

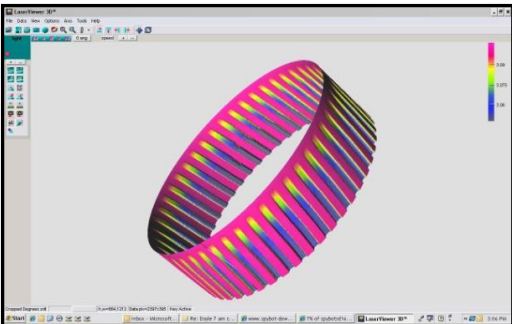
BEMIS-LC™ Large Caliber (105mm – 155mm) Bore Erosion Measurement and Inspection System



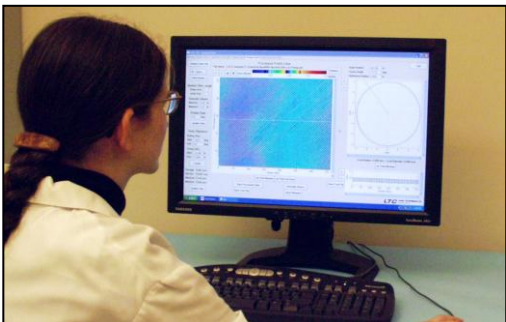
Designed to Inspect Large Caliber
Weapon Bores



155mm Self-Propelled Scanning Assembly



3D Image Segment of 155mm Gun Bore

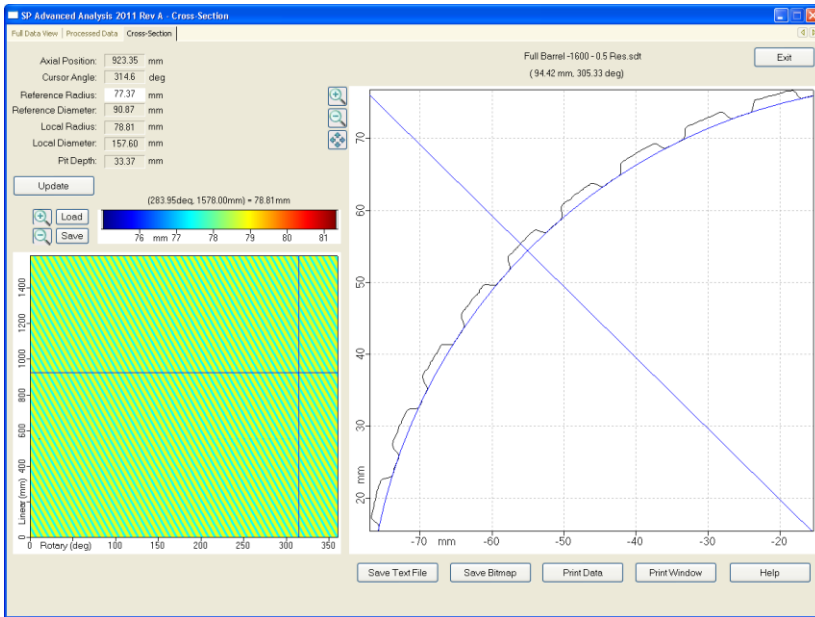


LaserViewer™ Analysis and Reporting
Software

BEMIS-LC™ Features

- **High Resolution** laser-based system for assessment of weapon bore condition
- **Rugged and Portable Design** for use in the field or shop
- **Muzzle brake** does not have to be removed during inspection
- **Automated** inspection process removes operator subjectivity
- **3D Precision** bore erosion profiling and laser-based dimensional measurement
- **High Resolution LaserVideo™** provides visual, 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 reviewed stored 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
- **On-Site training** available

LTC...Making HeroesSM



Typical Display allows operators in-depth analysis of test results

LABORATORY SERVICES BRANCH TEST REPORT

DATE OF MEASUREMENT: 10/10/2003 12:59:08 PM
OPERATOR: John Dow
BARREL TYPE: M250 Caliber
SERIAL NUMBER: X121-023
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: 0.2 in
REPORT AXIAL RESOLUTION: 0.5 in
NUMBER OF LAND SAMPLES PER CALCULATION: 31
NUMBER OF GROOVE SAMPLES PER CALCULATION: 15
NOTE: Land 1 is the first land above 0 degrees at the muzzle end.

COMMENTS:

