

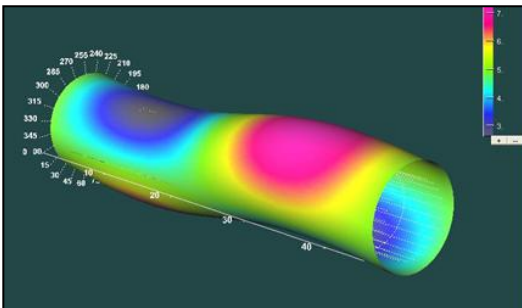
## **BEMIS-SC™ Small Caliber (5.56mm – .45 Cal) Bore Erosion Measurement and Inspection System**



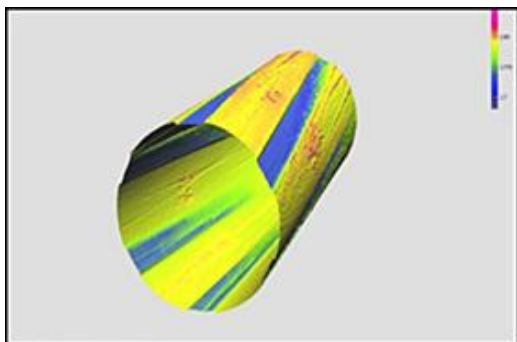
Designed to Inspect Small Caliber Gun Barrels



7.62mm BEMIS-SC™ Laser Sensor



3D Image of Bore Deflection

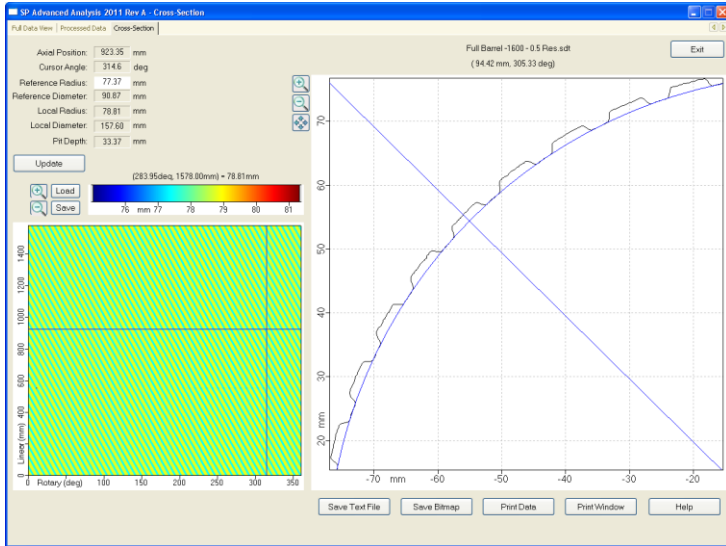


3D Image of Gun Barrel Rifling and Erosion

### **BEMIS-SC™ Features**

- **High Resolution** laser-based inspection system for assessment of gun barrel condition
- **Automated** inspection process removes operator subjectivity
- **3D Precision** bore erosion profiling and laser-based dimensional measurements
- **High Resolution LaserVideo™** provides camera-like image of entire gun tube surface
- **Quantitative data** for unparalleled gun tube surface and erosion analysis
- **Advanced analysis and reporting** software provides data in hard-copy summary or exportable to text file
- **Transportable Inspection Data** can be stored, transmitted and reviewed at remote locations
- **Automatic report generator** software provides tabular summary of test results
- **Operator-Configurable** motion and scan control
- **Quick setup** with automatic calibration routine
- **Sensor modules** easily exchanged
- **Optional Bore Straightness and Deflection Module**
- **On-Site training** available

**LTC...Making Heroes<sup>SM</sup>**



Typical Display allows operators in-depth analysis of test results

### BEMIS-SC™ includes:

- LP-4210™ Data Acquisition and Control Unit
- LaserViewer™ Software
- External Motor Control unit
- Rigid Sensor Delivery Station
- Laser Sensor Scanning Assembly
- Guide Tube Adapter and Calibration Set
- Hard-sided Shipping Cases
- Instruction Manuals



