insert: SEKN42AFTN Grade: FX105
Cost of Insert	\$ 7.00	\$ 7.05	
Number of Corners	4	4	
Cost Per Corner	\$ 1.75	\$ 1.76	
Number of Inserts In Tool	6	6	
Cost Per Loaded Tool	\$ 10.50	\$ 10.58	
Number of Parts Per Corner	24	55	
Insert Cost Per Part	\$ 0.438	\$ 0.192	
Number of Parts Run Per Year	350,000	350,000	
Cost of Inserts Used Per Year	\$ 153,125.00	\$ 67,295.45	

Down-Time Cost

Note: If Insert Change is Internal to Cycle Place 0 in Insert(s) Changing Time

	Competitor	TUNGALOY HIGH OUTPUT TECHNOLOGY
Machine Operating Cost per Hour	\$ 40.00	\$ 40.00
Minutes in 1 Hour	60	60
Operating Cost per Minute	\$ 0.67	\$ 0.67
Insert(s) Changing Time (in minutes)	10.00	10.00
Cost per Insert Change	\$ 6.67	\$ 6.67
Number of Insert Changes per Year	14,583	6,364
Cost of Yearly Downtime	\$ 97,222.22	\$ 42,424.24

Cycle Time Savings

	Competitor	TUNGALOY HIGH OUTPUT TECHNOLOGY
Machine Operating Cost per Hour	\$ 40.00	\$ 40.00
Minutes in 1 hour	60	60
Operating Cost per Minute	\$ 0.67	\$ 0.67
Cycle Time for Tool (in Minutes)	1.0000	1.0000
Operating Cost per Part	\$ 0.67	\$ 0.67
Number of Parts Ran per Year	350,000	350,000
Cost of Cycle Time per Year	\$ 233,333.33	\$ 233,333.33
Estimated Annual Cost	\$ 483,680.56	\$ 343,053.03

TOTAL SAVINGS PER YEAR

Cost of Inserts	\$ 85,829.55
Cost of Down Time	\$ 54,797.98
Cost of Cycle Time	\$ -

Total Savings \$140,627.53

WINNER



TOSHIBA TUNGALOY AMERICA, INC

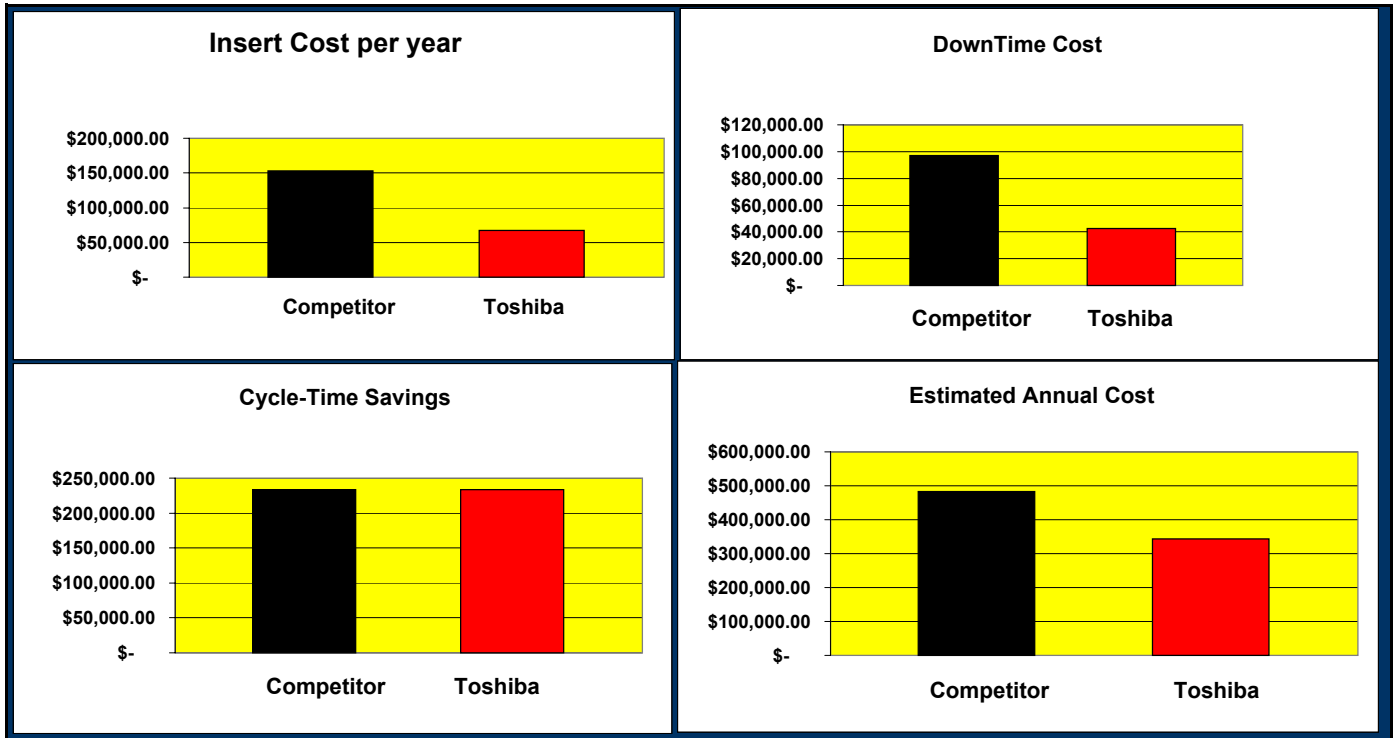
COST ANALYSIS AND SAVINGS REPORT

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HIGH OUTPUT TECHNOLOGY



**TOSHIBA TUNGALOY
AMERICA, INC.**