

ROBINS

SINCE 1983

Signature brand



RUBI BORE

1.10 PLATO

Cylinder Boring Machines

NEW DESIGNS BY ROBINS

PLATO - BORING
US PATENT APPLIED
FOR



RUBi PLATO BORING

Saves up to 90% honing time

- Plato-bore to final hone size.
- Cross hatch followed by Plateau brush hone for desired valleys (Rvk) & surface finish (Wt)

... End of Story !!!

Detailed lab tests conducted on four cylinder blocks by World Renowned: **SOUTHWEST RESEARCH INSTITUTE San Antonio, Texas**

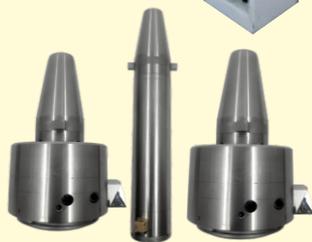
Confirms Robins Plato-Boring :

- 1) **Max. Wt** "highest peak to deepest valley for bore #4 is 0.846 microns (0.000025" one twenty-five thousandth of an inch). This is minimal material that would need removing to completely machine away any evidence of this plato-boring operation."
- 2) **"No crystal breakage or metal folding or evidence of distortion due to machining (Plato-boring) was observed."** Dr. Peter Lee

These tests confirm after plato-boring only cross-hatch followed by brush honing will produce required plateau bore finish.

USA PATENTED

US 2024 / 0042561 A1



Inter-changeable cutter heads from Ø 45 mm to 220 mm bore



PRESET BORE DIA WITHIN 0.0002"

43 Years of Legacy

ROBINS

rc@RobinsMachines.com | www.RobinsMachines.com

"Plato-boring new technology ... invent & lead"



Comparison between PLATO-BORING & FINISH HONING

Compare maximum valley to peak height in each report (Wt).

Plato-boring shows minimum height (Better surface finish)

EXPLANATION OF MEASUREMENTS

Measurement	Explanation	Measurement	Explanation
Ra	Average surface finish roughness	Rpk	Reduced peak height
Wt	Max valley to peak height	Rvk	Reduced valley depth
Rk	Core roughness	Rmr1	Material ratio corresponding to upper limit of roughness core
		Rmr2	Material ratio corresponding to lower limit of roughness core

SOUTHWEST RESEARCH INSTITUTE
San Antonio, Texas
Fuels and Lubricants Research Division
Benefiting government, industry and the public through innovative science and technology

Cylinder Block # 1 Analysis (Robins)
Liner #4 Plato-boring only

Final Report
Conducted for:
Robins Machines
December 9, 2024

Prepared by: _____ Approved by: _____

Dr. Peter Lee
FIMechE, FSTLE, CEng., IntPE
Institute Engineer & Chief Tribologist
Tribology Research and Evaluations
Fuels and Lubricant Research Division

Dr. Carlos Sanchez
Lead Engineer & Tribologist
Tribology Research and Evaluations
Fuels and Lubricant Research Division

Measurement	Liner #4 (Plato bored)		
	Top	Middle	Bottom
Ra (µm)	1.186	1.17	1.103
RzDIN (µm)	5.653	5.617	5.493
Rpm (µm)	2.582	2.201	2.193
Rmr (%)	32.709	35.558	41.086
Wt (µm)	0.746	0.846	0.362
Rk (µm)	4.012	3.376	2.633
Rpk (µm)	0.48	0.202	0.37
Rvk (µm)	0.686	1.094	1.563
Rmr1 (%)	6.387	1.021	3.581
Rmr2 (%)	95.264	79.795	72.113
Rvo (µm)	0.016	0.111	0.218

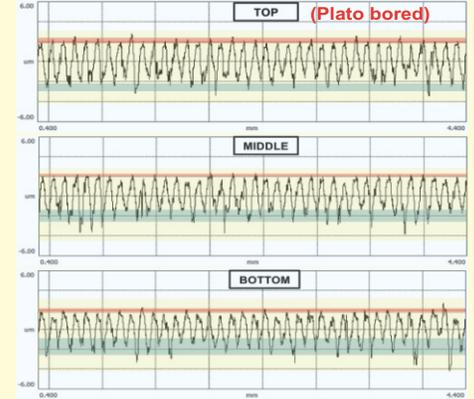


Figure 8 : 2D Traces for #4 Bore Machined using Rubi Plato CBN high speed. (6µm = 236.22047µin)

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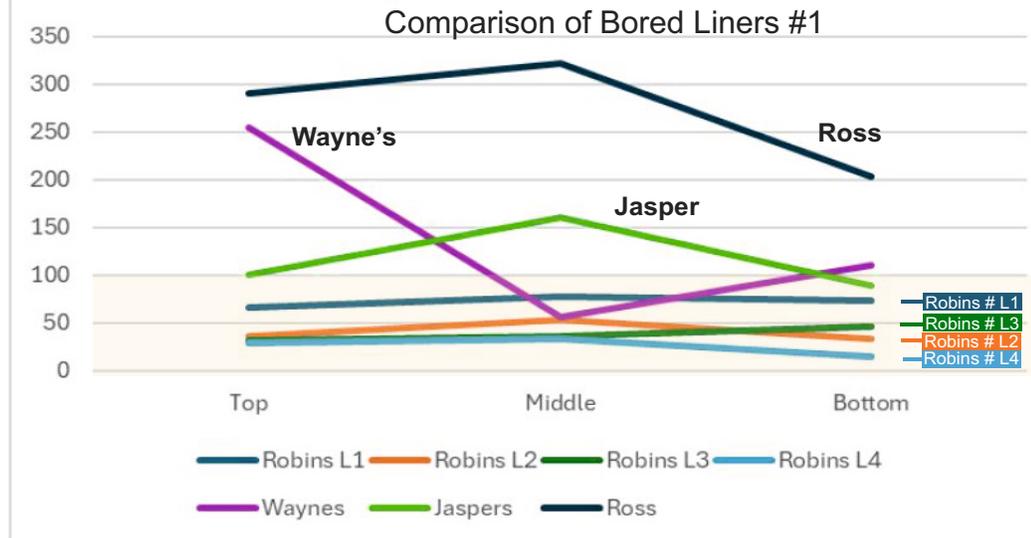
Cylinder Block # 2 Analysis (Wayne)
Wayne's Engine Rebuilding, Riverside, CA
Liner #1 after boring
Liner #2 & #3 after honing