BEMIS-SC™ Inspection Station

**LABORATORY SERVICES BRANCH TEST REPORT**

DATE OF MEASUREMENT: 10/1/2003 12:59:08 PM  
 OPERATOR: John Doe  
 BARREL TYPE: M2 SO Caliber  
 SERIAL NUMBER: M2CZ-123  
 NUMBER OF ROUNDS: 100  
 MEASUREMENT TEMP: 82 deg F  
 TEST PROGRAM:  
 TEST DIRECTOR:

SCAN DATA FILENAME: D:  
 SCAN DATA ANGULAR RESOLUTION: 0.5 deg  
 APPROXIMATE CIRCUMFERENTIAL SAMPLE SPACING: 0.002 in  
 SCAN DATA AXIAL RESOLUTION: 0.02 in  
 REPORT AXIAL RESOLUTION: 0.5 in  
 NUMBER OF LAND SAMPLES PER CALCULATION: 15  
 NUMBER OF GROOVE SAMPLES PER CALCULATION: 31  
 REPORT GENERATED ON: 1/30/2004  
 NOTE: Land 1 is the first land above 0 degrees at the muzzle end.

**COMMENTS:**

Diameter calculations muzzle	Scan	Lands	Grooves	Lands	Grooves	Lands	Grooves	Lands	Grooves	Average	Average
	76	77	78	79	80	81					
0.5	-39.22	0.4950	0.5080	0.4955	0.5090	0.4955	0.5090	0.4950	0.5085	0.4955	0.5085
1	-38.72	0.4950	0.5080	0.4955	0.5085	0.4955	0.5090	0.4945	0.5080	0.4952	0.5084
1.5	-38.22	0.4955	0.5085	0.4960	0.5090	0.4950	0.5090	0.4950	0.5080	0.4954	0.5086
2	-37.72	0.4955	0.5090	0.4955	0.5090	0.5085	0.5085	0.4955	0.5080	0.4954	0.5086
2.5	-37.22	0.4960	0.5085	0.4955	0.5085	0.4950	0.5080	0.4955	0.5080	0.4956	0.5083
3	-36.72	0.4965	0.5090	0.4960	0.5085	0.4955	0.5080	0.4955	0.5075	0.4956	0.5083
3.5	-36.22	0.4965	0.5090	0.4960	0.5085	0.4955	0.5080	0.4955	0.5080	0.4962	0.5084
4	-35.72	0.4965	0.5090	0.4960	0.5085	0.4960	0.5080	0.4970	0.5080	0.4964	0.5083
4.5	-35.22	0.4965	0.5085	0.4960	0.5085	0.4965	0.5080	0.4965	0.5085	0.4963	0.5083
5	-34.72	0.4965	0.5085	0.4960	0.5080	0.4965	0.5080	0.4970	0.5085	0.4964	0.5084
5.5	-34.22	0.4965	0.5090	0.4960	0.5080	0.4970	0.5080	0.4970	0.5085	0.4966	0.5084
6	-33.72	0.4965	0.5085	0.4965	0.5080	0.4970	0.5080	0.4965	0.5080	0.4974	0.5096
6.5	-33.22	0.4965	0.5085	0.4965	0.5080	0.4970	0.5090	0.4965	0.5090	0.4967	0.5086
7	-32.72	0.4965	0.5090	0.4970	0.5085	0.4970	0.5090	0.4965	0.5090	0.4968	0.5087
7.5	-32.22	0.4965	0.5090	0.4975	0.5085	0.4970	0.5095	0.4965	0.5090	0.4968	0.5090
8	-31.72	0.4970	0.5085	0.4975	0.5095	0.4970	0.5095	0.4965	0.5090	0.4970	0.5092
8.5	-31.22	0.4970	0.5090	0.4980	0.5095	0.4965	0.5095	0.4965	0.5090	0.4970	0.5095
9	-30.72	0.4975	0.5095	0.4980	0.5100	0.4970	0.5095	0.4965	0.5090	0.4973	0.5095
9.5	-30.22	0.4980	0.5095	0.4975	0.5105	0.4970	0.5095	0.4970	0.5090	0.4974	0.5096
10	-29.72	0.4985	0.5100	0.4980	0.5105	0.4975	0.5100	0.4970	0.5095	0.4977	0.5100
10.5	-29.22	0.4980	0.5105	0.4980	0.5105	0.4970	0.5100	0.4975	0.5100	0.4978	0.5102
