WINTER 2010

Pinpoint Laser Systems

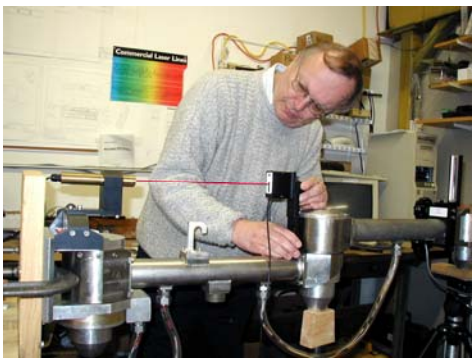
Straight to the Point!

Microgage Calibrates Inspection Robot for Nuclear Plant!

Special points of interest:

- Pinpoint can develop custom alignment solutions
- Our products are durable for unfriendly environments
- Precision laser measuring solves accuracy problems

Pinpoint was approached by a large company in the nuclear power industry to develop a means of calibrating a robot that would be entering a hot cell area. A nuclear reactor generates tremendous quantities of hot steam and water that pass through a large high-pressure heat exchanger. This heat exchanger hash many tubes that transfer heat across a barrier to water that powers the turbines for generating electricity. The water in the reactor side of the plant is radioactive and must be kept separate from the water that powers the turbines. A complex robot assembly is placed into the hot zone of the heat exchanger and inspects all the channel ways for pitting, corrosion, small leaks, and other problems.



Pinpoint's Laser Microgage was selected for checking the motions and calibrating the robot's complex movements before it enters the heat exchanger tank. Special mounts and fixturing were developed for this alignment task and built to facilitate easy-operator use in difficult conditions. The picture above shows one of Pinpoint's engineers checking the angular orientation and deflection of an arm section on the inspection robot. The precise readings and data provided by the Laser Microgage are fed into the control software for the robot to ensure correct motion control.

Pinpoint has worked with many manufacturers to develop custom alignment solutions for robotic applications, medical scanning devices, aircraft assemblies, electronic component fabrication, and other uses.

Pinpoint Laser Systems

Industry Aligned

Performance through Precision

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Microgage at Work in Machine Shops — Transparent Receiver

Microgage 2D Transparent Receiver

Pinpoint's Laser Microgage can be found hard at work in machine shops all over the United States and around the world. The precise laser reference beam is a guide for checking the straightness of machine beds, traveling slides, tool holders and other moving assemblies. The photograph to the left shows the Microgage 2D at work on a lathe. The laser is secured in the chuck and forms a long reference line for checking the position of the tool holder and the tailstock. The Transparent 2D Receiver takes a measurement of the moving tool holder and also allows the laser beam to pass through to a standard 2D Receiver measuring the position of the tailstock. The display shows the readings for both receivers with a sensitivity of 0.0001 inch (0.0025 mm) and indicates errors in travel, runout, problems with wear on the lathe bed and other alignment parameters.

The Laser Microgage also has attachments for checking machine tool squareness which is ideal for Z-axis alignment, setting guides, adjusting indexing systems for presses, checking boring mills and other precision tasks. Parallelism of guide ways and slides, multi-axis boring heads, spindles and other cutting tools is easily measured and adjusted with the Laser Microgage. The display unit is easy to operate and your readings can be stored and uploaded or fed directly, in real time, to a laptop for recording, plotting, and analysis. The Laser Microgage is easy to set up and use and saves you time and money by reducing equipment downtime and allowing you to produce more high-quality, finished products.

- ⇒ ***Microgage can align mills, lathes, presses, and other equipment***
- ⇒ ***Measuring sensitivity is 0.0005 inch (0.0025mm)***
- ⇒ ***Saves time and money to increase production and reduce scrap***

Pinpoint Introduces the Microgage 2D Disk Receiver

The Microgage Display is capturing readings from the 2D Disc Receiver

- ⇒ ***New Disk Receiver is compact for small places***
- ⇒ ***Versatile for many industrial applications***

The Microgage 2D Disk Receiver is compact and will fit into small places for bore alignment, checking extruder barrels, shaft bearings , and much more. The method of operation is simple: a narrow laser beam provides a measuring reference line and this receiver will determine the position of a machine or sub-assembly relative to the laser reference beam. The receiver will operate over a distance of 100 feet or more and deliver a measuring precision of 0.0005 inch; ideal for demanding industrial alignment applications. The Laser Microgage system and the Disk Receiver are well suited for lathe and spindle alignment, checking machine tool runout, roll and web alignment precision bore alignment, and much more.

Featured Industry for Alignment : The Aircraft Industry

For more than 12 years Pinpoint has been providing measurement and alignment solutions to companies in the aircraft industry. In many cases these have included our standard Laser Microgage products and often customized systems to address unique projects. A few of these many applications include;

- ⇒ Aligning drive shafts and gearboxes on Sikorsky, Sea King Helicopters
- ⇒ Tailboom and engine mount alignment on other helicopter products
- ⇒ Alignment of wing flaps, aircraft bodies and components on Boeing commercial aircraft
- ⇒ Positioning and alignment of wing parts on Airbus commercial aircraft
- ⇒ Many measuring and alignment tasks for military aircraft and equipment

We hope that you will contact our engineering team to discuss your next alignment project.