Dist From	Scan	Land	Groove	Land	Groove	Land	Groove	Land	Groove	Average	Average
mm	185	185	185	245	245	245	305	305	305	Land	Groove
0.5	-19.22	0.4950	0.5090	0.4955	0.5090	0.4955	0.5090	0.4950	0.5085	0.4950	0.5084
1	-38.72	0.4950	0.5090	0.4955	0.5090	0.4955	0.5090	0.4950	0.5085	0.4950	0.5084
1.5	-58.22	0.4950	0.5090	0.4955	0.5090	0.4955	0.5090	0.4950	0.5085	0.4950	0.5084
2	-77.72	0.4955	0.5090	0.4955	0.5090	0.4950	0.5085	0.4955	0.5080	0.4954	0.5086
2.5	-97.22	0.4950	0.5090	0.4955	0.5090	0.4955	0.5085	0.4955	0.5080	0.4955	0.5083
3	-116.72	0.4955	0.5090	0.4950	0.5085	0.4955	0.5080	0.4955	0.5075	0.4955	0.5083
3.5	-136.22	0.4955	0.5090	0.4950	0.5085	0.4955	0.5080	0.4955	0.5075	0.4955	0.5084
4	-155.72	0.4955	0.5090	0.4950	0.5085	0.4950	0.5080	0.4970	0.5080	0.4954	0.5083
4.5	-175.22	0.4955	0.5090	0.4950	0.5085	0.4955	0.5080	0.4955	0.5080	0.4955	0.5083
5	-194.72	0.4955	0.5085	0.4950	0.5080	0.4955	0.5080	0.4970	0.5085	0.4954	0.5084
5.5	-214.22	0.4955	0.5090	0.4950	0.5080	0.4970	0.5080	0.4970	0.5085	0.4955	0.5084
6	-233.72	0.4955	0.5085	0.4955	0.5080	0.4970	0.5080	0.4955	0.5080	0.4957	0.5085
6.5	-253.22	0.4955	0.5085	0.4955	0.5080	0.4970	0.5080	0.4955	0.5080	0.4957	0.5085
7	-272.72	0.4955	0.5090	0.4970	0.5085	0.4970	0.5080	0.4955	0.5080	0.4956	0.5087
7.5	-292.22	0.4955	0.5090	0.4975	0.5085	0.4970	0.5085	0.4955	0.5080	0.4955	0.5090
8	-311.72	0.4970	0.5090	0.4975	0.5095	0.4970	0.5095	0.4955	0.5090	0.4970	0.5092
8.5	-331.22	0.4970	0.5090	0.4950	0.5085	0.4955	0.5085	0.4955	0.5090	0.4970	0.5093
9	-350.72	0.4975	0.5095	0.4950	0.5100	0.4970	0.5095	0.4955	0.5090	0.4970	0.5095
9.5	-370.22	0.4980	0.5095	0.4975	0.5105	0.4970	0.5095	0.4970	0.5090	0.4974	0.5096
10	-389.72	0.4980	0.5100	0.4950	0.5105	0.4975	0.5100	0.4970	0.5095	0.4971	0.5100
10.5	-409.22	0.4980	0.5105	0.4950	0.5105	0.4970	0.5100	0.4975	0.5100	0.4974	0.5102
11	-428.72	0.4980	0.5105	0.4975	0.5110	0.4975	0.5105	0.4980	0.5100	0.4977	0.5103
11.5	-448.22	0.4985	0.5110	0.4980	0.5110	0.4975	0.5100	0.4980	0.5105	0.4980	0.5106
12	-467.72	0.4985	0.5110	0.4975	0.5105	0.4980	0.5100	0.4985	0.5110	0.4981	0.5108
12.5	-487.22	0.4985	0.5110	0.4980	0.5105	0.4980	0.5100	0.4985	0.5110	0.4982	0.5108
13	-506.72	0.4985	0.5110	0.4985	0.5105	0.4985	0.5100	0.4980	0.5110	0.4985	0.5108
13.5	-526.22	0.4985	0.5105	0.4985	0.5105	0.4980	0.5110	0.4980	0.5110	0.4987	0.5110
14	-545.72	0.4980	0.5110	0.4985	0.5110	0.4980	0.5120	0.4980	0.5110	0.4986	0.5112
14.5	-565.22	0.4980	0.5105	0.4985	0.5105	0.4980	0.5125	0.4985	0.5110	0.4985	0.5112
15	-584.72	0.4985	0.5110	0.4990	0.5110	0.4980	0.5125	0.4985	0.5110	0.4985	0.5114
15.5	-604.22	0.4980	0.5115	0.4995	0.5125	0.4985	0.5125	0.4980	0.5110	0.4981	0.5118
16	-623.72	0.4980	0.5115	0.4995	0.5125	0.4985	0.5125	0.4985	0.5110	0.4982	0.5120
16.5	-643.22	0.4980	0.5120	0.4995	0.5130	0.4985	0.5125	0.4980	0.5115	0.4985	0.5122
17	-662.72	0.4985	0.5125	0.5000	0.5130	0.4985	0.5120	0.4980	0.5115	0.4985	0.5122
17.5	-682.22	0.5000	0.5130	0.5000	0.5130	0.4990	0.5125	0.4980	0.5120	0.4986	0.5126
18	-701.72	0.5005	0.5130	0.5000	0.5130	0.4995	0.5120	0.4990	0.5120	0.4990	0.5126
18.5	-721.22	0.5005	0.5135	0.4995	0.5130	0.4995	0.5120	0.5000	0.5120	0.4990	0.5127
19	-740.72	0.5000	0.5135	0.4995	0.5130	0.4995	0.5125	0.5005	0.5130	0.4990	0.5128
19.5	-760.22	0.5000	0.5135	0.4995	0.5125	0.4995	0.5125	0.5005	0.5130	0.4990	0.5128
20	-779.72	0.5000	0.5135	0.4995	0.5120	0.4995	0.5125	0.5005	0.5130	0.4990	0.5128
20.5	-799.22	0.5000	0.5130	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5001	0.5127
21	-818.72	0.4995	0.5130	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5000	0.5126
21.5	-838.22	0.4995	0.5125	0.4995	0.5120	0.5005	0.5125	0.5005	0.5130	0.5000	0.5126
22	-857.72	0.4990	0.5120	0.5000	0.5120	0.5005	0.5125	0.5000	0.5130	0.4998	0.5126

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**

BEMIS™ Large Caliber Inspection System includes:

- LP-4210F™ Field-Grade Data Acquisition and Control Unit Including LaserViewer™ Software**
- Self-propelled Crawler Unit**
- Laser Sensor Scanning Assembly**
- Shielded Sensor Extension Cable**
- Integrated Guide Tube Adapter and Calibration Set**
- Hard-sided Shipping Cases**



BEMIS™ Scanning 155mm Gun Bore

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