11	-28.72	0.4985	0.5105	0.4975	0.5110	0.4975	0.5100	0.4980	0.5100	0.4977	0.5103
11.5	-28.22	0.4985	0.5110	0.4980	0.5110	0.4975	0.5100	0.4980	0.5105	0.4980	0.5106
12	-27.72	0.4985	0.5110	0.4975	0.5105	0.4980	0.5105	0.4985	0.5110	0.4981	0.5106
12.5	-27.22	0.4985	0.5110	0.4980	0.5105	0.4980	0.5105	0.4985	0.5115	0.4982	0.5108
13	-26.72	0.4985	0.5110	0.4985	0.5105	0.4985	0.5105	0.4990	0.5110	0.4985	0.5108
13.5	-26.22	0.4985	0.5110	0.4985	0.5105	0.4985	0.5110	0.4990	0.5110	0.4987	0.5110
14	-25.72	0.4980	0.5110	0.4985	0.5110	0.4980	0.5120	0.4990	0.5110	0.4986	0.5112
14.5	-25.22	0.4980	0.5105	0.4985	0.5105	0.4980	0.5125	0.4985	0.5110	0.4985	0.5112
15	-24.72	0.4985	0.5110	0.4980	0.5110	0.4985	0.5125	0.4985	0.5110	0.4985	0.5114
15.5	-24.22	0.4990	0.5115	0.4995	0.5125	0.4995	0.5125	0.4990	0.5110	0.4991	0.5118
16	-23.72	0.4990	0.5115	0.4995	0.5125	0.4995	0.5125	0.4985	0.5110	0.4992	0.5120
16.5	-23.22	0.4995	0.5120	0.4995	0.5130	0.4995	0.5125	0.4990	0.5115	0.4995	0.5122
17	-22.72	0.4995	0.5125	0.5000	0.5125	0.4995	0.5120	0.4990	0.5115	0.4995	0.5122
17.5	-22.22	0.5000	0.5130	0.5000	0.5130	0.4990	0.5125	0.4990	0.5120	0.4996	0.5126
18	-21.72	0.5005	0.5130	0.5000	0.5130	0.4995	0.5120	0.4995	0.5120	0.4998	0.5126
18.5	-21.22	0.5008	0.5135	0.4995	0.5130	0.4995	0.5120	0.5000	0.5120	0.4998	0.5127
19	-20.72	0.5005	0.5130	0.4995	0.5130	0.4995	0.5120	0.5000	0.5125	0.4999	0.5128
19.5	-20.22	0.5000	0.5135	0.4995	0.5125	0.4995	0.5125	0.5005	0.5130	0.4999	0.5128
20	-19.72	0.5000	0.5135	0.4995	0.5120	0.4995	0.5120	0.5005	0.5130	0.4998	0.5126
20.5	-19.22	0.5000	0.5130	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5001	0.5127
21	-18.72	0.4995	0.5130	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5000	0.5126
21.5	-18.22	0.4995	0.5125	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5000	0.5125
22	-17.72	0.4990	0.5120	0.5000	0.5120	0.5005	0.5125	0.5000	0.5130	0.4998	0.5125

Test results can be generated in tabular format

### Basic Specifications:

- Axial scan resolution: Up to 0.1 mm (0.004 inch) per increment
- Rotary scan resolution: Up to 0.1 mm (0.004 inch) per increment
- Sensor resolution: 5 microns (.00025 inch)
- Sensor Linearity: 12 microns (.0005 inch)
- Laser Power: < 4 mW
- Laser Spot Size (max): 0.05 mm (0.002 inch)
- Laser Power Classification: Class II
- Power: 110/240 VAC – 50/60 Hz
- Test Results Displayed: Contour view and cross sectional
- Surface contour display with 256 color, grey-scale, thermal and solid color options

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