⇒ .

M	E	R	C	E	D	E	S	B	E	N	Z	P	E	L	R
G	K	I	R	H	O	D	E	I	S	L	A	N	D	E	V
W	K	K	A	O	D	E	B	R	X	L	V	R	V	Q	I
M	L	H	B	C	P	N	S	C	L	A	M	E	E	N	E
A	A	A	N	K	I	M	A	H	E	B	I	D	R	S	R
S	A	I	T	E	N	A	K	B	L	R	T	W	M	B	I
S	A	S	N	Y	E	R	P	K	T	A	U	O	O	U	H
A	P	W	I	E	E	K	O	E	I	D	C	O	N	N	S
C	G	O	L	F	A	M	R	E	R	O	I	D	T	U	P
H	D	E	L	M	E	N	S	I	A	R	T	L	X	M	M
U	N	L	R	S	E	E	C	P	M	T	C	E	T	E	A
S	S	D	A	D	J	L	H	E	I	N	E	P	L	N	H
E	V	O	L	A	I	P	E	L	S	T	N	P	B	M	W
T	B	O	X	E	R	A	D	P	U	E	N	G	A	B	E
T	G	P	L	M	O	M	O	P	A	M	O	I	S	T	N
S	C	G	B	A	S	E	B	A	L	L	C	F	O	R	D

Can you find the hidden words?

THERE ARE:

(7)TREE NAMES

(6)NEW ENGLAND STATES

(5)CAR BRANDS

(4) DOG BREEDS

(3) SPORTS

(2) DESSERTS

(1) COUNTRY

You can find the answers to these puzzles on our website at **www.pinlaser.com**

I hope you enjoyed *Straight to the Point!* We would love to hear your ideas and suggestions for future issues. Also, if you have a puzzle you would like published, send an email to our editor, Cindy Lord, cjlord@pinlaser.com.

Pinpoint Laser Systems was founded in 1992 in a garage, attic, and basement. The founders came from years of technical experience in the world of ultra-high precision laser and optical instrumentation with the express goal of bringing this technical expertise to more practical industrial use. Pinpoint's first products were built for the construction industry but many industrial firms quickly started buying these products because of their precision, durability and well-developed engineering designs. Before long, the industrial opportunities quickly surpassed the construction needs and the employees decided to focus exclusively on the industrial marketplace.

In 1998, the first Laser Microgage was developed and shipped to a manufacturing company. With great anticipation, Pinpoint employees listened for feedback on this unique new product. The first customers liked their Laser Microgage products and were nice enough to provide helpful feedback on the strengths and weaknesses of these early products. Pinpoint's engineers dug in and improved the initial product and carefully added new capabilities as customers requested. Over the years, Pinpoint has been fortunate to work with great vendors that deliver high-quality optics, electronic sub-assemblies, mechanical components and valuable advice. The company is situated in a strong technical region of Massachusetts and benefits from technical expertise that flows from universities and other high-tech companies in the region. Customers have always been our greatest source of product ideas.

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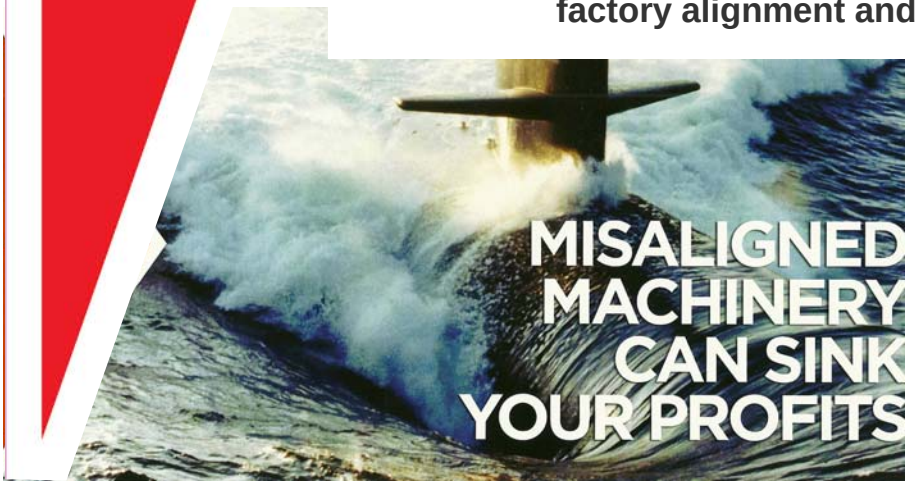
Experience performance through precision. Contact us to schedule a WebEx product demonstration where we can discuss the modules that are a potential fit to your manufacturing needs. Email knelson@pinlaser.com or call 800.757.5383. You can also learn more about our solutions online at:

www.pinlaser.com

You have received a complimentary copy of our technical newsletter. Please look inside for valuable insights on factory alignment and improving efficiency!



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