



MICRON

NEWSLETTER FROM SOLITAIRE MACHINE TOOLS LIMITED

APRIL - JUNE 2004



Dear Friends,

I am grateful to our esteemed customers who visited us at Imtex 2004. Imtex 2004, a machine tool show organised by Indian Machine Tool Manufacturers' Association was a big event for Machine Tool Industry. Solitaire participated in this show exhibiting an advanced CNC Centerless Grinding Machine with 4 axis controls. Solitaire also exhibited a conventional No.1 Centerless Grinding Machine.

The CNC machine which was exhibited has since been sold to a major auto component manufacturer. The machine met all the parameters specified by the customer and the SPC study listed herein show the results obtained on the machine. A photograph of the machine is shown hereunder.

The response at the exhibition was excellent generating live enquiries from leading manufacturers in the country. Solitaire also received orders for accessories related to Centerless Grinding Machines from Australia besides receiving a substantial order for finished machines from U.S.A.

Solitaire is currently retrofitting an existing Cincinnati 2-250 machine with 4-axis CNC controls for a major Automobile Ancillary.

With expanded capacity, Solitaire is now in a position to meet the quantitative and qualitative requirement of the customers both in India and overseas.

I am sure Solitaire will keep on receiving the same patronage from the customers in the coming years.

With warm regards,

P.J. SHETH

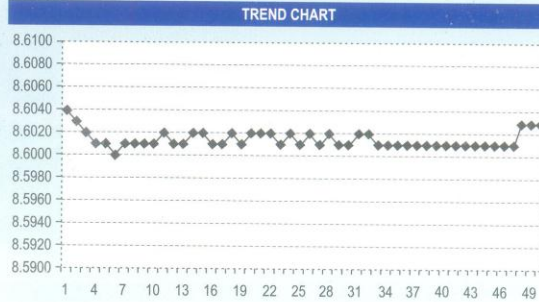


Precision to the last micron

S P C STUDY

MACHINE :	SOLAIRE CENTERLESS GRINDER	PARAMETER:	MAXIMUM SPAN SIZE
PART NAME :		SPECIFICATION:	LSL = 8.590
PART NUMBER :			USL = 8.610
OPERATION :	OD GRINDING		TARGET = 8.6000
MONTH :			DATE = 14-04-2004

SAMPLE	OBSRVATIONS					MEAN	RANGE
1	8.604	8.603	8.602	8.601	8.601	8.6022	0.0030
2	8.600	8.601	8.601	8.601	8.601	8.6008	0.0010
3	8.602	8.601	8.601	8.602	8.602	8.6016	0.0010
4	8.601	8.601	8.602	8.601	8.602	8.6014	0.0010
5	8.602	8.602	8.601	8.602	8.601	8.6016	0.0010
6	8.602	8.601	8.602	8.601	8.601	8.6014	0.0010
7	8.602	8.602	8.601	8.601	8.601	8.6014	0.0010
8	8.601	8.601	8.601	8.601	8.601	8.6010	0.0000
9	8.601	8.601	8.601	8.601	8.601	8.6010	0.0000
10	8.601	8.601	8.603	8.603	8.603	8.6022	0.0020



USL = 8.610	MAXIMUM = 8.604	
LSL = 8.590	MINIMUM = 8.600	X bar = 8.6015
TOLE = 0.020	RANGE = 0.004	X bar = 8.6015

CONTROL CHART COMPONENTS
A2 = 0.577 d2=2.326

D3=0.000 D4=2.114

<p>USING R bar/ d2</p> <p>X bar = 8.6015 R bar = 0.0011 SIGMA=0.00047 Cp={USL-LSL} / 6* SIGMA = 7.0485 Cpu={USL-Xbar} / 3* SIGMA = 6.0194 Cpl={X-bar-LSL} / 3* SIGMA = 8.0776 Cpk = MINIMUM {Cpu,Cpl} = 6.0194</p>	<p>USING STANDARD DEVIATION</p> <p>STD.DEVIATION = 0.0008 SKEWNESS = 1.2953 KURTOSIS = 1.6867 Cp={USL-LSL} / 6* SIGMA = 4.3769 Cpu={USL-Xbar} / 3* SIGMA= 3.7379 Cpl = {Xbar-LSL} / 3* SIGMA=5.0159 Cpk= MINIMUM {Cpu,Cpl} = 3.7379</p>
PROBABILITY OF ACCEPTANCE = 100.00%	

S P C STUDY

MACHINE :	SOLAIRE CENTERLESS GRINDER	PARAMETER:	MAXIMUM SPAN SIZE
PART NAME :	SHAFT-STEERING SYSTEM	SPECIFICATION:	LSL = 9.490
PART NUMBER :			USL = 9.510
OPERATION :	OD GRINDING		TARGET = 9.5000
MONTH :	DEC. 2003		DATE = 14-04-2004