Final Report
Conducted for:
Robins Machines
December 30, 2024

Prepared by: _____ Approved by: _____

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Graph showing comparison of four bored liners in block #1 and bore #1 in blocks #2 through #4.

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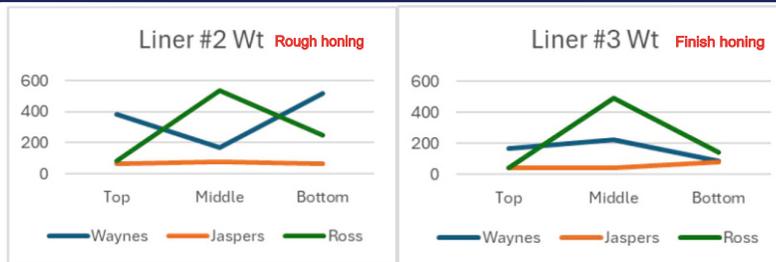
Cylinder Block # 3 Analysis (Jasper)
Jasper Engines, Jasper Indiana
Liner #1 after boring
Liner #2 & #3 after honing

Final Report
Conducted for:
Robins Machines
January 14, 2025

Prepared by: _____ Approved by: _____

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Graphs showing Wt values in µm for three blocks for Liners #2 & Liners #3 (Rough & finish honing)

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Cylinder Block # 4 Analysis (Ross)
Ross Automotive, Lapeer, MI.
Liner #1 after boring
Liner #2 & #3 after honing

Final Report
Conducted for:
Robins Machines
December 30, 2024

Prepared by: _____ Approved by: _____

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CONCLUSIONS

- "The Robins block had four liners that had been bored only. These were very low Wt values, meaning very little material would need to be removed to obtain a good cross hatch and remove evidence of the previous machining process. The consistency of the bore from top to bottom was significantly better than the other blocks measured and reported and above what I have observed previously."
- "No significant smearing, folding or tearing was observed in any of the blocks."



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SINCE 1983



Signature brand

- Highest Possible Precision
- No Comparison
- The Passion of "New & Better"

RUBI BORE

1.10 PLATO

Cylinder Boring Machines

NEW DESIGNS BY ROBINS

★ High Speed

★ High Production

★ Traditional Micron Accuracy



Rubi Plato boring tool pre-setter & Gold Series Tooling



RUBi PLATO BORING

After years of research and trials, Robins proudly offers:

New Revolutionary Concept In Cylinder Block Boring

- After rough and fine boring cycles Rubi-Plato cycle produces Rvk, Rk, Rz Rpk, Ra parameters very close to finish honing cycle.
- Rubi-Plato boring eliminates any torn crystals & folded cast iron material left in bore cavities after finish boring cycle.
- Reduces final honing cycle time.
- Eliminates problems related to honing accuracies.
- Eliminates possible metal foldment caused by diamond honing process.
- After Plato boring, light honing followed by Cross-hatch and plateau cycles complete desired cylinder wall finishes offering consistent Rvk, Rk and Rpk values.

RUBi-hard PLUS

Premium Carbide & CBN Inserts



- Touch Button Automated
- Simply float Spindle Head above "cylinder bore"
- Press auto cycle & walk-away !

EVERY CUSTOMER SINCE 1983 - HAS BEEN ROBINS-TESTIMONIAL !

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★ High Speed

★ High Production

★ Traditional Micron Accuracy



PlatoBore finish



Special fixture for V Block Cylinder blocks

BENEFITS

- No skills and no CNC training.
- Faster and easier to use.
- Learn to operate Rubi-Bore in less than 30-minutes.
- Makes traditional vertical boring machines obsolete.
- Heavy Duty CNC cylinder boring machine for automotive & diesel engine rebuilders.

KEY FEATURES

- Built-in centering system-covers entire range.
- Heavy Duty clamping system for cyl. blocks.
- Automated boring cycles
- Auto-tool index at bottom of bore to prevent tool-drag.
- Auto spindle retract.
- Rubi-Super-hard premium indexable inserts & tooling with direct setting micrometer

SPECIFICATIONS

Boring Range	3.300"- 5.000"(83.5-130mm)
Spindle Vertical Travel	12.625" (320 mm)
Effective Boring Stroke	10.000" (250 mm)
Spindle Head "X" Travel	48.500" (1230 mm)
Spindle Speed	200 - 1000 RPM Variable
Spindle Feed Rates	(Variable & Infinitely variable)
Electrical	208-240V, 20A, 50/60Hz, 3 Ph
Machine Dimensions	95"L X 47"W X 86"H 2413 X 1195 X 2184mm (1900KG)Weight
Shipping Dimensions	84"L X 56"W X 90"H 2134 X 1422 X 2286mm (2100KG)Weight

43
Years of
Legacy

ROBINS



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