SAMPLE	OBSRVATIONS					MEAN	RANGE
1	9.503	9.500	9.499	9.499	9.499	9.5000	0.0040
2	9.499	9.499	9.498	9.498	9.498	9.4984	0.0010
3	9.498	9.498	9.498	9.498	9.498	9.4980	0.0000
4	9.498	9.498	9.499	9.499	9.499	9.4986	0.0010
5	9.499	9.499	9.499	9.499	9.499	9.4990	0.0000
6	9.499	9.499	9.499	9.499	9.499	9.4990	0.0000
7	9.499	9.499	9.499	9.499	9.499	9.4990	0.0000
8	9.499	9.499	9.499	9.499	9.499	9.4986	0.0010
9	9.498	9.498	9.498	9.498	9.498	9.4980	0.0000
10	9.498	9.498	9.500	9.500	9.500	9.4992	0.0020



USL = 9.510	MAXIMUM = 9.503	
LSL = 9.490	MINIMUM = 9.498	X bar = 9.4988
TOLE = 0.020	RANGE = 0.005	X bar = 0.0009

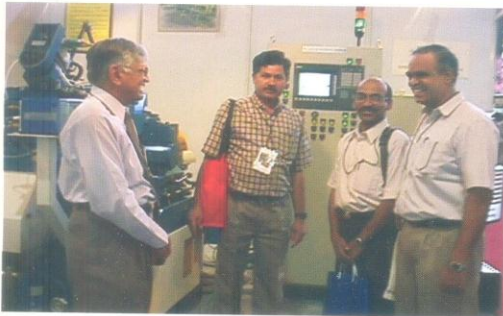
CONTROL CHART COMPONENTS
A2 = 0.577 d2=2.326

D3=0.000 D4=2.114

<p>USING R bar/ d2</p> <p>X bar = 9.4988 R bar = 0.0009 SIGMA=0.00039 Cp={USL-LSL} / 6* SIGMA = 8.6148 Cpu={USL-Xbar} / 3* SIGMA = 9.6658 Cpl={X-bar-LSL} / 3* SIGMA = 7.5638 Cpk = MINIMUM {Cpu,Cpl} = 7.5638</p>	<p>USING STANDARD DEVIATION</p> <p>STD.DEVIATION = 0.0009 SKEWNESS = 2.4282 KURTOSIS = 10.5944 Cp={USL-LSL} / 6* SIGMA = 3.8579 Cpu={USL-Xbar} / 3* SIGMA= 4.3286 Cpl = {Xbar-LSL} / 3* SIGMA= 3.3873 Cpk= MINIMUM {Cpu,Cpl} = 3.3873</p>
PROBABILITY OF ACCEPTANCE = 100.00%	

Sample CpK data for steering system component ground on CNC Centerless Grinder

IMTEX 2004 EXHIBITION



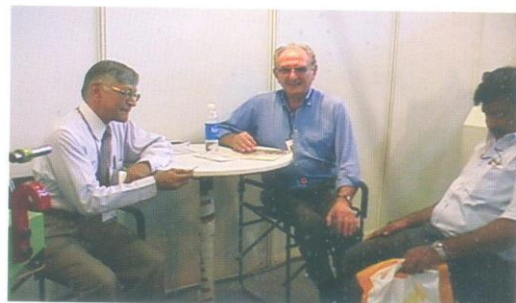
Rane TRW Team



REVL Team



Australian Visitors



US Visitors



Japanese Visitors



YG-1 Team from Korea



1 Machine



2 Machine



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9 JULY 2004

Solitaire Machine Tools Limited
107, Arun Chambers,
Tardeo Road,
Mumbai 400034

Fax: 022-3516853



Kind Attn : Mr. Ashok Seth

Dear Ashok Seth,

Sub : Solitaire Centreless Grinder - 200 mm supplied by you.

We are very proud to inform you that on your machine, we are able to grind very close tolerances on textile spindle shaft. In fact, we are successful in grinding a Rotor shaft for an export customer within 2 microns and most of the shafts have repeated within 1.5 microns.


We are happy that we have chosen your Centreless Grinder, which assists us to meeting the close tolerances expected by our customers.

We once again reiterate that we are happy with your quality of machines.

Best Wishes for your good services to continue always with improved quality.

Yours faithfully,

For **RAMBAL LIMITED**


T.A. SRIDHAR
MANAGING DIRECTOR

IF YOU THINK OF CENTERLESS - THINK OF SOLITAIRE



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